A Revision of the West Indian Genus *Nesocyrtosoma* Marcuzzi (Coleoptera: Tenebrionidae)

Katie J. Hopp and Michael A. Ivie
Montana Entomology Collection, 1601 S. 19th, Room 50 Marsh Laboratory
Montana State University
Bozeman, MT 59717-3020, U.S.A.

Abstract

Nesocyrtosoma Marcuzzi is revised and many long-standing taxonomic problems are resolved. There are a total of 45 species in the genus *Nesocyrtosoma*, 27 of them are newly described herein (*N. bestiola* **n. sp.**, *N. neibaense* **n. sp.**, *N. scabrosum* **n. sp.**, *N. lacrima* **n. sp.**, *N. simplex* **n. sp.**, *N. altagracia* **n. sp.**, *N. basilense* **n. sp.**, *N. dolosum* **n. sp.**, *N. purpureum* **n. sp.**, *N. crenulatum* **n. sp.**, *N. otus* **n. sp.**, *N. darlingtoni* **n. sp.**, *N. mutabile* **n. sp.**, *N. larseni* **n. sp.**, *N. bankense* **n. sp.**, *N. fernandoi* **n. sp.**, *N. garridoi* **n. sp.**, *N. puertoricense* **n. sp.**, *N. serratum* **n. sp.**, *N. skelleyi* **n. sp.**, *N. nearnsi* **n. sp.**, *N. productum* **n. sp.**, *N. teresitae* **n. sp.**, *N. curvum* **n. sp.**, *N. guerreroi* **n. sp.**, *N. dentatum* **n. sp.** and †*N. minisculum* **n. sp.**). Lectotypes are designated for *Cnodalon elongatus* Zayas, *Cnodalon parallelus* Zayas, *Cnodalon tumefactum* Zayas, *Cnodalon turquinensis* Zayas, *Cnodalon inflatum* Zayas and *Cnodalon trinitatis* Zayas. *Cnodalon trinitatis* Zayas is synonymized with *Cyrtosoma* (*Nesocyrtosoma*) *inflatum* Marcuzzi **n. syn.** *Cnodalon inflatum* Zayas is synonymized with *Cyrtosoma* (*Nesocyrtosoma*) *tumefactum* Marcuzzi **n. syn.** *Cyrtosoma* (*Nesocyrtosoma*) *gebieni* Marcuzzi is recognized for the first time as *Nesocyrtosoma gebieni* (Marcuzzi) **n. comb.** *Cnodalon turquinensis* Zayas, *Cnodalon cuproso* Zayas and *Cnodalon elongatus* Zayas are placed in *Nesocyrtosoma* and recognized as *Nesocyrtosoma turquinense* (Zayas) **n. comb.**, *Nesocyrtosoma cuprosum* (Zayas) **n. comb.** and *Nesocyrtosoma elongatum* (Zayas) **n. comb.** *Cyrtosoma* (*Nesocyrtosoma*) *ferruginea* Garrido and Gutiérrez is recognized as *Nesocyrtosoma ferruginea* (Garrido and Gutiérrez) **n. comb.** *Cyrtosoma* (*Pachycyrtosoma*) Marcuzzi is synonymized with *Nesocyrtosoma* **n. syn.** *Cyrtosoma* (*Pachycyrtosoma*) *merkli* Marcuzzi is recognized as *Nesocyrtosoma merkli* (Marcuzzi) **n. comb.**, and *Cyrtosoma* (*Pachycyrtosoma*) *hispaniolae* Marcuzzi is recognized as *Nesocyrtosoma hispaniolae* (Marcuzzi) **n. comb.** *Serrania* Garrido is synonymized with *Nesocyrtosoma* **n. syn.** *Serrania viridula* (Zayas) is synonymized with *Platydema virens* LaPorte and Brullé **n. syn.**, and is recognized as *Nesocyrtosoma virens* (LaPorte and Brullé) **n. comb.** *Apsida cubanensis* (Kulzer) is placed in *Nesocyrtosoma* as *Nesocyrtosoma cubanense* (Kulzer) **n. comb.** All but two of the 18 previously known species of *Nesocyrtosoma* are redescribed, comparative descriptions of all species and species-groups are provided, all but three species are illustrated, distribution maps are presented, and a key to all species is supplied. A phylogenetic analysis is conducted to test the monophyly of *Nesocyrtosoma*. Finally, a review of Antillean biogeography and the biogeographic distribution of *Nesocyrtosoma* are discussed.

Introduction

Marcuzzi (1976) originally used the name *Nesocyrtosoma* as a subgenus of *Cyrtosoma* Perty based on its endemicity to Cuba and the combination of the following characters—winglessness, small size (5.5–8 mm), very convex; elytral striae with a tendency to disappear; scutellum small; tibiae bent before apex; and last tarsomere very large, with the claws divergent and very large (Marcuzzi 1976,

1991). Marcuzzi (1976) described three new species in this subgenus — *Cyrtosoma* (*Nesocyrtosoma*) *inflatum* Marcuzzi, *Cyrtosoma* (*Nesocyrtosoma*) *tumefactum* Marcuzzi and *Cyrtosoma* (*Nesocyrtosoma*) *gebieni* Marcuzzi. Contrary to Article 13.3 of the International Code of Zoological Nomenclature (1999), Marcuzzi did not designate a type species for *Nesocyrtosoma*, and although the name has uniformly been treated as valid, no one has subsequently done so. As such, this name remains a *nomen nudum*. As will be seen below, the nomenclature of this group has already had enough instability and confusion, and to overturn the prevailing usage because of this technical oversight would simply add to the instability and confusion. Therefore, an application has been submitted to the International Commission on Zoological Nomenclature (Hopp *et al.* submitted), asking it to invoke its Plenary Powers under Article 78 (ICZN 1999), to designate *Cyrtosoma* (*Nesocyrtosoma*) *inflatum* Marcuzzi the type species of *Nesocyrtosoma*, set the date of availability of the name as the date of Marcuzzi's (1976) publication, and add these names with these interpretations to the Official Lists of Available Generic and Specific Names in Zoology. Under Article 82.1, we are therefore required to maintain prevailing usage while this case is under consideration, and will, for the rest of this work, consider *Nesocyrtosoma* to have been validly published as of Marcuzzi's 1976 work, with *Cyrtosoma* (*Nesocyrtosoma*) *inflatum* Marcuzzi treated as the type species thereof.

Twelve years after Marcuzzi's 1976 publication, Zayas (1988) described nine Cuban species in *Cnodalon* Latreille — *Cnodalon tumefactum* Zayas, *Cnodalon parallelus* Zayas, *Cnodalon turquinensis* Zayas, *Cnodalon cuproso* Zayas, *Cnodalon cristalensis* Zayas, *Cnodalon elongatus* Zayas, *Cnodalon inflatum* Zayas, *Cnodalon trinitatis* Zayas and *Cnodalon punctatum* Zayas. Zayas (1988) created synonyms of all three of Marcuzzi's (1976) species. Doyen and Poinar (1994) suggested Marcuzzi and Zayas saw the same type series, but in fact, the story is not this simple. Johannes (Juan) Gundlach (1810–1896), a German residing in Cuba, divided his collection of Cuban beetles into a set of material that he retained and a set that he sent to Louis Alexandre Auguste Chevrolat (1799–1884) in France. Chevrolat used this material in his series "Coleopteres de l'ile de Cuba" from 1862–1871, however, the tenebrionid section was never published. Chevrolat and Gundlach exchanged names for the two sets of material, resulting in a batch of material determined with *nomina nuda* in both the Chevrolat collection, now in the Natural History Museum, London, and the Gundlach collection, now housed in the Instituto de Ecología y Sistemática in Havana. Thus, Marcuzzi described *Cyrtosoma* (*Nesocyrtosoma*) *inflatum* and *Cyrtosoma* (*Nesocyrtosoma*) *tumefactum* from the specimens with Chevrolat's labels "*Cnodalon*? *inflatum*" and "*tumefactum*" and Zayas described the Gundlach specimens labeled "*Cnodalon inflatum*" and "*tumefactus*" (Garrido and Gutiérrez 1996; Hopp pers. obs.). Although Zayas (1988) used two of the three species epithets used by Marcuzzi (1976), the names and the species described do not coincide between the two publications. Obviously, somewhere along the line, the names used by Chevrolat and Gundlach were associated with different species, ultimately resulting in the confusion between Marcuzzi and Zayas.

In 1989, Doyen recognized *Nesocyrtosoma* as a full genus and included it in his key to the genera of Cnodalonini (=Coelometopini) (Bouchard *et al.* 2005). The new status of *Nesocyrtosoma* was based on two characters — 1) the clypeal membrane concealed and 2) each elytron base having a fossa in which the pronotal base rests — separating it from *Cyrtosoma*, but not from *Cnodalon*. In 1994, Doyen and Poinar expanded the definition of *Nesocyrtosoma* by adding two

additional characters to separate *Nesocyrtosoma* from all other cnodalonine genera — 1) epipleuron very broad with subparallel margins in the anterior third, then gradually narrowing and terminating at the fifth abdominal sternite and 2) femora slightly to moderately emarginate on the inner surface near the apex. Based on this expanded definition of *Nesocyrtosoma*, Doyen and Poinar (1994) described four species of *Nesocyrtosoma* from Dominican amber, synonymized the monotypic genus *Hesiodobates* Kaszab and Schawaller, 1984 with *Nesocyrtosoma* and recognized †*Hesiodobates antiquus* Kaszab and Schawaller, 1984 under the new combination †*Nesocyrtosoma antiquum* (Kaszab and Schawaller). Doyen and Poinar (1994) mention that Zayas' *Cnodalon* species likely belong to *Nesocyrtosoma*, and use the Zayas species epithets *cristalensis* and *parallelus* in combination with *Nesocyrtosoma*. They also use the Marcuzzi species epithets *inflata* (*lapsus calami*) and *tumefactum* in combination with *Nesocyrtosoma*. Finally, Doyen and Poinar (1994) suggest that *Hesiodus caraibus* Fleutiaux and Sallé, 1889 be examined in order to determine if it too belongs in *Nesocyrtosoma*, but did not do so.

In 1996, Garrido and Gutiérrez described another Cuban species, *Cyrtosoma* (*Nesocyrtosoma*) *ferruginea*, ignoring Doyen and Poinar's (1994) elevation of *Nesocyrtosoma* to a full genus. Garrido and Gutiérrez (1996) also synonymized *Cnodalon inflatum* Zayas with *Cyrtosoma* (*Nesocyrtosoma*) *inflatum* Marcuzzi, *Cnodalon tumefactum* Zayas with *Cyrtosoma* (*Nesocyrtosoma*) *tumefactum* Marcuzzi, and *Cnodalon punctatum* Zayas with *Cyrtosoma* (*Nesocyrtosoma*) *gebieni* Marcuzzi. Garrido and Gutiérrez (1996) note they are confident that *Cnodalon punctatum* Zayas and *Cyrtosoma* (*Nesocyrtosoma*) *gebieni* Marcuzzi are the same species, but are unsure if the other two species are the same between the two authors as they did not study the types. Finally, Garrido and Gutiérrez (1996) moved the remaining six Zayas (1988) species to *Cyrtosoma* (*Nesocyrtosoma*), again, apparently unaware or ignoring Doyen and Poinar's (1994) recognition of *Nesocyrtosoma* as a distinct genus.

Two years later, Marcuzzi (1998) supplemented his 1984 catalogue, moving Zayas' *Cnodalon* species to *Cyrtosoma*, obviously unaware of both Doyen and Poinar's (1994) recognition of *Nesocyrtosoma* as a distinct genus, and Garrido and Gutiérrez' (1996) move of Zayas' *Cnodalon* species to *Cyrtosoma*. It can be further demonstrated that Marcuzzi was unaware of these publications as he does not include any of the Dominican amber species of Doyen and Poinar (1994), or the new species described by Garrido and Gutiérrez (1996) in his 1998 catalogue. Finally, instead of clarifying the synonymies between Marcuzzi (1976) and Zayas (1988), Marcuzzi erected replacement names for the secondary homonyms thus created — *Cyrtosoma iviei* Marcuzzi for *Cnodalon trinitatis* Zayas, *Cyrtosoma zayasi* Marcuzzi for *Cnodalon tumefactum* Zayas, and *Cyrtosoma gundlachi* Marcuzzi for *Cnodalon inflatum* Zayas.

Lastly, Marcuzzi (1999) described a new *Cyrtosoma* subgenus, *Pachycyrtosoma*, with two new species — *Cyrtosoma* (*Pachycyrtosoma*) *merkli* Marcuzzi and *Cyrtosoma* (*Pachycyrtosoma*) *hispaniolae* Marcuzzi — from Hispaniola. This subgenus is described exactly as *Cyrtosoma* (*Nesocyrtosoma*) excepting that the species are endemic to Hispaniola.

Included with loaned material received for this study were a few specimens determined by Charles Triplehorn as *Platydema virens* LaPorte and Brullé (Diaperini). These and additional similar specimens were eventually traced to the diaperine genus, *Serrania* Garrido, 2003, described for the species *Diaperis*

† indicates fossil species

viridula Zayas, 1988. Lastly, three specimens of this same type, identified as *Apsida cubanensis* Kulzer, 1961, were discovered in Orlando Garrido's collection. With the expanded definition of *Nesocyrtosoma* by Doyen (1989, 1994), and after an examination of Doyen and Poinar's (1994) fossil species, we realized that these "diaperines" belong to *Nesocyrtosoma*.

In summary, there were 27 species names used among the species now belonging to *Nesocyrtosoma*, however, only 18 of them are recognized as valid following this revision. Additionally, there are 27 new species herein described from Cuba, Hispaniola, the Puerto Rican Bank, and Montserrat. There are no complete keys at either the generic or species level, so while these beetles are easily and commonly collected, they are not easily identified. This revision clears up the considerable nomenclatural confusion, provides a key for the identification of adults of *Nesocyrtosoma*, hypothesizes and supports a monophyletic *Nesocyrtosoma*, and discusses the unique distribution and biogeography of this genus.

Material

The current study was based on the examination of 959 adult specimens belonging to the genus *Nesocyrtosoma*. The availability of adult specimens was sufficient to complete a thorough examination of morphology and delimit species.

These specimens were obtained on loan from and examined at North American, European, and West Indian collections. Specimens housed in collections in MRSN, FZMC, and MNHC were not borrowed. Specimens examined throughout the duration of this study are deposited in the following institutions and collections (all collection codens follow Evenhuis 2008 except for FZMC, GOPC and OHGC, and the curator responsible for the loan is listed in parentheses):

AMNH	American Museum of Natural History, New York, New York (Lee H. Herman).
ANSP	Academy of Natural Sciences, Philadelphia, Pennsylvania.
BMNH	The Natural History Museum, London, United Kingdom (Maxwell V. L. Barclay).
CMNC	Canadian Museum of Nature, Ottawa, Canada (François Génier).
CMNH	Carnegie Museum of Natural History, Pittsburgh, Pennsylvania (Robert L. Davidson).
FSCA	Florida State Collection of Arthropods, Gainesville, Florida (Michael C. Thomas, Paul E. Skelley).
FZMC	Fernando de Zayas Muñoz Collection, Havana, Cuba (Teresa de Zayas Revuelta).
GOPC	George O. Poinar, Jr. Collection, Corvallis, Oregon (George O. Poinar, Jr.)
HNHM	Hungarian Natural History Museum, Budapest, Hungary (Ottó Merkl).
IESC	Instituto de Ecología y Sistemática, Havana, Cuba (Rayner Núñez).
INHS	Illinois Natural History Survey, Champaign, Illinois (Kathleen R. Methven).
MCZC	Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts (Philip Perkins).
MNHC	Museo Nacional de Historia Natural, Havana, Cuba (Esteban Gutiérrez).
MNHN	Muséum National d'Histoire Naturelle, Paris, France.
MRSN	Museo Regionale di Scienze Naturali, Torino, Italy.
NHMB	Naturhistorisches Museum, Basel, Switzerland (Eva Sprecher).
NMNH	National Museum of Natural History, Washington D.C. (Warren E. Steiner).
NMPC	National Museum, Prague, Czech Republic (Stratopluk Bilý).
OHGC	Orlando H. Garrido Collection, Havana, Cuba (Orlando H. Garrido).
OSUC	Ohio State University, Columbus, Ohio (Norman L. Johnson).

SMNS	Staatliches Museum für Naturkunde, Stuttgart, Germany.
UASD	Universidad Autónoma de Santo Domingo, Santo Domingo, Dominican Republic (Manuel de Js. Valdez R.).
WIBF	West Indian Beetle Fauna Project Collection, Montana State University, Bozeman, Montana (Michael A. Ivie).

All holotypes designated from WIBF material are deposited in NMNH. Holotype (or lectotype) repositories for each species are listed in Tables 1–3.

Methods — Morphology

This revision is based on morphological characters of adult specimens following the phylogenetic species concept of Wheeler and Platnick (2000). This species concept views species as the smallest group of populations or lineages diagnosable by a unique combination of character states. These unique characters can be inherited and therefore used to delimit species and genera. This concept was applied to populations of the genus as specimens were initially separated by geographic location, and then compared to other populations, looking for unique morphological characters that would support the recognition of different species and determine individual species limits.

In total, 729 of the specimens studied were tagged with a WIBF bar code label and all label data were entered verbatim into an Excel® file, which was then uploaded into the Ohio State VsysLab database (http://osuc.biosci.ohio-state.edu/HymOnline/search.html?limit=50&name=Nesocyrtosoma; as all WIBF labels and label data are associated in the website, WIBF label numbers are not listed in the material examined sections for each species). The remaining 230 specimens were studied directly in collections and were not bar coded. Transcription of label data of all studied specimens follows Ivie (1985): the end of each line on a label is indicated by a ";" (semicolon); the individual labels are separated by a "/" (backslash). The summarized distribution data follows the format COUNTRY: Province or State: County, Borough, Census Area, or Municipality.

Type specimens were examined for all species included in the scope of this study except *H. caraibus* (MNHN) and two fossil species, †*H. antiquus* (SMNS) and †*Nesocyrtosoma impensum* Doyen and Poinar (GOPC), which were not available for loan.

Specimens of the genus are frequently encrusted with accumulated debris, such as soil, making structures difficult to examine. In order to examine external morphological structures, specimens were relaxed and cleaned by first placing them in hot water for 5–10 minutes (Ivie 2002). Once relaxed, specimens were placed in ammonium hydroxide solution (Parsons'® household ammonia) in an ultrasonic cleaner for 5–15 minutes, then neutralized with a distilled water rinse. Any remaining debris was scraped away with the tip of an insect pin. This cleaning processing significantly enhanced the visibility of the morphological characters without compromising the specimen. Specimens thus prepared were then used to study characters, photograph, SEM, and/or prepare illustrations.

Dissections of females followed the technique of Tschinkel and Doyen (1980). Male genitalia were extracted by relaxing specimens in hot water, which then allowed for the aedeagus to simply be pulled out. Dissected parts were placed in glycerin in a plastic genitalia vial, which was then placed on the pin under the locality labels but above the determination and bar code labels.

Specimens were studied on a Leica® Wild M3C stereoscope equipped with a 150w fiber optic illuminator. Photographs were taken with a JVC® KY-F75U

digital camera attached to a Leica® MS5 stereomicroscope, processed using Synchroscopy Automontage®, and modified in Adobe Photoshop® CS3 and Adobe Illustrator® CS3. SEMs were taken with a Zeiss® EVO 40 XVP Scanning Electron Microscope. Illustrations were made with the aid of a camera lucida mounted on a Wild® TYP 181300 stereomicroscope. Measurements were taken using a micrometer. Length was measured medially from the anterior pronotal margin to the apex of the elytra. Width was measured from lateral edge to lateral edge at the widest point of the elytra.

Nomenclature of morphological structures follows Doyen (1966), Tschinkel and Doyen (1980), and Bouchard and Yeates (2001). Definitions specific to this study are few and are noted under the appropriate character in the character list. The designation "*cf.*" (Latin for "*confer*," English "compare to") is used in the key to indicate comparative states when the actual species illustrated is not the one referred to, but the character state is representative.

Lectotypes and paralectotypes were designated and labeled following the recommendations of Art. 74.7 (ICZN) during our 2008 visit to FZMC. A white label with the word 'LECTOTYPE' or 'PARALECTOTYPE' written in red ink, 'det. K.J. Hopp 2008' at the bottom in black type, and the species name between written in black ink was added to each lectotype and paralectotype. Finally, a red label with the typed words 'HOLOTYPE' on top, 'Hopp and Ivie 2009' at the bottom, and the species name in between was added to each holotype. A similar paratype label (blue) was added to relevant specimens.

Methods — Phylogenetic Analysis

A matrix of 50 adult morphological characters represented by 127 states of the recognized extant 39 *Nesocyrtosoma* species was used to produce a hypothesis of monophyly. The initial matrix contained over 80 characters, but many were discarded because they were uninformative, either because they were plesiomorphies shared by all species in the analysis or autapomorphies for individual species. Six outgroups were included; two distant taxa for rooting the characters (*Tenebrio* L. and *Strongylium* Kirby) and four genera of Cnodalonini from the Neotropics (*Apsida* Lacordaire, *Cnodalon*, *Cyrtosoma*, *Hesiodus* Champion). The six fossil species were excluded from the analysis because of significant amounts of missing data due to their state of preservation. A heuristic search (maximum trees to keep: 100; number of replications: 1,000; starting trees: 2; multiple TBR) was conducted using NONA as implemented through Winclada® (Nixon 1999) with the numbering of the characters beginning with 1. Polymorphic characters are coded with letters and are defined in Appendix 1 (see Appendix 2 for figures).

Characters and states are as follows:

1. Largest punctures on dorsal surface of head/ 0. smaller than single eye facet (Fig. 1)/ 1. subequal or larger than a single eye facet (Fig. 2).
2. Clypeal membrane/ 0. exposed (Fig. 3)/ 1. concealed (Fig. 4).
3. Ventral portion of eye/ 0. not reaching subgenal sulcus (Fig. 8)/ 1. reaching subgenal sulcus (Fig. 9).
4. Ocular depression/ 0. absent/ 1. present (Figs. 10, 11).
   [An ocular depression is an invagination of the postgena between the maxillary fossa and the ventral portion of the compound eye, and varies in form from a deep pit to a deep groove, but is easy to identify by its position and unique form (Figs. 10, 11)].

5. Postgenal sculpture/ 0. without distinct punctures/ 1. with distinct punctures (Fig. 12).
6. Antenna/ 0. clavate (Fig. 15)/ 1. moderately clavate (Fig. 16)/ 2. weakly clavate, nearly filiform (Fig. 17)/ 3. filiform (Fig. 18).
7. Number of apical antennal segments forming the club (including apical antennomere)/ 0. seven/ 1. six (Figs. 15–18)/ 2. five/ 3. four/ 4. zero.
8. Number of antennomeres with stellate sensoria (Fig. 14)/ 0. eight / 1. seven / 2. six/ 3. five/ 4. four/ 5. zero.
9. Apical maxillary palpomere/ 0. rectangular shaped (Fig. 20)/ 1. securiform or triangular shaped (Fig. 19).
10. Apical labial palpomere/ 0. rectangular shaped (Fig. 21)/ 1. securiform or triangular shape (Fig. 22).
11. Median keel of mentum/ 0. absent/ 1. acute (Fig. 12)/ 2. broad (Fig. 13).
12. Lateral marginal bead of pronotum/ 0. absent (Fig. 26)/ 1. complete (Figs. 23–25).
13. Anterior marginal bead of pronotum/ 0. absent (Fig. 25)/ 1. effaced medially (Figs. 23–24)/ 2. complete (Fig. 26).
14. Posterior marginal bead of pronotum/ 0. absent (Figs. 23, 25)/ 1. effaced medially (Fig. 24)/ 2. complete (Fig. 26).
15. Anterior angles of pronotum/ 0. acute (Fig. 159)/ 1. obtuse (Fig. 101)/ 2. right (Fig. 134).
16. Anterior angles of pronotum/ 0. weakly produced (Fig. 249)/ 1. moderately produced (Fig. 118)/ 2. strongly produced (Fig. 159).
17. Anterior angles of pronotum/ 0. widely rounded (Fig. 101)/ 1. narrowly rounded (Fig. 159).
18. Lateral edge of pronotum/ 0. evenly curved to base (Fig. 245)/ 1. sinuate at base (Fig. 118)/ 2. crenulate (Fig. 155).
19. Pronotum/ 0. evenly convex (Fig. 118)/ 1. raised laterad disk (Fig. 171)/ 2. concave at anterolateral edge (Fig. 159).
20. Hypomeron/ 0. without distinct punctures/ 1. with distinct punctures (Fig. 27)
21. Hypomeral bead/ 0. absent/ 1. present (Fig. 27)
22. Apex of prosternal process/ 0. broadly rounded (Fig. 123)/ 1. truncate (Fig. 119)/ 2. narrowly rounded or rounded to a point (Fig. 28)
23. Longitudinal depressions on lateral margins of prosternal process opposite coxae/ 0. absent/ 1. indistinct (Fig. 139)/ 2. distinct (Fig. 119).
24. Lateral longitudinal depressions of prosternal process/ 0. joined apically (Fig. 131)/ 1. not joined apically (Fig. 119).
25. Color of elytra/ 0. black/ 1. with purple tinge (Fig. 148)/ 2. shiny bronze (Fig. 204)/ 3. shiny green/blue/purple (Fig. 200)/ 4. ferrugineous.
26. Elytral stria/ 0. absent (Fig. 108)/ 1. represented by discontinuous punctures (Figs. 112, 116)/ 2. represented by discontinuous punctures set in a connecting line (Figs. 213, 221)/ 3. reticulate (Fig. 124).
27. Elytral interstria/ 0. roundly convex (Figs. 29, 213)/ 1. weakly convex (Fig. 169) / 2. flat (Fig. 30)/ 3. carinate (Fig. 124).
28. Elytral interstriae/ 0. densely punctate (Fig. 223)/ 1. scarcely punctate (Fig. 95)/ 2. impunctate.
29. Scutellary stria/ 0. absent/ 1. 1–3 punctures long (Fig. 97)/ 2. 4–10 punctures long (Fig. 175).
30. Scutellum/ 0. normal (Fig. 227)/ 1. reduced (Fig. 118).

31. Anterodorsal corners of elytron/ 0. with a notch to receive prothorax (Fig. 31)/ 1. without a notch to receive prothorax.
32. Mesoventrite/ 0. thin antero-posteriorly (Fig. 98)/ 1. broad antero-posteriorly (Fig. 135).
33. Mesoventrite/ 0. flat, or nearly so, not receiving prosternal process (Fig. 119)/ 1. excavate receiving prosternal process (Fig. 123).
34. Metaventrite/ 0. subequal or longer than antero-postero length of mesocoxa (Fig. 246)/ 1. 1/2 or <1/2 antero-postero length of mesocoxa (Fig. 119).
35. Epipleuron at base of 5th abdominal ventrite/ 0. terminating (Fig. 32)/ 1. continuing (Fig. 33).
36. Metathoracic wing/ 0. fully developed (Fig. 34)/1. vestigial.
37. Metatrochanter/ 0. triangular, normal/ 1. ovate, reduced (Fig. 35).
38. Trochanters/ 0. setose (Fig. 35)/ 1. without setae.
39. Metafemora/ 0. emarginate towards apex (Fig. 36)/ 1. straight.
40. Mesofemora of males/ 0. without longitudinal row of setae ventrally/ 1. with longitudinal row of setae ventrally (Fig. 152)
41. Tooth distad trochanter on metafemur/ 0. absent/ 1. present on male (Figs. 72, 73).
42. Modification (ventral apical tooth) of male mesotibia/ 0. absent/ 1. present.
43. Modification of male metatibia/ 0. absent (Figs. 63, 68, 70) / 1. ventral apical tooth present (Figs. 43–62, 64–67, 71–73)/ 2. ventral setal patch present (Figs. 39–42, 94)/ 3. ventral apical portion emarginate (Fig. 69).
44. Dorsal longitudinal groove (Fig. 37) on protibia/ 0. absent/ 1. present. [A dorsal longitudinal groove on the tibia is a slight groove in the middle of the dorsal surface of the tibia (Fig. 37)].
45. Dorsal longitudinal groove (Fig. 37) on mesotibia/ 0. absent/ 1. present. [A dorsal longitudinal groove on the tibia is a slight groove in the middle of the dorsal surface of the tibia (Fig. 37)].
46. Dorsal longitudinal groove (Fig. 37) on metatibia/ 0. absent/ 1. present. [A dorsal longitudinal groove on the tibia is a slight groove in the middle of the dorsal surface of the tibia (Fig. 37)].
47. Abdominal depressions on 4th and 5th ventrites/ 0. slits (Fig. 74)/ 1. pits (Fig. 75).
48. Intercoxal process of first ventrite/ 0. without nipple at apex/ 1. with nipple at apex (Fig. 76). [A nipple at the apex of the intercoxal process of first ventrite is a slender extension at the apex of the first ventrite, resembling a nipple (Fig. 76)].
49. Ventral surface/ 0. scarcely punctate/ 1. densely punctate (Fig. 207).
50. Stiffened cuticular tube of the female genital tract/ 0. absent (Fig. 79) or not as in *Nesocyrtosoma* / 1. *Nesocyrtosoma*-stiffened cuticular tube (NSCT) (Figs. 77, 78).
    [A unique form of the stiffened cuticular tube occurring in the species of *Nesocyrtosoma* is termed the *Nesocyrtosoma*-stiffened cuticular tube (NSCT). This structure is located on the spermathecal accessory gland before the start of the vagina (*i.e.*, the point farthest from the vaginal opening), and is unique in that it is a long, cylindrical tube that is weakly constricted near the apex and both ends are squared-off giving it a rectangular shape. The accessory gland can usually be seen within in the NSCT and is weakly to strongly pigmented. This pigmentation becomes extremely weak at the point of constriction and then becomes very dark near the exiting point within the NSCT (Figs. 77, 78)].

Some characters in the matrix (Appendix 1) are linked or dependent on each other. If the metathoracic wing is vestigial, the body becomes more convex and the metaventrite shortens to 1/2 the antero-postero length of the mesocoxa. If the metathoracic wing is fully developed, the body is less convex and more elongate with the metaventrite subequal or longer than the antero-postero length of the mesocoxa. However, these characters are not ordered in the analysis as it is impossible to determine how these characters evolved or even if they are truly homologous.

Results — Phylogenetic Analysis

The phylogenetic analysis was conducted primarily to test the monophyly of the genus. Further, given the historical generic concepts in this group and other Tenebrionidae which are based on separation of similar appearing species into their own genera, an analysis was needed to examine the status of the three species-groups (the *Nesocyrtosoma s. s.* species-group, the *Serrania* species-group, and the Purple species-group further discussed below) to determine if they could or should be treated as three different monophyletic genera. A secondary issue was to gain any possible insights into biogeographic or evolutionary relationships. The limited character set, and use of characters suspected of being linked and subject to parallel convergence, precluded any hope of resolution at the species level that would allow a full understanding of biogeographic or evolutionary history.

A heuristic search resulted in 63 most parsimonious trees of length 238 (CI = 0.31, RI = 0.67). A strict consensus of these 63 trees supports a monophyletic *Nesocyrtosoma* (Fig. 84A). This support is based upon two synapomorphies — the acute median keel of the mentum [character state 11(1), CI = 0.22, RI = 0.36] and the NSCT [character state 50(1), CI = 1.0, RI = 1.0]. Character state 11(1) is lost (reversed) to the ancestral state [11(2)] four times in four clade-members, but character 50 is an unreversed and unambiguous synapomorphy that defines the genus. It should be noted that the other three morphological characters used in combination to diagnose *Nesocyrtosoma* from all other genera are plesiomorphies, and do not separate *Nesocyrtosoma* from the outgroup in a cladistic sense.

Within the monophyletic *Nesocyrtosoma*, the three species-groups are weakly supported as monophyletic clades. However, the support for these clades is too weak to consider formal recognition of any of the species-groups. The *Nesocyrtosoma s. s.* species-group is separated from the other two species-groups by the homoplasious characters of the reduced scutellum [character state 30(1), CI = 0.50, RI = 0.92], short metaventrite [character state 34(1), CI = 0.50, RI = 0.92] and lack of metathoracic wings [character state 36(1), CI = 0.50, RI = 0.92]. The first two of these (reduced scutellum and the short metaventrite) are directly related to the third (reduction of metathoracic wings), further suggesting that this group is unnatural, and based on convergences associated with the lack of metathoracic wings. A fourth character, the male metatibia with a ventral longitudinal patch of setae [character state 43(2), CI = 0.50, RI = 0.70], is placed as a synapomorphy at the base of the *Nesocyrtosoma s. s.* species-group, but is reversed in a clade with seven of 12 members. The character state that supports the Purple-plus-*Serrania* species-groups is the absent posterior marginal bead of the pronotum [character state 14(0), CI = 0.29, RI = 0.75], which is not considered significant, as 14(0) is reversed to 14(1) in two lineages of the Purple species-group, representing eight of the 13 species. The Purple species-group is supported as monophyletic by a single homoplasious character — the moderately clavate antennae [character state 6(2), CI = 0.43, RI = 0.80], but is a weakly

defined character that is also reversed in a species of the Purple species-group. The *Serrania* species-group is supported by nine homoplasious characters. Of those nine characters, only two are convincing. The first character, the lateral edge of the pronotum evenly curved to the base [character state 18(0), CI = 0.33, RI = 0.77], shows the strongest support, as it is unreversed in the *Serrania* species-group, but occurs in one species of the *Nesocyrtosoma s. s.* species-group. The second character, the abdomen with a nipple at the apex of the intercoxal process [character state 48(1), CI = 0.33, RI = 0.75], occurs only in the *Serrania* species-group, but is reversed to 48(0) in four lineages representing six of the 14 species.

In short, the monophyly of the species-groups are weakly supported and do not provide any justification for splitting *Nesocyrtosoma* into three distinct genera. Rather, the phylogenetic analysis supports a monophyletic *Nesocyrtosoma* with three recognizable species-groups of taxonomic convenience, not worthy of formal names. Overall, the resolution among the species within the three species-groups is, as was expected, weak and reflective of the fact that there are not enough characters to fully resolve this tree. This is compounded by the use of known or suspected characters that are linked and subject to convergence in a way predicted to contravene inferring the phylogeny of the group.

Recognition of Informal Species-Groups within *Nesocyrtosoma* Marcuzzi

The members of *Nesocyrtosoma* can currently be recognized by a combination of four characters — 1) the clypeal membrane concealed [character state 2(1); Fig. 4]; 2) epipleuron very broad with subparallel margins in the anterior third, then gradually narrowing and terminating at the base of the fifth abdominal ventrite [character state 35(0); Fig. 32]; 3) femora slightly to moderately emarginate on the inner surface near the apex [character state 39(0); Fig. 36]; and 4) female genital tract with an abruptly expanded apical spermatheca connected to a bursa-less vagina by an apical spermathecal accessory gland, and a cylindrical stiffened cuticular tube with squared-off ends at the base of the spermathecal accessory gland [character state 50(1); Figs. 77, 78]. This is termed the *Nesocyrtosoma*-stiffened cuticular tube (NSCT). With this broad redefinition *Nesocyrtosoma* has proven to be a morphologically diverse genus. Members range in size from 3.5–12 mm long and range from moderately convex to globose dorso-ventrally and ovoid to elongate fronto-caudally.

As the phylogenetic analysis supports three recognizable species-groups within a monophyletic *Nesocyrtosoma*, three informal species-groups are here recognized as a useful way of discussing the species. The *Nesocyrtosoma s. s.* species-group includes those forms fitting Marcuzzi's original 1976 definition of *Cyrtosoma* (*Nesocyrtosoma*) and his 1999 subgenus *Cyrtosoma* (*Pachycyrtosoma*). The species in the *Nesocyrtosoma s. s.* species-group are flightless, extremely globose, and vary in size from 4.5–8.5 mm long. Table 1 lists the species included in the *Nesocyrtosoma s. s.* species-group.

The Purple species-group includes those species that are winged, moderately convex, elongate and range in size from 6.5–12.0 mm long and sometimes have a purple tinge to the elytra. The species included in the Purple species-group are listed in Table 2.

The *Serrania* species-group includes those species similar to Garrido's 2003 genus *Serrania*. The species within this species-group are winged, moderately to weakly convex, moderately ovate to elongate and range in size from 3.5–6.5 mm long. Table 3 lists the species included in the *Serrania* species-group.

Table 1. List of the species included in the *Nesocyrtosoma s. s.* species-group. *Indicates WIBF specimen to be deposited in NMNH.

Species Name	Taxonomic Status	Type Repository
Nesocyrtosoma bestiola Hopp and Ivie	NEW SPECIES	WIBF*
Nesocyrtosoma ferruginea (Garrido and Gutiérrez)	NEW COMBINATION	MNHC
Nesocyrtosoma gebieni (Marcuzzi)	NEW COMBINATION	HNHM
Nesocyrtosoma tumefactum (Marcuzzi)		HNHM
Nesocyrtosoma turquinense (Zayas)	NEW COMBINATION	FZCM
Nesocyrtosoma hispaniolae (Marcuzzi)	NEW COMBINATION	HNHM
Nesocyrtosoma neibaense Hopp and Ivie	NEW SPECIES	CMNH
Nesocyrtosoma inflatum (Marcuzzi)		BMNH
Nesocyrtosoma merkli (Marcuzzi)	NEW COMBINATION	HNHM
Nesocyrtosoma scabrosum Hopp and Ivie	NEW SPECIES	MCZC
Nesocyrtosoma lacrima Hopp and Ivie	NEW SPECIES	NMNH
Nesocyrtosoma simplex Hopp and Ivie	NEW SPECIES	MCZC

Table 2. List of the species included in the Purple species-group. *Indicates WIBF specimen to be deposited in NMNH.

Species Name	Taxonomic Status	Type Repository
Nesocyrtosoma altagracia Hopp and Ivie	NEW SPECIES	WIBF*
Nesocyrtosoma basilense Hopp and Ivie	NEW SPECIES	MCZC
Nesocyrtosoma dolosum Hopp and Ivie	NEW SPECIES	MCZC
Nesocyrtosoma purpureum Hopp and Ivie	NEW SPECIES	FSCA
Nesocyrtosoma crenulatum Hopp and Ivie	NEW SPECIES	WIBF*
Nesocyrtosoma otus Hopp and Ivie	NEW SPECIES	MCZC
Nesocyrtosoma darlingtoni Hopp and Ivie	NEW SPECIES	MCZC
Nesocyrtosoma mutabile Hopp and Ivie	NEW SPECIES	WIBF*
Nesocyrtosoma larseni Hopp and Ivie	NEW SPECIES	FSCA
Nesocyrtosoma parallelum (Zayas)		FZMC
Nesocyrtosoma cristalense (Zayas)		FZMC
Nesocyrtosoma cuprosum (Zayas)	NEW COMBINATION	FZMC
Nesocyrtosoma elongatum (Zayas)	NEW COMBINATION	FZMC

Taxonomy of *Nesocyrtosoma* Marcuzzi

As stated above, members of *Nesocyrtosoma* can be recognized by a combination of four characters — 1) clypeal membrane concealed; 2) epipleuron very broad with subparallel margins in the anterior third, then gradually narrowing and terminating at the base of the fifth abdominal ventrite; 3) femora slightly to moderately emarginate on the inner surface near the apex; and 4) female genital tract with an abruptly expanded apical spermatheca connected to a bursa-less vagina by an apical spermathecal accessory gland, and a cylindrical stiffened cuticular tube with squared-off ends at the base of the spermathecal accessory gland. The stiffened cuticular tube is not unique to *Nesocyrtosoma* as many tenebrionids seem capable of forming thicker cuticle in almost any location in the female genital tract (W. Tschinkel, pers. comm.), but it was discovered during this study that the particular structure of the stiffened cuticular tube in the species of *Nesocyrtosoma* is unique. It is thus termed the *Nesocyrtosoma*-stiffened cuticular tube (NSCT). There is a short section of either the vagina or accessory

Table 3. List of the species included in the *Serrania* species-group. † indicates a fossil species. *Indicates WIBF specimen to be deposited in NMNH.

Species Name	Taxonomic Status	Type Repository
Nesocyrtosoma bankense Hopp and Ivie	NEW SPECIES	WIBF*
Nesocyrtosoma fernandoi Hopp and Ivie	NEW SPECIES	FZMC
Nesocyrtosoma garridoi Hopp and Ivie	NEW SPECIES	CMNH
Nesocyrtosoma puertoricense Hopp and Ivie	NEW SPECIES	WIBF*
Nesocyrtosoma serratum Hopp and Ivie	NEW SPECIES	NMNH
Nesocyrtosoma skelleyi Hopp and Ivie	NEW SPECIES	FSCA
Nesocyrtosoma nearnsi Hopp and Ivie	NEW SPECIES	FSCA
Nesocyrtosoma productum Hopp and Ivie	NEW SPECIES	WIBF*
Nesocyrtosoma teresitae Hopp and Ivie	NEW SPECIES	MCZC
Nesocyrtosoma curvum Hopp and Ivie	NEW SPECIES	FSCA
Nesocyrtosoma guerreroi Hopp and Ivie	NEW SPECIES	WIBF*
Nesocyrtosoma virens (LaPorte and Brullé)	NEW COMBINATION	MRSN
Nesocyrtosoma cubanense (Kulzer)	NEW COMBINATION	NHMB
Nesocyrtosoma dentatum Hopp and Ivie	NEW SPECIES	NMNH
†*Nesocyrtosoma antiquum* (Kaszab and Schawaller)		SMNS
†*Nesocyrtosoma celadonum* Doyen and Poinar		GOPC
†*Nesocyrtosoma hadratum* Doyen and Poinar		GOPC
†*Nesocyrtosoma impensum* Doyen and Poinar		GOPC
†*Nesocyrtosoma minisculum* Hopp and Ivie	NEW SPECIES	WIBF*
†*Nesocyrtosoma phthanatum* Doyen and Poinar		GOPC

gland that is constricted at the beginning of the vagina (*i.e.*, the point farthest from the vaginal opening), and the NSCT is located on the spermathecal accessory gland just above this constriction. The NSCT is unique in that it is a long, cylindrical tube that is weakly constricted near the apex. Both ends of the NSCT are squared-off, giving it a rectangular shape. The accessory gland can usually be seen within the NSCT and is weakly to strongly pigmented. This pigmentation becomes extremely weak at the point of constriction and then becomes very strong near the exiting point within the NSCT (Figs. 77, 78).

The NSCT is different than the stiffened cuticular tube seen in *Apsida chrysomelina* Lacordaire and *Hesiodus longitarsus* Champion (Fig. 81). The stiffened cuticular tube in these two species is located in the same place as in species of *Nesocyrtosoma*. However, the stiffened cuticular tube begins as a continuation of the vagina and is lacking the constriction seen in the NSCT. The shape of the stiffened cuticular tube is more robust and ovate in *A. chrysomelina* and *H. longitarsus*, and the apical end of the stiffened cuticular tube is tapered into the accessory gland (Fig. 81). Finally, the accessory gland is lacking pigmentation within the stiffened cuticular tube except for a faint portion near the apex immediately before it exits the stiffened cuticular tube (Fig. 81).

With the discovery of the NSCT, *H. caraibus* was eliminated from this study. Although the type series of this species was not examined, specimens determined by T. Spilman as *H. caraibus*, and the types of *H. longitarsus*, *Hesiodus brasilensis* Champion, *Hesiodus conspurcatus* Champion, *Hesiodus debilis* Champion, *Hesiodus egaensis* Champion, *Hesiodus ellipticus* Champion, *Hesiodus jasoni* Champion, and *Hesiodus sordidus* Champion were all examined. Two females of *H. longitarsus*, the type species of *Hesiodus* designated by Lucas (1920) and

subsequently by Gebien (1938–1942*a*), were dissected. It was determined that *H. longitarsus* has a distinctly different stiffened cuticular tube than *Nesocyrtosoma* (as discussed above). The specimens from Dominica and Guadeloupe determined as *H. caraibus* by T. Spilman have the same stiffened cuticular tube structure as in *H. longitarsus*. Thus, based on these dissections, *H. caraibus* should remain in *Hesiodus* and is not included any further in this revision.

Nesocyrtosoma is redefined based on Marcuzzi's (1976, 1999) and Doyen's (1989) work and current findings. Sixteen of the 18 species are redescribed, 27 new species are described, all but three species are illustrated, and a key to species is provided below.

Nesocyrtosoma Marcuzzi, 1976

Cyrtosoma (*Nesocyrtosoma*) Marcuzzi 1976: 137 [*Nesocyrtosoma* Marcuzzi is a *nomen nudum* under ICZN Art. 13.3, because no type species was designated. We recognize the type species as *Cyrtosoma* (*Nesocyrtosoma*) *inflatum* Marcuzzi 1976 as per an application to the International Commission on Zoological Nomenclature by Hopp *et al.*, submitted]; Marcuzzi 1984: 102; Marcuzzi 1991: 235, 246; Garrido and Gutiérrez 1996: 281–282; Marcuzzi 1999: 81.

Nesocyrtosoma; Doyen 1989: 280–281, 299; Doyen and Poinar 1994: 45–50; Poinar *et al.* 2001: 205; Arillo and Ortuño 2005: 22; Perez-Gelabert 2008: 115; Vitali 2008: 11.

Hesiodobates Kaszab and Schawaller 1984: 1–6, Fig. 1; Doyen 1989: 279; Poinar 1992: 154 [Type species †*Hesiodobates antiquus* Kaszab and Schawaller by original designation]. [Synonymy by Doyen and Poinar 1994: 45].

Cyrtosoma (*Pachycyrtosoma*) Marcuzzi 1999: 81–82, Figs. 1–6 [Type species *Cyrtosoma* (*Pachycyrtosoma*) *merkli* Marcuzzi by original designation]; Perez-Gelabert 2008: 115. **New Synonymy**.

Nesocyrtoma Perez-Gelabert 1999: 31 [*lapsus calami*].

Serrania Garrido 2003: 49–52, Fig. 1 [Type species *Diaperis viridula* Zayas by monotypy]. **New Synonymy**.

Diagnosis. The members of this genus are distinguished from all other genera of the Cnodalonini by the combination of the following external characters: clypeal membrane concealed beneath the epistoma (Fig. 4); epipleuron terminating at 5th abdominal ventrite (Fig. 33); femur with apical portion emarginate (Fig. 37). The females are unique in the combination of an abruptly expanded apical spermatheca connected to a bursa-less vagina by an apical spermathecal accessory gland with a cylindrical stiffened cuticular tube at the base of the spermathecal accessory gland termed the *Nesocyrtosoma*-stiffened cuticular tube (NSCT) (Fig. 77).

Redescription (modified from Marcuzzi 1976, 1999 and Doyen 1989). Male. 3.5–12.0 mm long, 1.5–6.5 mm wide. Variable in color, usually black, sometimes purple, metallic greenish blue/purple or shining bronze. Body variable in shape, ranging from short and extremely convex to elongate and weakly convex (Figs. 116, 117, 157, 158). Glabrous, except with extremely short setae extending from punctures on head, legs and abdominal ventrites. Head small, round, punctate; punctures variable in size with short golden setae; frontoclypeal suture present; clypeal membrane concealed. Antenna 11-segmented; clavate to weakly clavate, nearly filiform; apical 4, 5 or 6 antennomeres apically widened forming a loose short to elongate club (Figs. 15, 16, 17); apical antennomere either subcircular or longitudinally ovate; apical 4, 5, or 6 antennomeres with stellate

sensoria (Fig. 14). Mandibles barely projecting beyond labrum when closed; usually bifid at apex; prostheca present; molar lobe present, mola flat with small serrations on surface (Figs. 5, 6, 7). Apical maxillary palpomere securiform or triangular (Fig. 19); apical labial palpomere rectangular (Fig. 21). Mentum with median keel raised anteriorly to a point (Figs. 10, 12); ventral portion of eye sometimes reaching subgenal sulcus (Fig. 9); postgena with or without distinct punctures (Fig. 12). Dorsal surface of pronotum punctate, punctures variable in size and density. Pronotal marginal bead complete laterally, anterior and posterior margins usually with marginal bead effaced medially (Fig. 24); anterior edge evenly emarginate; posterior edge bisinuate; anterior angles of pronotum acute (Fig. 159) to obtuse (Fig. 101), strongly (Fig. 159) to weakly (Fig. 249) produced and apically narrowly (Fig. 159) to widely (Fig. 101) rounded; lateral edge of pronotum usually evenly curved to base or sinuate at base (Figs. 23, 24); pronotum usually evenly convex. Hypomeron with or without distinct punctures (Fig. 27). Prosternal process usually apically rounded; marginal grooves opposite coxae either joined or not apically; setose to glabrous. Elytral striae variable, ranging from distinctly impressed striae to seemingly absent (Figs. 213, 116, 221, 108); scutellary striae variable, from 1–10 punctures long. Mesoventrite thin or broad antero-posteriorly, excavate, receiving prosternal process (Figs. 123, 135). Epipleuron extremely broad at base, gradually narrowing toward apex until terminating at the fifth abdominal ventrite (Fig. 33). Metaventrite either 1/2 antero-postero length of mesocoxa or subequal to antero-postero length of mesocoxa; discrimen present; katepisternum present. Metathoracic wing vestigial or fully developed (Fig. 34). Legs long and slender to short and broad; usually punctate with short, golden seta; trochanter off-set, highly reduced and setose (Fig. 36); apical portion of femur emarginate (Fig. 37), usually reaching beyond edge of elytron; tibiae straight to strongly curved; two apical tibial spurs on each tibia; pro- and mesotibia often with highly reduced apical ventral tooth, usually difficult to see; metatibia usually modified with apical ventral tooth varying in proximity to apex and variable in size, with a ventral longitudinal patch of setae, ventrally apically emarginate or rarely unmodified (Figs. 39–73); tarsal formula 5-5-4; tarsi long, slender; first metatarsomere usually subequal in length to 2nd and 3rd tarsomeres; apical metatarsus usually subequal in length to first three tarsomeres combined; all but last tarsomere with dense pad of golden setae on venter; apical tarsomere with two distinct longitudinal rows of sparse setae. Abdomen with visible ventrites 1–3 connate, 4 and 5 movable with visible membrane; abdominal depressions on 4th and 5th ventrites usually reduced to indistinct slits, but sometimes present as strongly impressed pits (Figs. 74, 75); intercoxal process of first ventrite usually rounded at apex, sometimes with nipple at apex (Fig. 76). Ventral surface variably punctate; punctures variable in size, density and degree of impression; short golden seta emerging from each puncture. Aedeagus with basal piece and parameres simple; curved, canoe-like; parameres approximately 1/3 entire length of aedeagus. Ends of parameres range from blunt to sharply rounded (Figs. 270–304).

Notes. Male genitalia do not provide useful characters for diagnosing species of *Nesocyrtosoma*. There is some variation in the degree of curvature, entire length (which correlates to species size), and the degree of sharpness of the apical portion of the parameres. However, these differences are difficult to quantify and are therefore not used to diagnose species.

Female. Identical to male, except tibia usually straight and always lacking apical tooth on metatibia. Ovipositor with pair of basal paraprocts, shorter than

coxites; proximal coxite considerably longer than the three distal lobes combined (Fig. 83). Spermathecal accessory gland extending apically from the bursa-less vagina; stiffened cuticular tube long, cylindrical, with squared-off ends; spermatheca greatly enlarged at the apex of the spermathecal accessory gland (Fig. 77).

Larvae. Unknown.

Biology. Very little is known about the biology of *Nesocyrtosoma*, however, there is some general knowledge of the biology of the subfamily to which it belongs, Stenochiinae (=Coelometopinae) (Bouchard *et al.* 2005). According to Doyen (1989), stenochiines primarily occupy forest and woodland habitats in the tropics and subtropics. Larvae inhabit rotten wood and adults are frequently found associated with various sorts of dead wood, and most are nocturnally active.

Nesocyrtosoma follows these generalizations — it has primarily been collected on dead wood, on trees, under bark and rocks, and by beating dead tree limbs, dead vines, thorn scrub and other vegetation. Specimens found under bark are often found during the day, while those on the surface are usually found at night, indicating they are nocturnally active. Specimens have also been taken at light and in flight intercept traps and Malaise traps, indicating some species may fly.

The males of most species of *Nesocyrtosoma* display sexual dimorphism in the form of a very small to large tooth on the ventral apical surface of at least the metatibia (there is usually a tooth on the pro- and mesotibia when one is present on the metatibia, but these are generally more difficult to detect than the tooth on the metatibia). In some species this modification is simply a patch of setae extending from the apex up to 1/3 of the length of the metatibia, but others have an apical tibial tooth, ranging from vestigial, which is generally difficult to detect, to quite sharp and large. These are likely used to help the male grasp the female during mating.

The larvae remain unknown, but are expected to be found in some type of rotten wood or debris.

Distribution. Species of *Nesocyrtosoma* are known from the West Indian islands of Cuba, Hispaniola, Puerto Rico, St. John and St. Thomas of the U. S. Virgin Islands, and Montserrat (Figs. 262–269).

Etymology. *Nesocyrtosoma* is a Greek word in the neuter form. The International Commission on Zoological Nomenclature (1999) states in Art. 34.2 that the ending of a Latin or latinized adjectival or participial species-group name must agree in gender with the generic name with which it is at any time combined [Art. 31.2]; if the gender ending is incorrect, it must be changed accordingly (the author and date of the name remain unchanged [Art. 50.3.2]). Thus, the following species names are changed to agree with the neuter form of *Nesocyrtosoma*: *Apsida cubanensis* Kulzer to *Nesocyrtosoma cubanense* (Kulzer), *Cnodalon turquinensis* Zayas to *Nesocyrtosoma turquinense* (Zayas), *Cnodalon parallelus* Zayas to *Nesocyrtosoma parallelum* (Zayas), *Cnodalon cristalensis* Zayas to *Nesocyrtosoma cristalense* (Zayas), *Cnodalon cuproso* Zayas to *Nesocyrtosoma cuprosum* (Zayas), and *Cnodalon elongatus* Zayas to *Nesocyrtosoma elongatum* (Zayas).

Key to Species of *Nesocyrtosoma* Marcuzzi

1 Flight wings vestigial or absent; metaventrite shorter than diameter of mesocoxa; (*Nesocyrtosoma s. s.* species-group) 2

1′	Flight wings fully developed; metaventrite longer than diameter of mesocoxa 13
2 (1)	Strial punctures of the elytron medium in size, strongly impressed, with or without an impressed stria connecting the puncture rows (*cf.* Figs. 95, 112, 116) 3
2′	Strial punctures of the elytron small, weakly impressed, or appearing absent; puncture rows with or without an impressed stria (*cf.* Figs. 122, 128) 6
3 (2)	Strial punctures of the elytron distinctly separated, not connected to each other or by an impressed striae (Figs. 112, 116) 4
3′	Strial punctures of the elytron connected by an impressed stria or carinate (Figs. 95, 124, 134) 5
4 (3)	Prosternal process apically truncate (Fig. 119); apex of elytra strongly tapered; antennomeres 6–10 apically enlarged, forming a loose, elongate club; Cuba ..... ***N. inflatum*** **(Marcuzzi)**
4′	Prosternal process apically rounded (Fig. 115); apex of elytra weakly tapered; antennomeres 7–10 apically enlarged, forming a loose, elongate club; Hispaniola ..... ***N. neibaense*** **Hopp and Ivie, n. sp.**
5 (3′)	Strial punctures of the elytron placed in individual depressions, causing interstriae to be raised, almost carinate (Fig. 124), forming a reticulate pattern; Haiti ..... ***N. scabrosum*** **Hopp and Ivie, n. sp.**
5′	Strial punctures of the elytron round, deeply impressed, interstriae weakly convex, punctures connected by a weakly impressed stria (Fig. 95); Cuba ..... ***N. gebieni*** **(Marcuzzi)**
6 (2′)	Body elongate, slender, weakly convex, dark bronze in color, rows of small elytral punctures connected by deeply impressed striae (Fig. 128); Montserrat ..... ***N. lacrima*** **Hopp and Ivie, n. sp.**
6′	Body short, broad, extremely convex, black in color, elytral striae weakly impressed as small punctures without impressed striae, punctures sometimes appearing absent (Figs. 132, 108) 7
7 (6′)	Strial punctures of the elytron extremely small, densely placed in rows, appearing almost connected at lower magnification (Fig. 104) 8
7′	Strial punctures of the elytron small, sparsely placed in rows, appearing distinctly separated by 2.0–1.0 diameters; or seemingly absent (Figs. 85, 90,108) 11
8 (7)	Mesoventrite broad antero-posteriorly (Fig. 135); anterior angles of pronotum weakly produced; lateral edge of pronotum evenly convex to base (Fig. 134); Hispaniola ..... ***N. simplex*** **Hopp and Ivie, n. sp.**
8′	Mesoventrite thin antero-posteriorly (Fig. 123); anterior angles of pronotum moderately produced; lateral edge of pronotum sinuate at base (Fig. 122) 9
9 (8′)	Prosternal process with slight medial apical bump (Fig. 103); Cuba ..... ***N. tumefactum*** **(Zayas)**
9′	Prosternal process without slight medial apical bump 10
10 (9′)	Elytral interstriae densely punctate; anterior angles of pronotum widely rounded with weak marginal bead (Fig. 106); males with ventral longitudinal patch of setae extending from apex to approximately 1/4 the length of the metatibia (Fig. 42); Cuba ..... ***N. turquinense*** **(Zayas)**
10′	Elytral interstriae sparsely punctate; anterior angles of pronotum narrowly rounded with strong marginal bead (Fig. 122); males with

tooth near apex of metatibia (Fig. 46); Hispaniola ..... ***N. merkli*** **(Marcuzzi)**

11 (7′) Prosternal process basally forming a shelf (Fig. 89); male metatibia with longitudinal patch of setae extending from apex to 1/3 the entire length of ventral surface (Fig. 39); Hispaniola ..... ***N. bestiola*** **Hopp and Ivie, n. sp.**

11′ Prosternal process basally flat, not forming a shelf; males with or without patch of golden setae on apical ventral portion of metatibia 12

12 (11′) Elytra appearing smooth, strial punctures extremely small and difficult to see; body black, lustrous under light; anterior angles of pronotum acute, narrowly rounded (Fig. 110); males with tooth near apex of metatibia (Fig. 43); Hispaniola ..... ***N. hispaniolae*** **(Marcuzzi)**

12′ Strial punctures of elytron distinct; matte black, without luster under light; anterior angles of pronotum obtuse, broadly rounded; males without small vestigial tooth at apex of metatibia, metatibia with ventral longitudinal patch of setae extending from apex to 1/3 the entire length of ventral surface (Figs. 40, 94); Cuba ..... ***N. ferruginea*** **(Garrido and Gutiérrez)**

13 (1′) Lateral edge of pronotum evenly curved to base, not sinuate (Fig. 23); small in size, 3.5–6.5 mm long, 1.5–3.5 mm wide; (*Serrania* species-group) 14

13′ Lateral edge of pronotum sinuate at base (Fig. 24), medium to large in size; 6.5–12.0 mm long, 3.0–6.5 mm wide; (Purple species-group) 34

14 (13) Strial punctures of the elytron small with deeply impressed stria through the middle of each puncture row; interstriae roundly convex (Figs. 29, 213) 15

14′ Strial punctures of the elytron small to medium with or without a lightly impressed stria through the middle of each puncture row; interstriae weakly convex to flat (Fig. 30) 26

15 (14) Ventral ocular depression present (Figs. 10, 11); extant species, IF present in fossil species, use 15′ and proceed to couplet 19 16

15′ Ventral ocular depression absent; extant or fossil species 19

16 (15) Antennomeres 6–10 apically enlarged, forming a loose, elongate club 17

16′ Antennomeres 7–10 apically enlarged, forming a loose, elongate club 18

17 (16) Body elongate, slender, weakly convex; anterior angles of pronotum weakly produced, widely rounded (Fig. 202); bluish-purple in color; Cuba ..... ***N. garridoi*** **Hopp and Ivie, n. sp.**

17′ Body short, broad, moderately convex; anterior angels of pronotum moderately produced, narrowly rounded (Fig. 232); bronze in color; Puerto Rico ..... ***N. curvum*** **Hopp and Ivie, n. sp.**

18 (16′) Tibial dorsal longitudinal groove weakly impressed to absent; males with very small ventral metatibial tooth proximad apex, forming a club-like apex (Fig. 62); Puerto Rico, St. Thomas, St. John ..... ***N. bankense*** **Hopp and Ivie, n. sp.**

18′ Tibial dorsal longitudinal groove strongly impressed; males with metatibial tooth at apex, flowing into the apex of the metatibia (Fig. 64); Puerto Rico ..... ***N. puertoricense*** **Hopp and Ivie, n. sp.**

19 (15′) Posterior pronotal margin entirely without marginal bead (Fig. 23) ... 20

19′ Posterior pronotal margin with marginal bead effaced medially (Fig. 24) 21

20 (19) 5.0 mm in length; antenna weakly clavate, nearly filiform, antennomeres 6–10 weakly enlarged apically, forming a loose, elongate club; Hispaniola ..... †***N. antiquum*** **(Kaszab and Schawaller)**

20′ 3.5 mm in length; antenna clavate, antennomeres 7–10 apically enlarged, forming a loose club; Hispaniola ..... †***N. minisculum*** **Hopp and Ivie, n. sp.**

21 (19′) Lateral edge of pronotum crenulate; Hispaniola ..... †***N. celadonum*** **Doyen and Poinar**

21′ Lateral edge of pronotum not crenulate 22

22 (21′) Longer than 6.0 mm in length; body elongate, weakly convex 23

22′ No longer than 6.0 mm in length; body stout to elongate, convex .. 24

23 (22) 9.0 mm in length; elytral interstriae weakly convex (Fig. 30); Hispaniola ..... †***N. impensum*** **Doyen and Poinar**

23′ Less than 9.0 mm in length, ~7.0 mm long; elytral interstriae roundly convex (Fig. 29); Hispaniola ..... †***N. phthanatum*** **Doyen and Poinar**

24 (22′) Body short, stout; intercoxal process of first abdominal ventrite without nipple at apex ..... †***N. hadratum*** **Doyen and Poinar**

24′ Body short, elongate; intercoxal process of first abdominal ventrite with nipple at apex 25

25 (24′) Hypomeral bead strongly impressed (Fig. 27); mesoventrite thin (Fig. 212); Hispaniola ..... ***N. serratum*** **Hopp and Ivie, n. sp.**

25′ Hypomeral bead weakly impressed to absent; mesoventrite broad (Fig. 216); Hispaniola ..... ***N. skelleyi*** **Hopp and Ivie, n. sp.**

26 (14′) Antennomeres 6–10 apically enlarged, forming a loose, elongate club 27

26′ Antennomere 7–10 apically enlarged, forming a loose, elongate club 28

27 (26) Strial punctures of the elytron medium in size with a discontinuous, weakly impressed stria through each puncture row; anterior angles of pronotum moderately produced, narrowly rounded (Figs. 225, 227); Cuba ..... ***N. teresitae*** **Hopp and Ivie, n. sp.**

27′ Strial punctures of the elytron small, with or without a complete weakly impressed stria through each puncture row; anterior angles of pronotum weakly produced; widely rounded (Figs. 234, 236); Hispaniola ..... ***N. guerreroi*** **Hopp and Ivie, n. sp.**

28 (26′) Hypomeral bead present (Fig. 27) 29

28′ Hypomeral bead absent 30

29 (28) Males with ventral tooth distad trochanter; metatibia strongly curved; ventral apical tooth continuous with apex of metatibia (Fig. 72); Cuba ..... ***N. cubanense*** **(Kulzer)**

29′ Males without ventral tooth distad trochanter; metatibia weakly curved at apex; ventral tooth small, proximad apex of metatibia (Fig. 71); Cuba ..... ***N. virens*** **(LaPorte and Brullé)**

30 (28′) Anterior angles of pronotum strongly produced, narrowly rounded (Fig. 242); elytral interstriae densely punctate (Fig. 221); Hispaniola ..... ***N. productum* Hopp and Ivie, n. sp.**

30′ Anterior angles of pronotum weakly produced, broadly rounded; elytral interstriae weakly punctate 31

31 (30′) Ventral ocular depression present (Fig. 197); Cuba ..... ***N. fernandoi* Hopp and Ivie, n. sp.**

31′ Ventral ocular depression absent 32

32 (21′) Dorsal surface weakly shining; elytra with weakly impressed striae, interstriae weakly convex (Fig. 247); males with sharp tooth distad trochanter on femur and proximad apex of metatibia (Fig. 73); 3.5–4.5 mm long, 2.0–2.5 mm wide; Cuba ..... ***N. dentatum* Hopp and Ivie, n. sp.**

32′ Dorsal surface strongly shining; elytra with fine, flat striae, interstriae flat (Fig. 217); males with strongly curved metatibia with small tooth proximad apex (Fig. 67); 4.0–6.0 mm long, 2.0–3.5 mm wide; Hispaniola ..... ***N. nearnsi* Hopp and Ivie, n. sp.**

33 (13′) Pronotum laterad disk abruptly raised (Fig. 171); Cuba, Hispaniola ..... ***N. larseni* Hopp and Ivie, n. sp.**

33′ Pronotum laterad disk even with disk or slightly raised 34

34 (33′) Antennomeres 7–10 apically enlarged, forming a loose, elongate club 35

34′ Antennomeres 6–10 apically enlarged, forming a loose, elongate club 42

35 (34) Anterior angles of pronotum right, narrowly rounded (Fig. 175) ... 36

35′ Anterior angles of pronotum obtuse, widely rounded (Fig. 179) 40

36 (35) Prosternal process with strong marginal grooves opposite coxae, joined apically; area between marginal grooves concave between coxae, becoming convex at apex (Fig. 176); Cuba ..... ***N. parallelum* (Zayas)**

36′ Prosternal process with or without weak marginal grooves opposite coxae; prosternal process even with lateral edges 37

37 (36′) Pronotal punctures subequal to a single eye facet; anterior angles of pronotum acute, narrowly and bluntly rounded; body slender, weakly shining ferrugineous to purple (Fig. 166) ..... ***N. darlingtoni* Hopp and Ivie, n. sp.**

37′ Pronotal punctures smaller than as single eye facet; anterior angles of pronotum acute and sharply rounded or nearly right and bluntly rounded; body broad, shining darkly ferrugineous to purple 38

38 (37′) Anterior margin of pronotum sharply rounded, with strong marginal bead (Fig. 138); elytra purple in color; Hispaniola ..... ***N. altagracia* Hopp and Ivie, n. sp.**

38′ Anterior margin of pronotum bluntly rounded, with weak marginal bead (Fig. 142); elytra shining darkly ferrugineous to purple in color 39

39 (38′) Body broadly ovate, weakly tapered at apex (Fig. 140); elytral punctures small, weakly impressed; darkly ferrugineous with rows of black squares following elytral punctures; Hispaniola ..... ***N. basilense* Hopp and Ivie, n. sp.**

39′ Body broadest in anterior 1/3, then tapered at apex (Fig. 165); elytral punctures small, moderately impressed; elytra purple to black in color; Hispaniola ..... ***N. mutabile* Hopp and Ivie, n. sp.**

40 (35′) Shining bronze in color; prosternal process narrowly apically rounded, flat to apex (Fig. 184); Cuba ..... ***N. cuprosum* (Zayas)**

40′ Black to purple in color 41

41 (40′) Slightly purple in color; body long and slender; humeral angle effaced (Fig. 177); prosternal process curved to base; Cuba ..... ***N. cristalense* (Zayas)**

41′ Entirely black in color, body short and broad; humeral angle distinct (Fig. 185); prosternal process flat to apex; Cuba ***N. elongatum* (Zayas)**

42 (34′) Lateral edge of pronotum crenulate (Fig. 155); Hispaniola ..... ***N. crenulatum* Hopp and Ivie, n. sp.**

42′ Lateral edge of pronotum not crenulate 43

43 (42) Anterior angles of pronotum extremely produced with antero-lateral portion slightly concave, raising the antero-lateral edge (Fig. 159); Hispaniola ..... ***N. otus* Hopp and Ivie, n. sp.**

43′ Anterior angles of pronotum produced with antero-lateral portion even with disk 44

44 (43′) Body convex; bullet shaped; elytra strongly tapered at apex; strial punctures of the elytron distinctly impressed; interstriae weakly convex, weakly punctate; elytra brilliantly shining purple; moderately convex (Figs. 148, 149); Hispaniola ..... ***N. purpureum* Hopp and Ivie, n. sp.**

44′ Body weakly convex; elytra weakly tapered at apex; strial punctures of the elytron weakly impressed; interstriae flat, strongly punctate; elytra shining ferrugineous to purple; weakly convex (Figs. 144, 145); Hispaniola ..... ***N. dolosum* Hopp and Ivie, n. sp.**

Species Descriptions

New species are described and previously described species are redescribed in phylogenetic order beginning with the *Nesocyrtosoma s. s.* species-group, followed by the Purple species-group and the *Serrania* species-group. As the fossil species were not included in the phylogenetic analysis, but clearly belong to the *Serrania* species-group, these species are described and redescribed in alphabetical order under the *Serrania* Species-Group—Fossil Species section. See Appendix 2 for figures.

Nesocyrtosoma s. s. Species-group

Seven species are redescribed and five new species are described for the first time. Species are listed in phylogenetic order.

Nesocyrtosoma bestiola Hopp and Ivie, New Species
(Figs. 23, 39, 85–89, 262, 270)

Type Material. HOLOTYPE: Male. DOMIN. REP.: Prov. Barahona; 7km NE Enriquillo; 08 SEP 1988, beating veg.; M. A. Ivie, T. K. Philips; and K. A. Johnson colrs. (from WIBF, deposited in NMNH). PARATYPES (3 specimens): 2 specimens from WIBF with the same label data as holotype (1 WIBF, 1 NMNH) and 1 labeled DOMIN. REP.: Prov. Barahona; 32 km S Barahona, nr

coast; 29 AUG 1988, on dead logs; M. A. Ivie, T. K. Philips; and K. A. Johnson colrs. (1 WIBF).

Diagnosis. This species can be distinguished by the small, convex body form, black lustrous color, and extremely lightly impressed elytral punctation. This species is similar to *Nesocyrtosoma hispaniolae*, but can be distinguished by the base of the prosternal process forming a shelf (Fig. 89). Males of this species have a longitudinal patch of setae extending 1/4 of the metatibia from the base on the venter (Fig. 39).

Description (male). 4.0–5.0 mm long, 3.0–3.5 mm wide. Body short, extremely convex (Figs. 85, 86). Black with weak luster under light; antennae, mouthparts, legs and tarsi darkly ferrugineous. Head densely punctate; punctures smaller than a single eye facet and lightly impressed; extremely short golden seta emerging from each puncture; head often appearing smooth. Antenna clavate; antennomeres 7–10 transverse, forming a loose, elongate club; antennomere 11 subcircular; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12); ventral portion of eye reaching subgenal sulcus (Fig. 9); postgena without distinct punctures. Dorsal surface of pronotum lightly punctate, punctures lightly impressed, pronotum often appearing smooth, shagreened. Pronotal marginal bead complete laterally, anterior marginal bead effaced medially, posterior marginal bead absent; anterior angles of pronotum acute, produced and apically narrowly rounded; lateral edge of pronotum evenly curved to base; pronotum evenly convex (Figs. 23, 87). Hypomeron lacking distinct punctures. Prosternal process basally forming a shelf (Fig. 89), apically rounded, indistinct marginal grooves opposite coxae, joined apically (Fig. 88). Elytral striae with small, lightly impressed puncture rows, punctures the size of the point of an insect pin, separated by 2 diameters; scutellary striae absent; scutellum triangular, reduced (Figs. 85, 87). Mesoventrite thin antero-posteriorly, excavate, V-shaped, receiving prosternal process; metaventrite $<1/2$ antero-postero length of mesocoxa (Fig. 88). Metathoracic wing vestigial. Legs short, punctate; apical portion of femora reaching beyond edge of elytron; tibiae straight; metatibia with longitudinal patch of setae extending 1/4 of the metatibia from the base on the venter (Fig. 39). Abdominal depressions on 4th and 5th ventrites reduced to indistinct slits (Fig. 74); intercoxal process of first ventrite broadly rounded apically; ventral surface densely punctate, punctures moderately impressed (Fig. 88).

Female. Identical to male, except metatibia without ventral longitudinal patch of setae.

Biology. The specimens of this species were beaten from dead limbs or taken on dead logs.

Distribution. This species is endemic to Hispaniola and has been taken in the eastern Sierra de Bahoruco near Enriquillo and Barahona in Barahona Province (Figs. 260, 262).

Etymology. The species epithet, used as a noun in apposition, is from the Latin word *bestiola* meaning a little creature, referring to its status as smallest member of the *Nesocyrtosoma s. s.* species-group.

Nesocyrtosoma ferruginea (Garrido and Gutiérrez), New Combination
(Figs. 40, 90–94, 262, 271)

Cyrtosoma (*Nesocyrtosoma*) *ferruginea* Garrido and Gutiérrez 1996: 283–284, Fig. 1; Peck 2005: 156.

Type Material Examined. HOLOTYPE: III.84; Maisi, Ote.; Col. Genaro. (MNHC).

Other Material Examined. Coast below; Pico Turquino; June 26–30, '36/ Cuba 1936; Darlington; Collector. (2 MCZC). CUBA, Reserva; Ecologica; Hatibonico, Guantanamo; vi.2001, cols. JA; Genaro y; LM Diaz. (2 OHGC — bearing the numbers OHG 2833 and OHG 1282). Maisi, Ote; III. 84; Col. Genero/ Tenebrionidae; Ident. OHG 2846; *Cyrtosoma ferruginea*; Garr. and Gut. 1997. (1 OHGC). Loma Gato; Ote. J. Aluna; Sept. 1935/ Loma del Gato; Sept- 1935; J. Aluna/ Tenebrionidae; Ident. OHG 1472; *Cyrtosoma*. (1 OHGC).

Diagnosis. This species can be distinguished by the short, convex body form, and small weakly impressed elytral punctures spaced 2 diameters apart. This species is similar to *Nesocyrtosoma inflatum*, but can be separated by the weakly impressed elytral punctures and elytra apices weakly tapered and barely visible from above (Fig. 90). It is also similar to *N. bestiola* and *N. hispaniolae*, but can be separated by having more obvious elytral punctures and more globose body.

Redescription (modified from Garrido and Gutiérrez 1996) (male). 6.0–7.0 mm long, 5.0 mm wide. Body short, extremely convex (Figs. 90, 91). Apex of elytra barely visible from above (Fig. 90). Black in color; antennae, mouthparts and tarsi ferrugineous. Head densely punctate, punctures smaller than a single eye facet, lightly impressed; extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform; antennomeres 7–10 weakly widened apically, forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 7–11 with stellate sensoria. Mentum with broad median keel raised anteriorly to a point (Fig. 13); ventral portion of eye not reaching subgenal sulcus (Fig. 8); postgena without distinct puncture. Dorsal surface of pronotum densely punctate; punctures separated by 1.0–1.5 diameters. Pronotal marginal bead complete laterally; anterior and posterior margins with marginal bead effaced medially; anterior angles of pronotum acute, produced and apically narrowly rounded; lateral edge of pronotum weakly sinuate at base; pronotum evenly convex (Fig. 92). Hypomeron lacking distinct punctures. Prosternal process apically rounded with marginal grooves opposite coxae not joined apically (Fig. 93). Elytral striae not impressed, present as rows of small punctures separated by 1.0–1.5× diameter; elytral interstriae flat, impunctate; scutellary striae short indistinct, 1–3 punctures long; scutellum triangular, reduced (Figs. 90, 92). Mesoventrite thin antero-posteriorly, deeply excavate, V-shaped, receiving prosternal process; metaventrite $<1/2$ antero-postero length of mesocoxa (Fig. 93). Metathoracic wing vestigial. Legs short, slender, punctate; apical 1/4 of femur reaching beyond edge of elytron; tibiae straight; metatibia with ventral longitudinal patch of setae extending from apex to approximately 1/3 its length (Figs. 40, 94). Abdominal depressions on 4th and 5th ventrites reduced to slightly impressed slits (Fig. 74); intercoxal process of first ventrite broadly triangular apically; ventral surface densely punctate, punctures weakly impressed (Fig. 93).

Female. Identical to male, except metatibia lacking ventral longitudinal patch of setae.

Biology. No biological data available, except that this species is known from the coast near Pico Turquino.

Distribution. This species is endemic to Cuba and has only been collected on Pico Turquino in Guantánamo province (Figs. 258, 262).

Nesocyrtosoma gebieni (Marcuzzi), New Combination
(Figs. 95–98, 265)

Cyrtosoma (*Nesocyrtosoma*) *gebieni* Marcuzzi 1976: 37, 139, Fig. 19; 1984: 102; 1991: 247; Garrido and Gutiérrez 1996: 281–282; Marcuzzi 1999: 81; Peck 2005: 156.

Cyrtosoma (*Nesocyrtosoma*) *gebiene*; Garrido and Gutiérrez 1996: 282 [*lapsus calami*].

Cnodalon punctatum Zayas 1988: 103–104, Fig. 92 [synonymy by Garrido and Gutiérrez 1996].

Cyrtosoma punctatum; Marcuzzi 1998: 160; Peck 2005: 156.

Taxonomic Notes. The synonymy of *Cnodalon punctatum* Zayas with *Cyrtosoma* (*Nesocyrtosoma*) *gebieni* Marcuzzi made by Garrido and Gutiérrez (1996) is correct. However, this species has never been formally combined with *Nesocyrtosoma* at the full generic rank, and is here placed as *Nesocyrtosoma gebieni* (Marcuzzi) for the first time.

Type Material Examined. HOLOTYPE of *Cyrtosoma* (*Nesocyrtosoma*) *gebieni* Marcuzzi: Pico de Turquino; Agoslo 15/28./ Cuba/ A. Pierig comm.; Eing.Nr.120; 1931/ Holotypus 1976; *Cyrtosoma*; *gebieni*; Marcuzzi/ *Cyrtosoma*; *gebieni* Marcuzzi; Dr.Zkaszab det., 1984. (HNHM). HOLOTYPE of *Cnodalon punctatum* Zayas: Rancho Mundito, S.; de los Organos, Cuba; Jul. 4/47, F. de Zayas; y J. Ferras, cols./ red circle label Tipo/ *C. punctatum*; sp. n. (FZMC).

Other Material Examined. Coleccion M. Barro; Sierra del Rangel; 19. V. 1934; P. del. Rio. CUBA. (2 OHGC — bearing the numbers OHG 1827 and OHG 1828).

Diagnosis. This species is distinguished from all others by the combination of elytral punctures deeply impressed with a lightly impressed stria through the middle of each puncture row, interstriae roundly convex (Fig. 95), head anteriorly truncate, and the medial portion of the first visible abdominal ventrite slightly raised (Fig. 98).

Redescription (modified from Marcuzzi 1976) (female). 7.5–8.0 mm long, 5.0 mm wide. Body extremely convex (Figs. 95, 96). Dark maroon to black; antennae, mouthparts and tarsi tending to be the same color as legs. Head anteriorly truncate (Fig. 97); densely punctate dorsally, largest punctures subequal to a single eye facet and moderately impressed, punctures behind frontoclypeal suture subequal in diameter to a single eye facet; extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform; antennomeres 7–10 weakly widened apically, forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12). Ventral portion of eye not reaching subgenal sulcus (Fig. 8); postgena without distinct punctures. Dorsal surface of pronotum densely punctate; punctures separated by 1.0–1.5 diameters. Pronotal marginal bead complete laterally, anterior and posterior margins with marginal bead effaced medially; anterior angles of pronotum acute, moderately produced and apically narrowly rounded; lateral edge of pronotum sinuate at base; pronotum evenly convex (Fig. 97). Hypomeron lacking distinct punctures, a few small punctures may be present. Prosternal process apically rounded; distinct marginal grooves opposite coxae not joined apically; area between marginal grooves concave between coxae becoming convex at apex (Fig. 98). Elytral striae present as deeply impressed punctures connected by a weakly impressed stria through the middle of each puncture row; elytral interstriae weakly convex, scarcely punctate; scutellary

striae 1–3 punctures long; scutellum triangular, reduced (Figs. 95, 97). Mesoventrite thin antero-posteriorly, deeply excavate, V-shaped receiving prosternal process; metaventrite <1/2 antero-postero length of mesocoxa (Fig. 98). Metathoracic wing vestigial. Legs long, slender, densely punctate; apical 1/3 of femora reaching beyond edge of elytron; tibiae weakly curved at apex. Abdominal depressions on 4th and 5th ventrites reduced to slightly impressed slits (Fig. 74); intercoxal process of first ventrite broadly rounded apically; medial portion of first visible ventrite weakly raised; ventral surface densely punctate, punctures weakly impressed (Fig. 98).

Male. No males available for study.

Biology. Unknown.

Distribution. This species is endemic to Cuba. Of the three specimens studied, two were collected from Sierra Rangel in Pinar del Rio and the other from Pico Turquino in Guantánamo (Figs. 258, 265). This distribution is unusual in having populations of this flightless species in two mountain ranges at opposite ends of the island. Discovery of intervening populations inhabiting other mountain ranges between the Sierra Rangel and the Sierra Maestra is to be expected.

Nesocyrtosoma tumefactum (Marcuzzi)
(Figs. 41, 99–103, 264, 272)

Cyrtosoma (*Nesocyrtosoma*) *tumefactum* Marcuzzi 1976: 138–139, Fig. 18; 1984: 102; 1991: 247; Garrido and Gutiérrez 1996: 281–282; Marcuzzi 1999: 81; Peck 2005: 156.

Nesocyrtosoma tumefactum; Doyen and Poinar 1994: 47.

Cnodalon tumefactum Zayas 1988: 95–96, Fig. 84 (Not Marcuzzi 1976); Garrido and Gutiérrez 1996: 281–282 [synonymy by Garrido and Gutiérrez 1996].

Cyrtosoma zayasi; Marcuzzi 1998: 160 [replacement name for *Cnodalon tumefactum* Zayas, junior secondary homonym]; Peck 2005: 156.

Cnodalon inflatum Zayas 1988: 102. **New Synonymy**.

Cyrtosoma gundlachi Marcuzzi 1998: 160; Peck 2005: 156 [replacement name for *Cnodalon inflatum* Zayas, junior secondary homonym].

Taxonomic Notes. This species was first described by Marcuzzi (1976) as *Cyrtosoma* (*Nesocyrtosoma*) *tumefactum* and was re-described twice by Zayas (1988). *Cnodalon tumefactum* Zayas AND *Cnodalon inflatum* Zayas are synonyms of *Cyrtosoma* (*Nesocyrtosoma*) *tumefactum* Marcuzzi. Garrido and Gutiérrez (1996) previously synonymized *Cnodalon tumefactum* Zayas with *Cyrtosoma* (*Nesocyrtosoma*) *tumefactum* Marcuzzi. However, *Cnodalon inflatum* Zayas is here synonymized with *Cyrtosoma* (*Nesocyrtosoma*) *tumefactum* Marcuzzi for the first time **New Synonymy**. Thus, the replacement names, *Cyrtosoma zayasi* Marcuzzi 1999 and *Cyrtosoma gundlachi* Marcuzzi 1999, for *Cnodalon tumefactum* Zayas and *Cnodalon inflatum* Zayas, respectively, are unnecessary.

Type Material Examined. *Cyrtosoma* (*Nesocyrtosoma*) *tumefactum* Marcuzzi: HOLOTYPE: Cuba/Holotypus 1976; *Cyrtosoma*; *tumefactum*; Marcuzzi/ *Cyrtosoma*; (*Nesocyrtosoma*); *tumefactum* M./ *Cyrtosoma*; *tumefactum* Marc.; Dr.Z.Kaszab det.,1982. (HNHM). PARATYPE: Cuba -T./ Paratypus 1977; *Cyrtosoma*; *tumefactum*; Marcuzzi/ *Cyrtosoma*; (*Nesocyrtosoma*); *tumefactum*. (1 HNHM).

Cnodalon tumefactum Zayas: LECTOTYPE here designated: *Cnodalon tumefactum*, Col. F. de Zayas; La Gran Piedra; Jun 1968; Oriente. CUBA/ red circle label Tipo/ *C. tumefac-;tum*. sp. n/ LECTOTYPE; *Cnodalon*; *tumefactum* Zayas; det. K. J. Hopp 2008. (FZMC). PARALECTOTYPES here designated: 4

specimens: 3 specimens in FZCM labeled: Col. F. de Zayas; Chuchillas de Toa; Cupeyal 6 1964; Oriente. CUBA/ PARALECTOTYPE; *Cnodalon*; *tumefactum* Zayas; det. K. J. Hopp 2008. 1 specimen in FZMC labeled: Col. F. de Zayas; Cupeyal; 8 1964; Prov. Ote. CUBA/ PARALECTOTYPE; *Cnodalon*; *tumefactum* Marcuzzi; det. K. J. Hopp 2008.

Cnodalon inflatum Zayas: LECTOTYPE here designated: *Cnodalon inflatum*, Col. F. de Zayas; Cupeyal; 6 1965; Prov. Ote. CUBA/ red circle label Tipo/ *C. inflatum.* sp.n./ LECTOTYPE; *Cnodalon*; *inflatum* Zayas; det. K. J. Hopp 2008. (FZMC). PARALECTOTYPES here designated: 8 specimens in FZMC: 6 specimens labeled: Col. F. de Zayas; Cupeyal; VI 1965; Prov. Ote. CUBA/ PARALECTOTYPE; *Cnodalon*; *inflatum* Zayas; det. K. J. Hopp 2008. 2 specimens labeled: Col. F. de Zayas; La Gran Piedra; Jun 1962; Oriente. CUBA/ PARALECTOTYPE; *Cnodalon*; *inflatum* Zayas; det. K. J. Hopp 2008.

Zayas Collection Notes. Zayas (1988) reports six examples of *Cnodalon tumefactum* in his collection from Cupeyal, but did not designate a holotype. The specimen with a red Tipo label is here designated as the lectotype. Only four of the remaining five specimens are here designated as paralectotypes as the fifth specimen is from Loma del Gato, not Cupeyal. Zayas (1988) reports eight specimens of *Cnodalon inflatum* from Cupeyal in 1965 and three specimens from La Gran Piedra in 1962 in his collection, however, there were only nine total specimens in his collection when we visited in January 2008. Zayas did not designate a holotype, so the specimen with the red Tipo label is here designated as the lectotype. Six specimens from Cupeyal and two specimens from La Gran Piedra are here designated at paralectotypes.

Other Material Examined. CUBA: Oriente, Loma; (Pico) del Gato, Sierra; Maestra, 26–28 MAR 1959; M. W. Sanderson. (1 CMNH, 1 FSCA, 7 INHS, 12 WIBF). Loma del Gato; Cobre Range, O; July 3–7, 1936; about 3,000 ft./ Cuba 1936; Darlington; Collector. (7 MCZC, 2 WIBF). Col. F. de Zayas; Loma del Gato; 7-1960; Oriente. CUBA/ *Cnodalon*; sp. #2; det. T. J. Spilman. (1 NMNH). Loma del Gato Ote.; Junio 17/20 1952; Zayas Alayo Coll/ *Cnodalon*; sp. #3; det. T. J. Spilman. (1 NMNH). LA GRAN PIEDRA; Stgo. DE CUBA; L.M. DIAZ Y A. CADIZ; 22–22/VII-2007. (2 OHGC). CUBA: Gran Piedra; nr. Santiago; Oriente Prov.; 30–31 MAY 1959/ M. W. Sanderson; C59-7. (1 INHS). Cupeyal de N; Side Ta'namo; G. Alayon 3-89/ Tenebrionidae; Ident. OHG 1128; *Cyrtosoma*. (1 OHGC). Cupeyal, Saqua de Ta'namo; 6-1964; Zayas Ote./ Tenebrionidae; Ident. OHG 557; *Cyrtosoma*. (1 OHGC). Loma del Gato; Ote - 26 - 3; Oct - 2 1935; J. acuna/ Tenebrionidae; Ident. OHG 298; *Cyrtosoma*. (1 OHGC). Pico CUBA; Turquino S. C.; E. Gutierrez 18-9; y A. Avila. 1991 (on reverse side: Caminando en; troncos de arboles; de noche). (5 OHGC — OHG 1727, OHG 1728, OHG 1729, OHG 1733, OHG 1734). Pico Cuba '750; TURQUINO, Oct.; 1985. L. de Armas; on CURUJEY (on bromilia). (3 OHGC — OHG 840, OHG 343, OHG 846). PICO CUBA; 1719191 E. Gutierrez. (2 OHGC — OHG 2586, OHG 2587). Caminando en; troncos de arboles; de noche (on reverse side: Pico CUBA; Turquino S. C.; E. Gutierrez 18-9; y A. Avila. 1991)/ Tenebrionidae; Ident. OHG 1731; *Cyrtosoma*; *turquinensis*; Zayas, 1988. (1 OHGC). Loma del Gato; a Plama Mocha; S. Maestra. Mayo; 15-1848 - J. Acuna. (1 OHGC). Plama Mocha; S. Maestra; Julio 10 -1922; S. C. Bruner. (2 OHGC). Loma del Gato; Ceiba Mocha- Ote.; Mayo -6- 1948; J. Acuna. (1 OHGC). Pico Joaquin; Oriente; V-1945. (2 OHGC). Pico Real,; Turquino; E. Gutierrez; 20-4; A. Avila 1991 (on reverse side: on Cunugey). (1 OHGC). Bajado del; turquino; 8-2-1999; R. ALFRED. (1 OHGC). Cardero- Turquino, Ote.; 7-1966; I. Garcia/ Tenebrioni-

dae; Ident. OHG 283; *Cyrtosoma negroides*; Garrido 200. (1 OHGC). Pico CUBA, Turquino. S. C.; E. Gutierrez 18-9; y A. Avila. 1991 (on reverse side: Caminando en; troncos de arboles; de noche)/ Tenebrionidae; Ident. OHG 1730; *Cyrtosoma negroides*; Garrido 200 (2 OHGC — OHG 1730, OHG 1732). Cupeyal; Ote. VI-65; Col- Zayas-valdis (1 IESC). Stgo. Del Cuba; 19; Prov. Ote. CUBA. (1 IESC). Cuba Yateras, monte Libano. II; 1462; *tumefactus*. (1 Gundlach Collection – IESC).

Notes. The last three specimens listed in the "Other Material Examined" section were examined in Orlando Garrido's collection and were identified as *Nesocyrtosoma turquinense* Zayas. However, Garrido had them labeled as *Nesocyrtosoma negroides*, a *nomen nudum* that was never published.

Diagnosis. This species can be distinguished from all other species by the combination of the prosternal process rounded at the apex with a slight apical, medial bump (Fig. 103) and the elytra with faint rows of punctures, punctures very small, shallowly impressed, separated by <1 diameter; interstriae slightly punctate (Fig. 99).

Redescription (modified from Marcuzzi 1976) (male). 6.0–8.5 mm long, 3.5–5.0 mm wide. Body short, convex (Figs. 99, 100). Elytra very robust anteriorly, tapered posteriorly (Fig. 99). Shining darkly ferrugineous to black; antennae, mouthparts and tarsi tending to be the same color as legs. Head densely punctate dorsally, punctures smaller than single eye facet, moderately impressed; extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform; antennomeres 7–10 weakly widened apically, forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12). Ventral portion of eye not reaching subgenal sulcus; postgena without distinct punctures. Dorsal surface of pronotum densely punctate; punctures separated by 1.0–1.5 diameters. Pronotal marginal bead complete laterally, anterior and posterior margins with marginal bead effaced medially; anterior angles of pronotum obtuse, moderately produced and widely rounded apically; lateral edge of pronotum sinuate at base; pronotum evenly convex (Fig. 101). Hypomeron lacking distinct punctures. Prosternal process apically rounded with a slight medial bump, with distinct marginal grooves opposite coxae not joined apically (Figs. 102, 103). Black, except under a microscope with light elytra appearing darkly ferrugineous with rows of black squares following elytral striae; elytral striae present as small discontinuous punctures; elytral interstriae scarcely punctate; scutellary striae short; 1–3 punctures long (often difficult to see); scutellum triangular, reduced (Figs. 99, 101). Mesoventrite thin antero-posteriorly, deeply excavate, V-shaped receiving prosternal process; metaventrite <1/2 antero-postero length of mesocoxa (Fig. 102). Metathoracic wing vestigial. Legs long, slender, punctate; apical 1/3 of femora reaching beyond edge of elytra; tibiae straight; metatibia with ventral longitudinal patch of setae extending from apex to approximately 1/4 its length (Fig. 41). Abdominal depressions on 4th and 5th ventrites reduced to slightly impressed slits (Fig. 74); intercoxal process of first ventrite broadly rounded apically; ventral surface densely punctate, punctures weakly impressed (Fig. 102).

Female. Identical to male, except metatibia without longitudinal patch of setae.

Biology. Unknown.

Distribution. This species is endemic to Cuba. It has been collected primarily in the Sierra Maestra on Loma del Gato and La Gran Piedra in Oriente Province of Cuba (Figs. 259, 264).

Nesocyrtosoma turquinense (Zayas), New Combination
(Figs. 42, 104–107, 264, 273)

Cnodalon turquinensis Zayas 1988: 96–98, Fig. 86.
Cyrtosoma (*Nesocyrtosoma*) *turquinensis*; Garrido and Gutiérrez 1996: 281–283.
Cyrtosoma turquinensis; Marcuzzi 1998: 160; Peck 2005: 156.

Type Material Examined. LECTOTYPE here designated: Col. F. de Zayas; Sierra Maestra; Turquino 6 1963; Oriente. Pico CUBA/ red circle label Tipo/ *C. turqui-;nensis*.; sp. n./ LECTOTYPE; *Cnodalon*; *turquinensis* Zayas; det. K. J. Hopp 2008. (FZMC). PARALECTOTYPES here designated: 8 specimens in FZCM: 3 specimens labeled: Col. F. de Zayas; Sierra Maestra; Turquino 6 1963; Oriente. Pico CUBA/ PARALECTOTYPE; *Cnodalon*; *turquinensis* Zayas; K. J. Hopp 2008. 2 specimens labeled: Loma del Gato Ote.; Junio 17/20 1952; Zayas Alayo Coll/ PARALECTOTYPE; *Cnodalon*; *turquinensis* Zayas; K. J. Hopp 2008. 2 specimens labeled: Col. F. de Zayas; Sierra Maestra; Turquino 6 1963; Oriente. Pico CUBA/ PARALECTOTYPE; *Cnodalon*; *turquinensis* Zayas; K. J. Hopp 2008. 1 specimen labeled P.Mocha-Pico Joaquin, Sierra Maestra, Cuba. May 18/48.; Elev. 3,900–5,300 ft./ PARALECTOTYPE; *Cnodalon*; *turquinensis* Zayas; K. J. Hopp 2008.

Zayas Collection Notes. Zayas (1988) described this species from 11 specimens collected in Pico Turquino and Loma del Gato in the Sierra Maestra. There were only nine specimens of this species in the Zayas collection in January 2008. The specimen with a red Tipo label is here designated as the lectotype and the remaining eight specimens are here designated as paralectotypes.

Other Material Examined. Turquino Pk.; April Cuba; 5,800 ft. (1 ANSP). Pico Turquino; S. side; June 1936; 3,000–5,000 ft./ Cuba 1936; Darlington; Collector (5 MCZC, 1 WIBF). Pico Turquino; June 16–21, 1936; 6,000 ft. (summit)/ Cuba 1936; Darlington; Collector. (1 WIBF). CUBA, 30.5.1985; Pico Turquino; S. Bilý leg. (1 NMPC). Cal. T. Gorgia; Loma Cale; VI- 1948; Prov. O CUBA. (1 IESC). BARACOA; RIO TOA; 24-4-79. (1 IESC).

Diagnosis. This species is similar to *N. tumefactum*, but *N. turquinense* can be differentiated from that species and all others by the combination of the prosternal process apically rounded almost to a point and lacking an apical medial bump (Fig. 107). The elytral interstriae are densely punctate and the pronotum is strongly convex (Figs. 104, 106).

Redescription (modified from Zayas 1988) (male). 5.5–7.0 mm long, 4.5–5.0 mm wide. Body short, extremely convex (Figs. 104, 105). Elytra very robust anteriorly, tapered posteriorly (Fig. 104). Shining darkly ferrugineous to black in color; antennae, mouthparts and tarsi tending to be the same color as legs. Head densely punctate dorsally, punctures smaller than a single eye facet and lightly impressed; extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform; antennomeres 7–10 weakly widened apically, forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12); ventral portion of eye not reaching subgenal sulcus (Fig. 8); postgena without distinct punctures. Dorsal surface of pronotum densely punctate; punctures separated by 1.0–1.5 diameters. Pronotal marginal bead complete laterally, anterior and posterior margins with marginal bead effaced medially; anterior angles of pronotum obtuse, moderately produced and widely rounded apically; lateral edge of pronotum sinuate at base; pronotal disk convex (Fig. 106). Hypomeron lacking distinct punctures, small indistinct

punctures often present. Prosternal process apically rounded to a point, with distinct marginal grooves opposite coxae not joined apically (Fig. 107). Black, except under a microscope with light elytra appearing darkly ferrugineous with rows of black squares following elytral striae; elytral striae present as small, discontinuous moderately impressed punctures; elytral interstriae flat, densely punctate; scutellary striae short; 1–3 punctures long; scutellum triangular, reduced (Figs. 104, 106). Mesoventrite thin antero-posteriorly, deeply excavate, V-shaped receiving prosternal process; metaventrite $<1/2$ antero-postero length of mesocoxa (Fig. 107). Metathoracic wing vestigial. Legs long, slender, punctate, apical 1/4 of femora reaching beyond edge of elytra; tibiae straight; metatibia with ventral longitudinal patch of setae extending from apex to approximately 1/4 its length (Fig. 42). Abdominal depressions on 4th and 5th ventrites reduced to slightly impressed slits (Fig. 74); intercoxal process of first ventrite broadly rounded apically; ventral surface densely punctate, punctures weakly impressed (Fig. 107).

Female. Identical to male except metatibia lacking longitudinal patch of setae.

Biology. Unknown.

Distribution. This species is endemic to Cuba and is apparently endemic to Pico Turquino of the Sierra Maestra in Oriente Province of Cuba (Figs. 259, 264).

Nesocyrtosoma hispaniolae (Marcuzzi), New Combination

(Figs. 5–7, 19, 21, 32, 43, 108–111, 265, 274)

Cyrtosoma (*Pachycyrtosoma*) *hispaniolae* Marcuzzi 1999: 83–84, Fig. 3; Perez-Gelabert 2008: 115.

Type Material Examined. HOLOTYPE: DOM.REP., LaAltag.; 9km. SW.Campo Nuevo; August 1, 1979; C.W.O'Brien/ on red paper HOLOTYPUS/ *Cyrtosoma*; (*Pachycyrtosoma*); *hispaniolae*/ on yellow paper *Cyrtosoma*; (*Pachycyrtosoma*); *hispaniolae* MARCUZZI, 1999. (HNHM). PARATYPES: DOM.-REP., LaAltag.; 9km.SW.CampoNuevo; August 1, 1979; C.W.O'Brien/ on red paper PARATYPUS/ on yellow paper *Cyrtosoma*; (*Pachycyrtosoma*); *hispaniolae* MARCUZZI, 1999. (1 HNHM). DOM.REP., LaAltag.; 18km.NW.Boca de; Yuma, Aug. 1, 1979; C.W.O'Brien/ *Cyrtosoma*; (*Pachycyrtosoma*); *hispaniolae*/ on red paper PARATYPUS/ on yellow paper *Cyrtosoma*; (*Pachycyrtosoma*); *hispaniolae* MARCUZZI, 1999. (1 HNHM).

Other Material Examined. DOMINICAN.REP: Prov.Altagracia; Punta Cana; 24–29 JULY 2001; M.A. and L.L. Ivie. (1 CMNH, 1 UASD, 14 WIBF). DOM. REP.: Prov. LaAltagracia; Boca de Yuma entr., Par. Nac; del Este, 06AUG1999, 12 m; 18°21.904′N, 68°37.094′W; M. A. Ivie, beating vegetation. (1 WIBF). DOM.REP.: Prov. Valvere; Entrada Salto Jicome; Laguna Salada 25 SEP 87; L.F.Armas colr.; under stones, dry forest. (1 WIBF). DOMINICAN REPUB-LIC; La Altagracia Province; El Veron, Hoyo Azul; 18°33.610′N, 68°26.881′W; 25–40 m. 22 July, 2004; Day collection/ Lingafelter. (1 NMNH, 1 WIBF). DOMINICAN REPUBLIC; La Altagracia Prov., PN del; Este, Boca de Yuma; 18°21.508′N, 68°36.956′W; 20m, blacklight 18 July 2004; Steven W. Lingafelter. (1 NMNH, 2 WIBF). DOMINICAN REPUBLIC: La Altagracia Prov. Punta Cana; near Ecological Reserve 0–5 m; 18°30.477′N, 68°22.499′W; 1 July 2006 S.W.Lingafelter; at light. (1 NMNH). DOMINICAN REPUBLIC; Boca de Yuma, P. N. Del; Este, La Altagracia Prov.; 20 m, 18°21.875′N 68°; 37.081′W, 16–17.xii.2003; D. Perez, R. Bastardo [RD-199]. (1 NMNH). Sánchez, Dom. Rep.; July'38; Darlington. (1 MCZC). DOMINICAN REPUBLIC:; La

Altagracia Prov., Punta Cana; nr. Ecological Reserve, 0–5 m; 18°30.477′N, 68°22.499′W; 12-VI-2005; G. Nearns. (3 FSCA, 1 WIBF). Rep. Dominicana; Parq. Nac. Del; Este Guaraguao; Dentro de tronco; podrido. 30-I-2002; Cols. E. Gutierrez; JA Genaro. (3 OHGC).

Diagnosis. This species can be distinguished by its small, round, convex body form; black color, lustrous under light; and nearly smooth elytra (Figs. 108, 109). This species most closely resembles *N. bestiola*, but can be distinguished from it by having a basally flat prosternal process.

Redescription (modified from Marcuzzi 1999) (male). 5.0–7.0 mm long, 3.0–3.5 mm wide. Body short, extremely convex (Figs. 108, 109). Black with weak luster under light; antennae, mouthparts and tarsi darkly ferrugineous. Head punctate; punctures smaller than a single eye facet and lightly impressed; head often appearing smooth. Antenna weakly clavate, nearly filiform; antennomeres 7–10 weakly widened apically, forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 7–11 with stellate sensoria. Mentum with broad median keel raised anteriorly to a point (Fig. 13); ventral portion of eye not reaching subgenal sulcus (Fig. 8); postgena without distinct punctures. Dorsal surface of pronotum lightly punctate, often appearing smooth, shagreened. Pronotal marginal bead complete laterally, anterior and posterior margins with marginal bead effaced medially; anterior angles of pronotum acute, produced and apically narrowly rounded; lateral edge of pronotum weakly sinuate at base; pronotum evenly convex (Fig. 110). Hypomeron lacking distinct punctures. Prosternal process apically rounded with distinct marginal grooves opposite coxae not joined apically (Fig. 111). Elytral striae nearly undetectable without magnification and the correct incidence of light, therefore often appearing absent; with magnification and the correct incidence of light, elytral striae present as tiny discontinuous, weakly impressed punctures; scutellary striae 1–3 punctures long (Figs. 108, 110). Hypomeron lacking distinct punctures. Mesoventrite thin antero-posteriorly, deeply excavate, widely U-shaped receiving prosternal process; metaventrite $<1/2$ antero-postero length of mesocoxa (Fig. 111). Metathoracic wing vestigial. Legs short, punctate; apical 1/4 of femora reaching beyond edge of elytron; metatibia slightly apically curved ventrally with ventral apical tooth vestigial (Fig. 43). Abdominal depressions on 4th and 5th ventrites reduced to slightly impressed slits (Fig. 74); intercoxal process of first ventrite broadly rounded apically; ventral surface densely punctate, punctures weakly impressed (Fig. 111).

Female. Identical to male, except metatibia without ventral apical tooth.

Biology. This species has been collected by beating vegetation and found under stones, both during day and night. Although one specimen is recorded to have been taken at light, it lacks flight wings, which suggests it either walked toward the light or by coincidence was already at the collection site.

Distribution. This species is endemic to Hispaniola and has been collected primarily in the Dominican Republic, Province of La Altagracia, near Punta Cana. It has also been collected in Valverde and Sánchez Ramírez Provinces (Figs. 260, 265).

Nesocyrtosoma neibaense Hopp and Ivie, New Species
(Figs. 44, 112–115, 265, 275)

Type Material. HOLOTYPE: Male. DOMINICAN REPUBLIC: San; Juan. Sierra de Neiba,; Sabana del Silencio,; 10.0 km SSW El Cercado; 18-39-07N, 71-33-21W,; 2,009 m. 20 June 2003/ J. Rawlins, C. Nunez, R.; Davidson, C. Young, P.; Acevedo, M. de la Cruz; cloud forest along Dan-; thonia savannah. hand;

collected, Sample 33242/ Carnegie Museum; Specimen Number; CMNH-348,935. (CMNH). PARATYPES (36 specimens): 27 specimens with the same label data as the holotype but with the following Carnegie Museum Specimen Numbers: CMNH-349,091, CMNH-349,080, CMNH-349,419, CMNH-349,412, CMNH-349,813, CMNH-349,730, CMNH-349,641, CMNH-349,117, CMNH- 348,947, CMNH-349,483, CMNH-349,956, CMNH-349,216, CMNH-349,846, CMNH-349,562, CMNH-348,840, CMNH-348,919, CMNH-348,977, CMNH-349,456, CMNH-349,535, CMNH-349,196, CMNH-349,858, CMNH-349,569, CMNH-349,606, CMNH-349,421, CMNH-348,960, CMNH-350,002, CMNH-348,961. (16 CMNH, 1 UASD, 10 WIBF). DOMINICAN REPUBLIC: San; Juan. Sierra de Neiba,; 9.4 km SSW El Cercado,; 18-39-18N, 71-33-51W,; 1,973 m. 22 June 2003/ R. Davidson, C. Nunez,; C. Young, J. Rawlins, P.; Acevedo, M. de la Cruz,; meadow near mature pine; forest, hand collected,; Sample 32242. These 4 specimens bear the following Carnegie Museum Specimen Numbers: CMNH-349,622, CMNH-349,847, CMNH-349,132, and CMNH-349,547. (4 CMNH). DOMINICAN REPUBLIC: Elias; Pina. Sierra de Neiba,; 9.1 km WSW Hondo Valle,; 18-41-38N, 71-46-56W,; 1,856m, 25 June 2003/ J. Rawlins, C. Nunez, R.; Davidson, C. Young, P.; Acevedo, M. de la Cruz; wet montane forest with; pine, hand collected; Sample 31242/ Carnegie Museum; Specimen Number; CMNH-349,612. (1 CMNH). DOMINICAN REPUBLIC: Elías; Piña Prov., Sierra de Neiba, 1.5; km E of Military Post 204 (SW of; Aniceto Martínez), 1,597 m, 18°41.644′N, 71°46.457′W; 12 July 2006, S.W.Lingafelter. (1 NMNH). DOMINCAN REPUBLIC:; Independencia. Sierra; de Neiba just south; of crest, 5 km NNW; Angel Feliz, 1,780 m./ 18-41N, 71-47W; 13–15 October 1991; J. Rawlins, R. Davidson; C. Young, S. Thompson; Cloud forest. These two specimens bear the following Carnegie Museum Specimen Numbers: CMNH-348,967, CMNH-349,537. (1 CMNH, 1 WIBF). DOM. REP: Pr. Independencia; Sierra de Neiba, 1,515m; 18°39.680′N, 71°46.418′W; 25July1999, cloud forest; M.A. Ivie and K. A. Guerrero. (1 MAIC). Mt.Basil; N.Haiti; 4,700 ft; Sept. 9/ 1934; Darlington. (2 MCZC). Morne Basile,; Haiti. 1,600m.; James Bond!. (1 ANSP).

Diagnosis. This species can be distinguished from all other species by the medium-sized, deeply impressed elytral punctures; interstriae slightly convex (Fig. 112); black body with shining metallic greenish bronze sheen. It is similar to *N. inflatum*, but can be distinguished from it by its larger size, larger elytral punctures, coloration, and less tapered elytral apices.

Description (male). 7.5–8.5 mm long, 4.0–4.5 mm wide. Body elongate, slightly convex (Figs. 112, 113). Black with shining metallic greenish bronze sheen; antennae, mouthparts and tarsi tending to be the same color as legs. Head densely punctate, punctures smaller than a single eye facet, lightly impressed; extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform; antennomeres 7–10 weakly widened forming a loose, elongate club; antennomere 11 longitudinally ovate; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12); ventral portion of eye reaching subgenal sulcus (Fig. 9); postgena without distinct punctures. Dorsal surface of pronotum densely punctate; punctures separated by 0.5–1.0 diameters. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin lacking marginal bead; anterior angles of pronotum acute, moderately produced and apically narrowly rounded; lateral edge of pronotum sinuate at base; pronotum evenly convex (Fig. 114). Hypomeron lacking distinct punctures. Prosternal process apically rounded; marginal grooves opposite coxae indistinct to distinct, not joined

apically (Fig. 115). Elytral striae not impressed, present as medium, deeply impressed discontinuous punctures; punctures separated by 0.5–1.0 diameters; elytral interstriae weakly convex; densely punctate; scutellary striae 1–3 punctures long; scutellum triangular, reduced (Figs. 112, 114). Mesoventrite thin antero-posteriorly, excavate, U-shaped, receiving prosternal process; metaventrite 1/2 antero-postero length of mesocoxa (Fig. 115). Metathoracic wing vestigial. Legs long, slender, punctate, punctures with short golden seta emerging from each puncture; apical portion of femora reaching beyond elytron; tibiae straight; metatibia with ventral apical tooth vestigial (Fig. 44). Abdominal depressions on 4th and 5th ventrites reduced to slightly impressed slits (Fig. 74); intercoxal process of first ventrite apically rounded; ventral surface densely punctate, punctures weakly impressed (Fig. 115).

Female. Identical to male, except metatibia lacking ventral apical tooth.

Biology. This species inhabits high elevations, but there are no other biological data available.

Distribution. This species is endemic to Hispaniola and has been collected primarily in the Sierra de Neiba, in the southwestern part of the country north of the Enriquillo depression. It has also been collected in Haiti on Mt. Basil in the northwestern part of the country (Fig. 265).

Etymology. This species is named for the Sierra de Neiba where the majority of the type series of this species has been collected.

Nesocyrtosoma inflatum (Marcuzzi)

(Figs. 4, 17, 24, 35, 74, 116–119, 265, 276)

Cyrtosoma (*Nesocyrtosoma*) *inflatum* Marcuzzi 1976: 138, Fig. 17; 1984: 102; 1991: 247; Garrido and Gutiérrez 1996: 281–282; Marcuzzi 1999: 81; Peck 2005: 156.

Nesocyrtosoma inflata; Doyen and Poinar 1994: 47.

Cnodalon trinitatis Zayas 1988: 102–103, Fig. 90 [not *Cyrtosoma trinitatis* Marcuzzi]. **New Synonymy**.

Cyrtosoma (*Nesocyrtosoma*) *trinitatis*; Garrido and Gutiérrez 1996: 281–282.

Cyrtosoma iviei; Marcuzzi 1998: 160; Peck 2005: 156 [replacement name for *Cnodalon trinitatis* Zayas as a junior secondary homonym of *Cyrtosoma trinitatis* Marcuzzi 1976].

Taxonomic Notes. After examination of the Marcuzzi and Zayas types, it was determined that *Cnodalon trinitatis* Zayas is a synonym of *Cyrtosoma* (*Nesocyrtosoma*) *inflatum* Marcuzzi **New Synonymy**. Marcuzzi, having already described *Cyrtosoma trinitatis s. s.* (1976), gave Zayas' *Cnodalon trinitatis* the replacement name *Cyrtosoma iviei* Marcuzzi 1998, but with the new synonymy, the replacement name is now unnecessary. Garrido and Gutiérrez (1996) incorrectly synonymized *Cnodalon inflatum* Zayas with *Cyrtosoma* (*Nesocyrtosoma*) *inflatum* Marcuzzi, as it is actually a synonym of *Cyrtosoma* (*Nesocyrtosoma*) *tumefactum* Marcuzzi.

Type Material Examined. *Cyrtosoma* (*Nesocyrtosoma*) *inflatum* Marcuzzi: HOLOTYPE: Cuba/ *Cnodalon*?; *inflatum* Chev; Cuba/ on red paper TYPUS / *Cyrtosoma*; (*Nesocyrtosoma*); *inflatum*; Marcuzzi. (BMNH). PARATYPES: Cuba/ Paratypus in red 1976; *Cyrtosoma*; *inflatum*; Marcuzzi/ *Cyrtosoma*; (*Nesocyrtosoma*); *inflatum* M./ *Cyrtosoma*; *inflatum* Marc.; Dr.Z.Kaszab det., 1982. (1 HNHM). COTYPUS: *inflatus*; Chev/ armatus/ F. Bates.; 81-19./ Cuba; *Cnodalon*; *inflatum*; Chev/ on red paper COTYPUS. (1 BMNH).

Cnodalon trinitatis Zayas: LECTOTYPE here designated: *Cnodalon trinitatis*, specimen of undetermined sex in FZMC. Buenos Aries.L.; Villas. 6-53; Zayas coll/ red circle label Tipo/ *C. trinita-;tis*. sp. n./ LECTOTYPE; *Cnodalon*; *trinitatis* Zayas; det. K. J. Hopp 2008. PARALECTOTYPES for *Cnodalon trinitatis* here designated: 14 specimens: 4 specimens in FZMC labeled, Buenos Aries.L.; Villas. 6-53; Zayas coll/ PARALECTOTYPE; *Cnodalon*; *trinitatis* Zayas; det. K. J. Hopp 2008. 10 specimens in FZMC labeled, Col. F. de Zayas; Pico Potrerilla; 6 1958; Prov. L.V. CUBA/ PARALECTOTYPE; *Cnodalon*; *trinitatis* Zayas; det. K. J. Hopp 2008.

Notes. Zayas (1988) described this species from five specimens of *C. trinitatis* collected at Las Lomas de Trinidad in 1963 and ten examples from Pico de Poterillo, both in Las Villas Province. As no holotype was designated for *C. trinitatis*, a lectotype is here designated; the specimen with a red Tipo label is chosen to be the lectotype. The remaining 14 specimens are here designated as paralectotypes.

Other Material Examined. CUBA: Las Villas; Topes de Collantes; Sierra de Trinidad; 11 JUN 1959; M. W. Sanderson. (8 INHS, 11 WIBF). Mina Carlotus; Trinidad Mts. Cuba; 20 March 1925/ J.G. Myers. (1 MCZC). Mts. 10 m. E.; Soledad Cuba; Cienfuegos; Nov 28 1926; Darlington. (1 MCZC). Soledad, Cuba; Cienfuegos; June 1929; Darlington. (2 MCZC, 1 WIBF). Soledad Cuba; Cienfuegos; X-15 1926; Darlington. (2 MCZC). Buenos Aires; Trinidad Mts.; May 8–14, 1936; 2,500–3,500 ft./ Cuba 1936; Darlington; Collector. (3 MCZC, 1 WIBF). Buenos Aires; Trinidad Mts.; IV. '40CUBA, Parsons (crossed out) and Folk. (1 MCZC). Buenos Aires; Trinidad Mts.; 17–23 June/ Cuba 1939; C. T. Parsons. (1 MCZC). Cayamas; 12. 3 Cuba/ E. A. Schwarz; Collector. (1 NMNH). 455. var./ Cuba; Poey Coll. (1 ANSP). Buenos Aires. L.; Villas. 6 - 53; Zayas coll/ *Cnodalon*; sp. #4; det. T. J. Spilman. (1 NMNH). Sweeping; in woods/ Mts. 10 m. E.; Soledad Cuba; Cienfuegos; Nov 28 1926; Darlington. (1 MCZC). Cafetal de; Gavinas Trinidad; L.V. V-7-76; R. Alayo- L. N. Hern/ Tenebrionidae; Ident. OHG 280; *Cyrtosoma inflatum*; Marcuzzi 1976. (1 OHGC). ARBORETUM DE; TOPES DE COLLANTES; TRINIDAD. S. S.; L.M. Diaz 22-9; y A. ESTRADA 1993/ Tenebrionidae; Ident. OHG 279; *Cyrtosoma inflatum*; Marcuzzi 1976. (4 OHGC). Pico HONDONES; 11-4-85; Vaga. Café/ HONDONES; PICO; 11-4-85; VEG CAFÉ/ /Tenebrionidae; Ident. OHG 278; *Cyrtosoma inflatum*; Marcuzzi 1976. (1 OHGC). Pico Potrerillo; Trinidad L. V.; Abril-13-1934; S. C. Bruner/ Tenebrionidae; Ident. OHG 2367; *Cyrtosoma inflatum*; Marcuzzi 1976. (1 OHGC). Topes de; Collantes, Trinidad/ 16-Nov-07; L. M. Diaz; Noche-Aras/ TENEBRIONIDAE; *CYRTOSOMA*; (*NESOCYRTOSOMA*); IVIE N.N. MARC. (1 OHGC). Monte Iberia; V-1-1974; N. Novoa/ Tenebrionidae; Ident. OHG 297; *Cyrtosoma*. (1 OHGC). La Chrspa; Topes de Coll.; 7-78; L. R. Hern./ Tenebrionidae; Ident. OHG 2370; *Cyrtosoma inflatum*; Marcuzzi, 1976. (1 OHGC). Mi Retiro T.; Collantes, S. Spiritus,; Cuba. 27. III. 2002; Vegetacion; Col.: Aavila. (7 IESC). HOND; PICO-Potr; 11-4-85; VEG CAFÉ. (1 IESC). Sierra de Trinidad; Topes Collante; 7-X-1972; Las Villas. CUBA; L. ARMAS. (1 IESC). 1074; *Cnodalon inflatum* [listed from Matanzas, Trinidad I II III. in Gundlach record book]. (1 Gundlach Collection—IESC).

Diagnosis. This species can be distinguished from all other species by the combination of the extremely short, convex body shape, extremely tapered elytra with rows of mostly discontinuous punctures (Figs. 116, 117), and flat, apically truncate prosternal process (Fig. 119).

Redescription (modified from Marcuzzi 1976) (male). 5.0–6.0 mm long, 3.5–4.5 mm wide. Body extremely convex (Fig. 117). Elytra broad anteriorly, tapered posteriorly (Fig. 116). Darkly ferrugineous to black; antennae, mouthparts and tarsi ferrugineous. Head densely punctate dorsally; punctures smaller than single eye facet, slightly impressed; extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform, antennomeres 6–10 weakly widened apically, forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 6–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12). Ventral portion of eye not reaching subgenal sulcus (Fig. 8); postgena without distinct punctures. Dorsal surface of pronotum densely punctate; punctures separated by 1.0–1.5 diameters. Pronotal marginal bead complete laterally, anterior and posterior margins with marginal bead effaced medially; anterior angles of pronotum acute, moderately produced and apically narrowly rounded; lateral edge of pronotum weakly sinuate at base; pronotum evenly convex (Figs. 24, 118). Hypomeron lacking distinct punctures. Prosternal process apically squarely truncate with marginal grooves opposite coxae not joined apically (Fig. 119). Black, except under a microscope with light elytra appearing darkly ferrugineous with rows of black squares following elytral striae; elytral striae present as rows of medium sized punctures separated by 0.5–1.0× diameter; elytral interstriae flat, densely punctate; scutellary striae short, indistinct, 1–3 punctures long; scutellum triangular, reduced (Figs. 116, 118). Mesoventrite thin antero-posteriorly, almost flat, not receiving prosternal process; metaventrite $<1/2$ antero-postero length of mesocoxa (Fig. 119). Metathoracic wing vestigial. Legs long, slender, punctate; apical 1/3 of femur reaching beyond edge of elytron; tibia slightly apically curved ventrally; metatibia with ventral apical tooth vestigial (Fig. 45). Abdominal depressions on 4th and 5th ventrites reduced to slightly impressed slits (Fig. 74); intercoxal process of first ventrite broadly rounded apically; ventral surface densely punctate, punctures moderately impressed (Fig. 119).

Female. Identical to male, except metatibia straight and lacking apical tooth.

Biology. On a single specimen label, Darlington reported collecting this species by sweeping in the woods, but beyond this, there are no biological data available for this abundant species.

Distribution. This species is endemic to Cuba and has been collected in large numbers at 800 m in Topes de Collantes, the Trinidad Mountains in Sancti Spíritus Province (Peck 2005). It has also been collected in large numbers at Buenos Aires in the Trinidad Mountains, an unlocated Darlington and Zayas collecting site (Peck 2005). It has also been reported from Mina Carlota, another unlocated collecting site in the Trinidad Mountains (Peck 2005). Finally, it has been collected at Soledad (east of Cienfuegos) and Cayamas (40 km NW of Cienfuegos) in Cienfuegos Province (Figs. 258, 265).

Nesocyrtosoma merkli (Marcuzzi), New Combination
(Figs. 46, 120–123, 262, 277)

Cyrtosoma (*Pachycyrtosoma*) *merkli* Marcuzzi 1999: 82, 84, Figs. 1 and 2; Perez-Gelabert 2008: 115.

Type Material Examined. HOLOTYPE: DOM.REP., LaVega,; 53km.SE.Constanza; August 9, 1979; L.B.O'Brien/ *Cyrtosoma*; *Pachycyrtosoma*; *merkli*/ on red paper Holotypus / on yellow paper HOLOTYPUS; *Cyrtosoma*; (*Pachycyrtosoma*); *merkli* Marcuzzi, 1999. (HNHM). PARATYPES (7 specimens in HNHM):

DOM.REP., LaVega,; 53km.SE.Constanza; August 9, 1979; L.B.O'Brien/ on yellow paper PARATYPUS; *Cyrtosoma*; (*Pachycyrtosoma*); *merkli* Marcuzzi, 1999. (2 HNHM). DOM.REP., LaVega,; 8km.S.Constanza; IX-3-1997; C.W. O'Brien/ on yellow paper PARATYPUS; *Cyrtosoma*; (*Pachycyrtosoma*); *merkli* Marcuzzi, 1999 (1 HNMH). DOM.REP., LaVega,; 18km.SE.Constanza; August 4, 1979; L.B.O'Brien/ on yellow paper PARATYPUS; *Cyrtosoma*; (*Pachycyrtosoma*); *merkli* Marcuzzi, 1999 (2 HNHM). DOM.REP., LaVega,; 53km.SE.Constanza; August 9, 1979; L.B.O'Brien/ on red paper COTYPUS/ *Cyrtosoma*; *Pachycyrtosoma*; *merkli*/ on yellow paper PARATYPUS; *Cyrtosoma*; (*Pachycyrtosoma*); *merkli* Marcuzzi, 1999. (1 HNHM). COTYPES: DOM. REP., La Vega,; 53km.S.E.Constanza; August 9, 1979; L. B. O'Brien/ Cotypus (on red paper)/ *Cyrtosoma*; (*Pachycyrtosoma*); *merkli*; Marcuzzi; 1999. (1 BMNH).

Notes. An eighth paratype deposited in HNHM is designated by Marcuzzi (1999). However, after examination this specimen was determined as *Nesocyrtosoma otus* Hopp and Ivie and is further discussed under that species.

Other Material Examined. Mt.Quita-; Espuela, Dom. Rep.; July'38, 2–3,000 ft.; Darlington. (3 MCZC). Mt. Diego de; Ocampo, Dom. Rep.; 3–4,000 ft., July'38; Darlington. (3 MCZC). Loma Rucilla and; mts. N., Dom. Rep.; June'38, 5–8,000 ft.; Darlington. (2 MCZC). cloudforest; vic.Valle Nuevo; Aug'38, Dom. Rep.; c. 6,000 ft, Darl. (4 MCZC, 1 WIBF). Constanza to; V. Nuevo, Dom. Rep.; Aug'38, 3–7,000 ft.; Darlington. (1 MCZC, 1 WIBF). DOMINIC.REP.: Prov.La Vega; Par.Nac.Almando Bermudez; CordilleraCent,LosTablone; 03SEP1988, 1,220m, beating; M.A.Ivie and K.A.Johnson. (2 WIBF). DOMINICAN REPUBLIC: La; Vega. Cordillera Central,; Reserva Valle Nuevo, La; Nevera, 15.3 km SE Valle; Nuevo,18-41-39N, 70-35-28W; 2,244 m, 3 June 2003/ R. Davidson, C. Young; C. Nunez, J. Rawlins, P; Acevedo, M. de La Cruz; wet montane forest with; pine. hand collected,; Sample 24542/ Carnegie Museum; Specimen Number; CMNH-349,389. (1 CMNH). DOMIN.REP: Prov. Santiago; Par.Nac. ArmandoBermudez; ElRodeo. 19°08′N, 71°02W; 1,456m. 10 JULY 1992; M.A. and R.O. Ivie colrs. (2 WIBF). DOMINICAN REPUBLIC:; La Vega Prov., PN Armando; Bermudez, km 1–3 along trail; W of La Cienga, 900–1,100,; 19°01.753′N, 70°54.654′W; 6-VI-2005; Gino Nearns. (2 FSCA). REP. DOMINICANA.; Sierra Altravezada (1,964m); Secc. Rincoin de Piedra-; San Jose de Las Matas; 6–7/III/1999. Bajo Piedra;Col. L.F de Armas, R. Bastardo/ Tenebrionidae; Ident. OHG 2589; *Cyrtosoma merkli*; Marcuzzi 1999; ARMASI. (1 OHGC). REP. DOMINICANA.; Sierra Altravezada (1,964m); Secc. Rincoin de Piedra-; San Jose de Las Matas; 6–7/III/1999. Bajo Piedra;Col. L.F de Armas, R. Bastardo/ Tenebrionidae; Ident. OHG 2588; *Cyrtosoma merkli*; Marcuzzi 1999/ red circle label. (1 OHGC).

Diagnosis. This species is similar to *N. tumefactum* and *N. turquinense*, but can be distinguished from *N. tumefactum* by the broad, flat, apically rounded prosternal process (Fig. 123) and from *N. turquinense* by the elytral interstriae lightly punctate. It can be distinguished from all other species by the combination of the above characters, more acute anterior angles of the pronotum (Fig. 122), and shallow V-shaped mesoventrite (Fig. 123).

Redescription (modified from Marcuzzi 1999) (male). 6.5–7.5 mm long, 4.0–5.0 mm wide. Body short, convex (Figs. 120, 121). Elytra robust anteriorly, weakly tapered posteriorly (Fig. 120). Glossy darkly ferrugineous to black in color; antennae, mouthparts, and tarsi ferrugineous. Head lightly punctate, sometimes appearing smooth; punctures smaller than a single eye facet, lightly impressed; extremely short golden seta emerging from each puncture. Antenna

weakly clavate, nearly filiform; antennomeres 7–10 weakly widened apically forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12). Ventral portion of eye not reaching subgenal sulcus (Fig. 8); postgena without distinct punctures. Dorsal surface of pronotum densely punctate; punctures separated by 1.0–1.5 diameters. Pronotal marginal bead complete laterally, anterior and posterior margins with marginal bead effaced medially; anterior angles of pronotum acute, produced and apically narrowly rounded; lateral edge of pronotum sinuate at base; pronotum evenly convex, except anterior angles weakly concave (Fig. 122). Hypomeron lacking distinct punctures. Prosternal process flat, apically rounded with distinct marginal grooves opposite coxae joined apically (Fig. 123). Black, except under a microscope with light elytra appearing darkly ferrugineous with rows of black squares following elytral striae; elytral striae not impressed, present as small discontinuous punctures; elytral interstriae flat, impunctate; scutellary striae short; 1–3 punctures long (often difficult to see); scutellum triangular, reduced (Fig. 120). Mesoventrite thin antero-posteriorly, shallowly excavate, widely V-shaped receiving prosternal process; metaventrite $<1/2$ antero-postero length of mesocoxa (Fig. 123). Metathoracic wing vestigial. Legs long, slender, punctate; apical 1/3 of femur reaching beyond edge of elytron; metatibia apically curved ventrally; metatibia with ventral apical tooth vestigial (Fig. 46). Abdominal depressions on 4th and 5th ventrites present as moderately impressed pits (Fig. 75); intercoxal process of first ventrite broadly triangular apically; ventral surface densely punctate, punctures weakly impressed (Fig. 123).

Female. Identical to male, except metatibia straight and lacking ventral apical tooth.

Biology. This species has been collected in cloud forest, in high elevation pine forest on dead branches, and in overgrazed pine forest.

Distribution. This species is endemic to Hispaniola and is primarily found in La Vega Province, but also in neighboring Santiago Province. It has been collected on Mt. Diego in Santiago Province and Mt. Quita in Duarte Province (Figs. 260, 262).

Nesocyrtosoma scabrosum Hopp and Ivie, New Species
(Figs. 47, 124–127, 264, 278)

Type Material. HOLOTYPE: Undetermined sex, probably female. Tardieu; Mt. LaHotte; 3,000 ft./ Haiti; 1934-x-14; Darlington/ *Nesocyrtosoma*; sp.; Det. J. Doyen 1988. (MCZC). PARATYPES (6 specimens): HAITI: Department du Sud,; Formon, Kay Michel.; 1,100m, 603254mE,; 2026684mN, 6.11.2006,; R. Bastardo. (3 UASD, 2 WIBF). HAITI: Dept. Sud'est. Formond,; alrededores Kay Michel 2026684; mN, 603254 mE, 1,100 m, 408; February 2006, coll. R. Bastardo/ Photographed; 2002–2003; CBSD. (1 WIBF).

Other Material Examined. HAITI: Department du Sud,; Formon, Kay Michel.; 1,100m, 603254mE,; 2026684mN, 6.11.2006,; R. Bastardo. (1 WIBF—disarticulated).

Diagnosis. This species is easily distinguished from all other *Nesocyrtosoma* species by the reticulate pattern of the elytral striae and the roundly carinate interstriae (Fig. 124).

Description (male). 7.5–8.0 mm long, 5.0 mm wide. Body broad, extremely convex (Figs. 124, 125). Black; antennae, mouthparts and tarsi ferrugineous. Head anteriorly truncate; densely punctate dorsally, punctures smaller than a

single eye facet, extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform; antennomere 7–10 weakly widened apically, forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12). Ventral portion of eye not reaching subgenal sulcus (Fig. 8); postgena without distinct punctures. Dorsal surface of pronotum densely punctate; punctures separated by <0.5–0.5 diameters. Pronotal marginal bead complete laterally, anterior and posterior margins with marginal bead effaced medially; anterior angles of pronotum right, moderately produced and widely rounded apically; lateral edge of pronotum sinuate at base (Fig. 126). Hypomeron without distinct punctures. Prosternal process apically rounded; marginal grooves opposite coxae joined apically; area between marginal grooves concave becoming convex at apex (Fig. 127). Elytral striae forming a reticulate pattern; area immediately laterad punctures concave, area anterior and posterior to each puncture slightly raised, interstriae raised forming a hexagonal shape around each puncture; elytral interstriae impunctate; scutellary striae 1–3 punctures long; scutellum triangular, reduced (Figs. 124, 126). Mesoventrite thin antero-posteriorly, moderately excavate, widely U-shaped, receiving prosternal process; metaventrite <1/2 antero-postero length of mesocoxa (Fig. 127). Metathoracic wing vestigial. Legs long, slender, densely punctate; apical portion of femora reaching beyond edge of elytron; metatibia with longitudinal row of coarse setae on venter, curved at apex with ventral medial tooth vestigial and hidden in dense setae (Fig. 47). Abdominal depressions on 4th and 5th ventrites reduced to slightly impressed slits (Fig. 74); intercoxal process of first ventrite covered with long golden setae, broadly rounded apically; ventral surface densely punctate (Fig. 127).

Female. Identical to male, except metatibia without ventral tooth.

Biology. Unknown.

Distribution. This species is endemic to Hispaniola and has been collected only at Formond, Dept. du Sud'est, in Haiti on the La Hotte Peninsula (Figs. 261, 264).

Etymology. The species epithet comes from the Latin word *scabrēs* meaning roughness, as the elytra of this species appear rough and form a reticulate pattern.

Nesocyrtosoma lacrima Hopp and Ivie, New Species
(Figs. 8, 25, 48, 128–131, 269, 279)

Nesocyrtosoma n. sp. Ivie *et al.* 2008.

Type Material. HOLOTYPE: Male. Montserrat; 23.3 WI/ HGHubbard; Collector. (NMNH). PARATYPES (32 specimens): 9 specimens with the same label data as holotype. (6 NMNH, 3 WIBF). Montserrat; W.I./ Montserrat; 23.3 WI/ HGHubbard; Collector. (8 NMNH — 2 pins with 2 cards on each pin and 2 specimens mounted on each card). Montserrat; 23.3 WI/ HGHubbard; Collector/ Clearings; 2,000 ft. (1 NMNH). Montserrat; 23.3 WI/ HGHubbard; Collector/ 117. (1 NMNH). MONTSERRAT:Katy Hill; trail above heli pad; 14 AUG 2005, 2,300ft; I.A. Foley colr. (7 WIBF). MONTSERRAT: Roache's; S. of Soufriere Hills; Upper Pond, 1990'; 16°41.62′N, 62°10.06′W; 25JUNE2002, M.A.Ivie/ Beating dead vines. (1 CMNH, 1 WIBF,). MONTSERRAT:; Roache's Estate, 1,943 ft; 16°41.60′N, 62°09.99′W; 05 JULY 2002; K. A. Marske colr. (2 WIBF). MONTSERRAT:trail to; Big River, 1,230ft; 16°45.719′N, 62°11.34′w; 15 AUG 2005; WIBF group colrs. (1 FSCA, 1 WIBF).

Diagnosis. This species can be distinguished from all other species by the elongate body form (Figs. 128, 129), ferrugineous to bronze color, elongate pronotum, absence of anterior and posterior pronotal margins (Fig. 25), and complete impressed elytral striae (Fig. 128).

Description (male). 4.5–6.5 mm long, 2.5–3.5 mm wide. Small, body elongate, moderately convex; broadest in anterior half of elytra; elytra strongly tapered at apex, giving it a teardrop-shaped body form (Figs. 128, 129). Ferrugineous to bronze; antennae, mouthparts and tarsi ferrugineous. Head moderately punctuate dorsally; punctures smaller than a single eye facet; shagreened. Antenna weakly clavate, nearly filiform; antennomeres 7–10 weakly widened apically, forming a loose, elongate club; apical antennomere subcircular; antennomeres 7–10 with stellate sensoria. Mentum with acute median keel, anteriorly raised to a point (Figs. 10, 12). Ventral portion of eye not reaching subgenal sulcus (Fig. 8); postgena without distinct punctures. Dorsal surface of pronotum weakly punctate; appearing smooth, shagreened. Pronotal marginal bead complete laterally; anterior and posterior margin lacking marginal bead; anterior angles of pronotum nearly right, moderately produced and widely rounded apically; lateral edge of pronotum evenly curved to base (rarely weakly sinuate at base); pronotum evenly convex (Fig. 130). Hypomeron without distinct punctures. Prosternal process apically rounded, with distinct marginal grooves opposite coxae joined apically (Fig. 131). Elytral striae deeply impressed, present as rows of small punctures separated by 0.5–1.0× diameter with a deeply impressed line through the middle of each puncture row, connecting the row of punctures; elytral interstriae roundly convex, sparsely punctate, shagreened; scutellary striae short, 1–3 punctures long; scutellum triangular, reduced (Figs. 128, 130). Mesoventrite thin antero-posteriorly, U-shaped, shallowly excavate, receiving prosternal process; metaventrite $<1/2$ antero-postero length of mesocoxa (Fig. 131). Metathoracic wing vestigial. Legs long, slender, lightly punctate; femora reaching beyond edge of elytron; tibiae straight; metatibia with ventral tooth vestigial (Fig. 48). Abdominal depressions on 4th and 5th ventrites reduced to indistinct slits (Fig. 74); intercoxal process of first ventrite apically rounded; ventral surface weakly punctate; shagreened (Fig. 131).

Female. Identical to male, except metatibia lacking ventral tooth proximad apex.

Biology. This species has been collected by beating vines in moist to wet forest at high elevations.

Distribution. This species is endemic to Montserrat and has been collected on Katy Hill, Roache's Estate south of Soufriere Hills at the Upper Pond, and the Trail to Big River (Fig. 269). A long series was also collected by H. G. Hubbard in "clearings" at 2,000 ft, probably in 1894 (Ivie *et al.* 2008).

Etymology. The species epithet, used as a noun in apposition, is from the Latin word *lacrima*, which is derived from the Greek word, δάκρυμα, meaning a tear. This species is shaped like a teardrop and is thus named *lacrima*.

Nesocyrtosoma simplex Hopp and Ivie, New Species
(Figs. 49, 132–135, 264, 280)

Type Material. HOLOTYPE: Male. LaVisteand vic; LaSelleRange; 5–7,000 ft.; Sept. 16–23/ Haiti; 1934; Darlington. (MCZC). PARATYPES (69 specimens): 23 specimens with the same data as the holotype. (21 MCZC, 2 WIBF). Top Mt. Cabaio; Haiti, 7,500ft.; iii-26-40; Folk. (1 MCZC). HAITI: Dept. Sud-Oueste; Parc National La Visite; Morne La Visite, S. Slope; 2,040–2,150m. 23-V-1984; Coll. M.C. Thomas. (1 FSCA). HAITI: Dept. Sud-Oueste; Parc National La

Visite; vicinity park hdqtrs; 1,880m. 9-V-1984; Coll. M.C. Thomas. (2 FSCA, 1 WIBF). HAITI: Dept. Sud-Oueste; Massif de La Selle; saddle between d'Enfer; and Fe Moir. 1,700m.; 16-V-1984 M.C. Thomas. (1 FSCA). HAITI: Dept. Sud-Oueste; Parc National La Visite; Morne La Visite 2,100m.; 12-V-1984 M.C. Thomas. (1 FSCA). HAITI: Dept. Sud-Oueste; Parc National La Visite; *ca.* 1 km. S. Roche Plat; 22-V-1984 M.C. Thomas. (1 FSCA). HAITI: Dept. Sud-Oueste; Massif de La Selle; Morne d'Enfer 1,850m.; 15-V-1984 M.C. Thomas. (7 FSCA, 5 WIBF). HAITI: Dept. Sud-; Oueste, Parc Nat'l; La Visite, vicinity; pk.hdqrtrs.1,880m..13-;V-1984, M.C. Thomas. (1 FSCA). DOMINICAN REPUBLIC:; Pedernales. 9.7km NE; Los Arroyos. 18-16N,; 71-44W. 2,070 m./ 15–16 July 1990; J.E. Rawlins,; C.W. Young,; S.A. Thompson (3 WIBF — with Carnegie Museum Specimen Numbers: CMNH-376,381, CMNH-377,826 and CMNH-376,693). DOM.REP.: Prov.Pedernales; *ca.* 35 km N CaboRojo; Las Abejas, 1,250m; 26 AUG 1988, mixed forest; M. Ivie, Philips and Johnson. (2 WIBF). DOMINICAN REPUBLIC:; Pedernales. 5 km NE; Los Arroyos, 1,680m.; 18-15N, 71-45W/ 20 October 1991; J. Rawlins, R. Davidson; C. Young, S. Thompson; Cloud forest. (9 CMNH, 4 WIBF). DOMINICAN REPUBLIC; Pedernales Prov., PN Sierra; de Baoruco, Las Abejas; 18°09.011′N, 71°37.342′W; 1,150 m Beating 11 July 2004; Steven W. Lingafelter. (1 NMNH, 1 WIBF). DOMINICAN REPUBLIC:; Barahona. Eastern Sierra; Bahoruco, Reserva Cachote; 12.8 km NE Paraiso,; 18-05-54N. 71-11-21W,; 1,230 m, 21–23 Mar 2004/ J. Rawlins, C. Young,; R., Davidson, C. Nunez,; M. Rial. cloud forest; with tree ferns, hand; collected, Sample 44243. (9 CMNH, 2 WIBF — with Carnegie Museum Specimen Numbers: CMNH-349,940, CMNH-349,534, CMNH-349,559, CMNH-349,151, CMNH-349,826, CMNH-349,020, CMNH-350,006, CMNH-350,000, CMNH-349,015, CMNH-349,852, CMNH-349,668). REPUBLICA DOMINICANA: Barahona, Polo, Cortico, frente a la; charca (18°6′38.8″N, 71°13′24.7″W), 1,391 m/ 29 July 2005, Lámpara luz negra,; coll. S. Vélez, J. Henriquez, A.; Marmolejo and R. Bastardo. (3 UASD). DOMINICAN REPUBLIC:; Barahona Prov., El Cachote; 18°03.295′N, 71°09.778′W; 970 meters 14 July 2006; S.W.Lingafelter beating. (1 NMNH, 1 WIBF). DOMINICAN REPUBLIC:; Barahona. 5 km SE Polo,; slopes of Loma La Torre; 18-03N, 71-16W. 980 m./ 18 July 1992. Disturbed; forest with coffee.; C. Young, R. Davidson, S. Thompson, J. Rawlins. (2 CMNH, 1 WIBF). DOMINICAN REPUBLIC:Azua; East side of crest,; Sierra Martin Garcia,; 7 km WNW Barrero.; 18-21N, 70-58W. 860 m/ 25–26 July 1992; C. Young, R. Davidson,; S. Thompson, J. Rawlins; Cloud forest adjacent; to disturbed forest/ Carnegie Museum; Specimen Number; CMNH-348,847. (1 CMNH). DOMINICAN REPUBLIC:; Independencia. Sierra de; Bahoruco, north slope,13. 3; km SE Puerto Escondido,; 18-12-33N. 71-30-47W; 1,812 m, 24–25 Nov 2004/ J. Rawlins, C. W. Young,; C. Nunez, V. Verdecia,; W. Zanol. Pinus,; Rubus, Garrya, open. hand; collected, Sample 41345/ Carnegie Museum; Specimen Number; CMNH-373,312. (1 WIBF). DOMINICAN REPUBLIC:; Independencia. Sierra de; Baoruco,north slope 13.5; km SE Puerto Escondido,; 18-12-18N. 71-31-08W,; 1,789 m, 24–26 Mar 2004/ R. Davidson, J. Rawlins,; C. Young, C. Nunez, M.; Rial. ecotonal Pinus; grassland, hand col-; lected. Sample 41143/ Carnegie Museum; Specimen Number; CMNH-349,192. (1 CMNH). DOMINICAN REPUBLIC:; Independencia. Sierra de; Baoruco, Loma del Toro,; 18-17-16N. 71-42-46W,; 2,310 m, 7–8 Nov 2002/ W.A. Zanol. C. W. Young,; C. Staresinic, J. Rawlins; meadow in pine woods,; hand collected.; Sample 40149/ Carnegie Museum; Specimen Number; CMNH-283,036. (1 CMNH). DOMIN-

ICAN REPUBLIC: La; Independencia. 15 km NE; Las Arroyos (Pedernales); summit, Sierra de Baho-; ruco. 2,260m 19 July 1987; R. Davidson, J. Rawlins. (1 CMNH, 1 WIBF — with Carnegie Museum Specimen Numbers CMNH-349,399 and CMNH-349,271.). DOMINICAN REPUBLIC:; La Independencia; 15 km S El Aguacate; 2,070 m. 20 July 1987; J.Rawlins, R.Davidson. (1 CMNH). DOMINICAN REPUBLIC:; La Altagracia Prov., Punta Cana; nr. Ecological Reserve, 0–5 m; 18°30.477′N, 68°22.499′W; 12-VI-2005; G. Nearns. (1 FSCA). DOMINICAN REPUBLIC:; La Altagracia Prov., Punta Cana; nr. Ecological Reserve, 0–5 m; 18°30.477′N, 68°22.499′W; 12-VI-2005; G. Nearns. (1 FSCA).

Diagnosis. This species is extremely variable in size, but similar to *N. merkli*. It can be distinguished from that and all other species by the combination of the weakly produced, obtuse, and widely rounded anterior corners of the pronotum (Fig. 134), the broad U-shaped mesoventrite (Fig. 135), and the small, discontinuous, weakly impressed elytral punctures.

Description (male). 4.5–7.0 mm long, 2.5–4.5 mm wide. Body short, moderately convex (Figs. 132, 133). Shining darkly ferrugineous to black; antennae, mouthparts and tarsi ferrugineous. Head densely punctate dorsally; punctures smaller than a single eye facet and weakly impressed; extremely short golden seta emerging from each puncture; head often appearing smooth. Antenna clavate; antennomeres 7–10 transverse forming a loose, elongate club; apical antennomere subcircular; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel, anteriorly raised to a point (Figs. 10, 12). Ventral portion of eye not reaching subgenal sulcus (Fig. 8); postgena without distinct punctures. Dorsal surface of pronotum lightly punctate, often appearing smooth. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin lacking marginal bead; anterior angles of pronotum obtuse, weakly produced and widely rounded apically; lateral edge of pronotum evenly curved to base; pronotum evenly convex (Fig. 134). Hypomeron lacking distinct punctures. Prosternal process apically rounded with marginal grooves opposite coxae joined apically (Fig. 135). Black, except sometimes under a microscope with light elytra appearing darkly ferrugineous with rows of black squares following elytral striae; elytral striae present as small, discontinuous weakly impressed punctures, punctures closely spaced creating the appearance of a complete weakly impressed striae; elytral interstriae flat, scarcely punctate; scutellary striae short, 3–4 punctures long, scutellum triangular, reduced (Figs. 132, 134). Mesoventrite broad antero-posteriorly, weakly excavate, U-shaped receiving prosternal process; metaventrite $<1/2$ antero-postero length of mesocoxa (Fig. 135). Metathoracic wing vestigial. Legs short, punctate; apical portion of femora reaching beyond edge of elytra; metatibia slightly apically curved ventrally with small tooth proximad apex (Fig. 49). Abdominal depressions on 4th and 5th ventrites reduced to slightly impressed slits (Fig. 74); intercoxal process of first ventrite broadly rounded apically; ventral surface densely punctate, punctures weakly impressed (Fig. 135).

Female. Identical to male, except metatibia straight and lacking ventral, apical tooth.

Biology. This species has been collected under bark and by beating. It has also been collected at blacklight, but this species lacks flight wings and either crawled to the light or was coincidentally at the collection site.

Distribution. This species is endemic to Hispaniola and has been collected primarily in the Sierra de Bahoruco and Las Abejas in Pedernales Province. It has also been collected in the Sierra Martin Garacia in Azua Province of the

Dominican Republic (Figs. 260, 264). It has also been collected in Haiti, on Mt. Cabaio and Morne d'Enefer (Figs. 261, 264).

Etymology. This species is without decoration, and is thus called *simplex* (in this case, *simplex* is an invariant adjective).

Purple Species-group

Four species are redescribed and nine new species are described for the first time. Species are listed in phylogenetic order.

Nesocyrtosoma altagracia Hopp and Ivie, New Species
(Figs. 136–139, 262)

Type Material. HOLOTYPE: Female. DOM. REP.: Prov. LaAltagracia; Boca de Yuma entr. to Par.; Nac, delEste, 12m, 06AUG1999; 18°21.904′N, 68°37.094′W; M. A. Ivie, beating at night. (from WIBF, deposited NMNH). PARATYPES (2 specimens): DOMINICAN REPUBLIC; La Altagracia Province; El Veron, Hoyo Azul; 18°33.610′N, 68°26.881′W; 25–40 m. blacklight 22 July; 2004- S. W. Lingafelter. (1 NMNH). DOMINICAN.REP:; Prov. Altagracia; Punta Cana, 24–29 July 2001; M. A. and L. L. Ivie. (1 WIBF).

Diagnosis. This species can be distinguished by the acute anterior angles of the pronotum (Fig. 138), lateral edges of the pronotum weakly sinuate, and the smooth prosternal process (Fig. 139). It is similar to *Nesocyrtosoma darlingtoni* Hopp and Ivie, but can be distinguished from that species by the shallowly excavate mesoventrite (Fig. 139). It is also similar to *Nesocyrtosoma mutabile* Hopp and Ivie, but can be distinguished from that species by the more elongate pronotum with the anterior angles more acute, produced and narrowly rounded (Fig. 138). Finally, it also closely resembles *Nesocyrtosoma dolosum* Hopp and Ivie, but can be distinguished from that species by the prosternal process declivous behind (Fig. 139) and antennomeres 7–10 weakly widened apically.

Description (female). 8.0–8.5 mm long, 4.5–5.5 mm wide. Body elongate, moderately convex, broad, weakly tapering at apex (Figs. 136, 137). Purple to black; antennae, mouthparts and tarsi darkly ferrugineous. Head densely punctate dorsally, punctures smaller than a single eye facet, lightly impressed; extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform; antennomeres 7–10 weakly widened apically, forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12). Ventral portion of eye reaching subgenal sulcus (Fig. 9); postgena without distinct punctures. Dorsal surface of pronotum densely punctate; punctures separated by 1.0–2.0 diameters; shagreened. Pronotal marginal bead complete laterally, anterior marginal bead effaced medially, posterior margin lacking marginal bead; anterior angles of pronotum acute, moderately produced and apically narrowly rounded; lateral edge of pronotum weakly sinuate at base; pronotum evenly convex (Fig. 138). Hypomeron without distinct punctures. Prosternal process apically rounded; indistinct marginal grooves opposite coxae joined apically (Fig. 139). Elytral striae weakly impressed, present as small discontinuous punctures; punctures separated by 0.5–1.0 diameters creating fine striae; elytral interstriae flat, impunctate, shagreened; scutellary striae long; 6–10 punctures long, nearly reaching the suture; scutellum triangular, normal (Figs. 136, 138). Mesoventrite thin antero-posteriorly, shallowly excavate, widely V-shaped, receiving prosternal process; metaventrite subequal in antero-postero

length of mesocoxa (Fig. 139). Metathoracic wing fully developed. Legs long, slender, punctate; apical portion of femur reaching beyond elytron; tibiae straight Abdominal depressions on 4th and 5th ventrites reduced to indistinct slits (Fig. 74); intercoxal process of first ventrite apically rounded; ventral surface densely punctate, punctures weakly impressed (Fig. 139).

Male. No males were available for study.

Biology. This species has been collected at night in dry forest and at blacklight.

Distribution. This species is endemic to Hispaniola and appears to only occur in La Altagracia Province of the Dominican Republic (Figs. 260, 262).

Etymology. This species is named for the Dominican Republic province La Altagracia, from which this species is known. *Altagracia* is used as a noun in apposition.

Nesocyrtosoma basilense Hopp and Ivie, New Species
(Figs. 50, 140–143, 262, 281)

Type Material. HOLOTYPE: Male. Mt. Basil; N. Haiti; 4,700 ft; Sept. 9/ 1934; Darlington. (MCZC). PARATYPE (1 specimen, male): 1 MCZC specimen with same label data as holotype.

Diagnosis. This species can be distinguished by its broad, ovate body form (Fig. 140), anterior angles of pronotum more broadly rounded (Fig. 142), intercoxal process of first ventrite broadly triangular at base (Fig. 143), and broad mesoventrite.

Description (male). 8.5–10.0 mm long, 5.5–6.0 mm wide. Body elongate, moderately convex, broad, weakly tapered apex (Figs. 140, 141). Shining dark ferrugineous; antennae, mouthparts, and tarsi ferrugineous. Head densely punctate dorsally, punctures smaller than a single eye facet, lightly impressed; extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform; antennomeres 5–10 weakly widened forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 5–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12). Ventral portion of eye reaching subgenal sulcus (Fig. 9); postgena without distinct punctures. Dorsal surface of pronotum densely punctate; punctures separated by 0.5–1.0 diameters. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin without marginal bead; anterior angles of pronotum acute, moderately produced and apically narrowly rounded; lateral edge of pronotum weakly sinuate at base; pronotum evenly convex (Fig. 142). Hypomeron without distinct punctures. Prosternal process apically rounded; indistinct marginal grooves opposite coxae not joined apically (Fig. 143). Black, except under a microscope with light elytra appearing darkly ferrugineous with rows of black squares following elytral striae; elytral striae not impressed, present as small discontinuous punctures; elytral interstriae flat, densely punctate; scutellary striae 6–10 punctures long, nearly meeting the elytral suture; scutellum triangular, normal (Figs. 140, 142). Mesoventrite broad antero-posteriorly, shallowly excavate, widely V-shaped, receiving prosternal process; metaventrite subequal in antero-postero length of mesocoxa (Fig. 143). Metathoracic wing fully developed. Legs long, slender, punctate, apical portion of femur reaching beyond elytron; tibiae ventrally apically weakly curved; small, reduced ventral apical tooth on meso- and metatibia (Fig. 50). Abdominal depressions on 4th and 5th ventrites reduced to indistinct slits (Fig. 74); intercoxal process of first ventrite broadly apically

triangular; ventral surface densely punctate; punctures weakly impressed (Fig. 143).

Female. No females were available for study.

Biology. Unknown.

Distribution. This species is endemic to Hispaniola and is only known from the type locality of Mt. Basil in Artibonite Deptartment of Haiti (Figs. 261, 262).

Etymology. This species is named for Mount Basil, the mountain from which it is known.

Nesocyrtosoma dolosum Hopp and Ivie, New Species
(Figs. 51, 144–147, 262, 282)

Type Material. HOLOTYPE: Male. NE foothills; La Hotte; 2–4,000ft.; Oct 10–24/ Haiti; 1934; Darlington. (MCZC). PARATYPES (4 specimens): 4 specimens with the same label data as holotype. (3 MCZC, 1 WIBF).

Diagnosis. Although this species is from the exact same locality and was collected on the same date as *N. darlingtoni*, the males and females of this species can be distinguished from that species and all others by the combination of antennomeres 6–10 weakly widened apically, the flat, apically truncate prosternal process (Fig. 147), lack of circular punctures on the hypomeron, and densely and obviously punctate interstriae (Figs. 144, 146). The males of this species have a ventral setal patch on the mesofemora (Fig. 152), which is absent in the males of *N. darlingtoni*.

Description (male). 7.5 mm long, 4.5 mm wide. Body elongate, slightly convex (Figs. 144, 145). Glossy dark ferrugineous to purple; antennae, mouthparts, and tarsi tending to be the same color as the legs. Head densely punctate, punctures smaller than a single eye facet, lightly impressed; extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform; antennomeres 6–10 weakly widened apically, forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 6–11 with stellate sensoria. Mentum with median keel broad and raised anteriorly to a point (Fig. 13); ventral portion of eye reaching subgenal sulcus (Fig. 9); postgena without distinct punctures. Dorsal surface of pronotum densely punctate; punctures separated by 0.5–1.0 diameters. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin lacking marginal bead; anterior angles of pronotum acute, moderately produced and apically narrowly rounded; lateral edge of pronotum sinuate at base; pronotum evenly convex (Fig. 146). Hypomeron without distinct punctures. Prosternal process wide, flat, apically rounded; indistinct marginal grooves opposite coxae not joined apically (Fig. 147). Elytral striae not impressed, present as small discontinuous punctures; punctures separated by 0.5–1.0 diameters; appearing as a fine stria; elytral interstriae flat; densely punctate, punctures moderately impressed; scutellary striae 4–6 punctures long, nearly reaching the elytral suture; scutellum triangular, normal (Figs. 144, 146). Mesoventrite thin antero-posteriorly, shallowly excavate, widely U-shaped, receiving prosternal process; metaventrite subequal in antero-postero length of mesocoxa (Fig. 147). Metathoracic wing fully developed. Legs long, slender, punctate, apical portion of femur reaching beyond elytron; mesofemur with ventral medial patch of setae (Fig. 152); tibiae ventrally curved apically; meso- and metatibia with small ventral apical tooth (Fig. 51). Abdominal depressions on 4th and 5th ventrites present as weakly impressed pits (Fig. 75); intercoxal process of first ventrite apically

rounded; ventral surface densely punctate, punctures weakly impressed (Fig. 147).

Female. Identical to male, except tibiae straight and lacking meso- and metatibial tooth.

Biology. Unknown.

Distribution. This species in endemic to Hispaniola and is only known from the type locality at 610–1,220 m (2,000–4,000 ft) elevation in the northeast foothills of La Hotte in Haiti (Figs. 261, 262).

Etymology. The species epithet comes from the Latin word *dolōsus*, meaning sly, as this species is extremely similar to *N. darlingtoni*.

Nesocyrtosoma purpureum Hopp and Ivie, New Species
(Figs. 52, 148–152, 263, 283)

Type Material. HOLOTYPE: Male. DOMINICAN REP.: Prov.; Barahona, nr. Filipinas,; Larimar Mine: 20–26-VI-; 1992; R. E. Woodruff and; P. E. Skelley, at night. (FSCA). PARATYPES (18 specimens): 5 specimens with same label data as holotype. (4 FSCA, 2 WIBF). DOMINICAN REP: Prov.; Barahona, nr. Filipinas; Larimar Mine: 26-VI-7-; VII-1992: R. E. Woodruff,; P. E. Skelley; beating. (2 FSCA). DOMINICAN REP.: Prov.; Barahona, nr. Filipinas,; Mt. Tutu; 26-VI–7-VII-; 1992; P. E. Skelley; day catch, beating. (1 WIBF). DOMINICAN REP.: Prov.; Barahona, nr. Filipinas,; Larimar Mine: 26-VI-7-; VII-1992: Woodruff and; Skelley, day beating. (2 WIBF). DOMINICAN REP.: Prov.; Barahona, nr. Filipinas; Larimar Mine: 20–26-VI-; VII-1992: R. E. Woodruff,; P. E. Skelley; beating; misc. at night. (1 FSCA, 1 WIBF). DOMINICAN REP.: Prov.; Barahona, nr. Filipinas,; Larimar Mine: 26-VI-7-; VII-1992: Woodruff and; Skelley, night beating. (1 WIBF). DOMINICAN REPUBLIC:; Barahona Prov., El Cachote; 18°03.295′N, 71°09.778′W; 970 meters 14 July 2006; S. W. Lingafelter beating. (1 NMNH, 1 WIBF). DOMINICAN REPUBLIC:; Barahona. 5 km SE Polo,; slopes of Loma La Torre; 18-03N, 71-16W. 980 m./ 18 July 1992. Disturbed; forest with coffee.; C. Young, R. Davidson, S. Thompson, J. Rawlins. (2 CMNH).

Diagnosis. This species can be distinguished by the extremely purple elytra, bullet-shaped body form (Fig. 148), antennomeres 6–10 weakly widened apically, prosternal process broad, apically truncate and broadly rounded, mesoventrite shallowly excavate and broadly U-shaped (Fig. 151), and males with a medial setal patch on the ventral surface of the mesofemora (Fig. 152).

Description (male). 7.0–9.0 mm long, 4.0–5.5 mm wide. Body elongate, elytra convex, broadest at midpoint, tapered at apex; bullet shaped (Figs. 148, 149). Strongly shining purple; antennae, mouthparts, and tarsi ferrugineous. Head densely punctate, punctures smaller than a single eye facet, lightly impressed; extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform; antennomeres 6–10 weakly widened apically, forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 6–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12); ventral portion of eye reaching subgenal sulcus (Fig. 9); postgena without circular punctures. Dorsal surface of pronotum sparsely punctate; shagreened. Pronotal marginal bead complete laterally, anterior and posterior margin with marginal bead effaced medially; anterior angles of pronotum acute, moderately produced and narrowly rounded apically; lateral edge of pronotum sinuate at base; pronotum evenly convex (Fig. 150). Hypomeron without distinct punctures. Prosternal process broad, apically rounded; distinct marginal grooves

opposite coxae joined apically (Fig. 151). Elytral striae not impressed, present as small discontinuous elongate punctures; punctures separated by 0.5–1.0 diameters; appearing as a fine stria; elytral interstriae flat; densely punctate; shagreened; scutellary striae 4–6 punctures long, nearly reaching the elytral suture; scutellum triangular, normal (Figs. 148, 150). Mesoventrite thin antero-posteriorly, shallowly excavate, widely U-shaped, receiving prosternal process; metaventrite subequal in antero-postero length of mesocoxa (Fig. 151). Metathoracic wing fully developed. Legs long, slender, punctate, apical portion of femur reaching beyond elytron; mesofemur with ventral medial patch of setae (Fig. 152); tibiae ventrally apically curved; meso- and metatibia with ventral apical tooth, tooth large, broadly rounded (Fig. 52). Abdominal depressions on 4th and 5th ventrites present as moderately impressed pits (Fig. 75); intercoxal process of first ventrite apically rounded; ventral surface densely punctate, punctures weakly impressed (Fig. 151).

Female. Identical to male, except tibiae straight and meso- and metatibiae without ventral apical tooth.

Biology. This species has been taken beating by day and night.

Distribution. This species is endemic to Hispaniola. It has primarily been taken from the Larimar Mine in Barahona Province of the Dominican Republic. It has also been taken in El Cachote and Loma la Torre in Barahona Province (Figs. 260, 263).

Etymology. This species is named for its brilliantly shining purple elytra.

Nesocyrtosoma crenulatum Hopp and Ivie, New Species
(Figs. 14, 16, 53, 153–156, 263, 284)

Type Material. HOLOTYPE: DOM.REP: Independencia; ESE Jimaní.La Florida; 18°24′N, 71°44′W, 20m; moist site, 13APR1993; MAIvie,DSikes,Wlanier. (from WIBF, deposited NMNH). PARATYPES (17 specimens): 1 WIBF specimen with same label data as holotype. DOM.REP: Independencia; ESE Jimaní.La Florida; 18°24′N, 71°44′W, 20m; 14 APR 1993. M.A.Ivie; at night on trees. (7 WIBF). DOMINICAN REPUBLIC:; Independencia. Sierra; de Neiba just south; of crest, 5 km NNW; Angel Feliz, 1,780m./ 18-41N, 71-47W; 13–15 October 1991; J.Rawlins,R.Davidson; C. Young, S.Thompson; Cloud forest/ Carnegie Museum; Specimen Number; CMNH-348,926. (1 CMNH). DOMINICAN REPUBLIC:; La Altagracia Province; El Veron, road to Hoyo Azul; 18°33.805′N, 68°26.543′W; 25–40 meters 4 July 2005; N. E. Woodley. (1 NMNH). DOMINICAN REPUBLIC:; La Altagracia Prov., PN del; Este, Guaraguao- blacklight; 18°19.568′N, 68°48.500′W; 0–5 meters 19 July 2004; Steven W. Lingafelter. (1 WIBF). DOM.REP:Prov.Pedernales; Rio Mulito, Pedernales; 22AUG1987,L.F.Armas; under rocks 350 m/ humid forest. (2 WIBF). DOM.REP:Prov.Pedernales; 24 km N. Cabo Rojo, 610m; 21 AUG 1988,wet forest; at light and night beating; M.Ivie, Philips and Johnson. (1 WIBF). DOMINICAN REPUBLIC:; Pedernales Prov., PN Jaragua; 3 km S. of Los Tres Charcos; 99 m; 17°48.063′N, 71°26.809′W; 16-VI-2005, G. Nearns. (1 FSCA). R. DOMINICANA,; 5 KM N VILLA ELISA; MAY 10–18, 1985; E.GIESBERT, COLL. (1 FSCA). Paste Terre; Rouge 2,000 ft; X-5/ Haiti; 1934; Darlington. (1 MCZC).

Other Material Examined. Rep. Dominicana.; Prov. Pedernales,; Las Mercedes.; Bajo piedra; 5-II-02; Col. E. Gutierrez/ Tenebrionidae; Ident. OHG; *Crenalops*; *quisqueyanus*. (4 OHGC).

Diagnosis. This species can be distinguished from all other species by its large size and crenulate lateral edges of the pronotum (Fig. 155).

Description (male). 8.0–11.0 mm long, 4.5–6.5 mm wide. Body elongate, moderately convex (Figs. 153, 154). Purple to black; antennae, mouthparts, and tarsi darkly ferrugineous. Head densely punctate, punctures variable, largest punctures subequal to single eye facet, moderately impressed; extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform; antennomeres 6–10 weakly widened apically, forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 6–11 with stellate sensoria. Mentum with broad median keel raised anteriorly to a point (Fig. 13); ventral portion of eye reaching subgenal sulcus (Fig. 9); postgena with distinct punctures (Fig. 12). Dorsal surface of pronotum densely punctate; punctures separated by 0.5–1.0 diameters. Pronotal marginal bead complete laterally, anterior and posterior margins with marginal bead effaced medially; anterior angles of pronotum acute, moderately produced and apically narrowly rounded; lateral edge of pronotum crenulate, sinuate at base (Fig. 155). Hypomeron without distinct punctures; prosternal process broad, flat, apically rounded; distinct marginal grooves opposite coxae not joined apically (Fig. 156). Elytral striae weakly to moderately impressed, present as small, weakly impressed discontinuous punctures separated by 0.5–1.0 diameters with a weakly to deeply impressed stria through each puncture row; scutellary striae weakly to moderately impressed, 6–10 punctures long; scutellum triangular, normal (Figs. 153, 155). Mesoventrite thin antero-posteriorly, nearly flat medially, weakly raised laterally; small medial pit anterior to mesoventrite; widely U-shaped, receiving prosternal process; metaventrite subequal in antero-postero length of mesocoxa (Fig. 156). Metathoracic wing fully developed. Legs long, slender, punctate, apical portion of femur reaching beyond elytron; tibiae slightly apically curved ventrally; apical tooth on protibia reduced, apical tooth on meso- and metatibia large and obtusely rounded (Fig. 53). Abdominal depressions on 4th and 5th ventrites present as deeply impressed pits (Fig. 75); intercoxal process of first ventrite broadly rounded apically; ventral surface densely weakly punctate; ventrites I–III with lightly impressed longitudinal grooves (Fig. 156).

Female. Identical to male, except all tibiae straight and lacking ventral apical tooth.

Biology. This species has been taken at night on trees in dry tropical forest, in cloud forest, at blacklight, under rocks, and beating at night in moist tropical forest.

Distribution. This species is endemic to Hispaniola. A long series was taken at La Florida and a single specimen was taken in the Sierra de Neiba in Independencia Province. It has also been taken a few times in La Altagracia, Pedernales, and Villa Elisa Provinces (Figs. 260, 263). Finally, it was taken in Paste Terre Rouge at 610 m (2,000 ft) in Sud-Est, Haiti (Figs. 261, 263).

Etymology. This species epithet comes from the Latin word *crenatus* with the diminutive form *crenulatus*, referring to the crenulate lateral edges of the pronotum.

Nesocyrtosoma otus Hopp and Ivie, New Species
(Figs. 1, 13, 34, 36, 54, 75, 157–160, 263, 285)

Type Material. HOLOTYPE: Male. Mt.Diego de; Ocampo, Dom.Rep.; 3–4,000 ft., July'38; Darlington. (MCZC). PARATYPES (56 specimens): 19 specimens with same label data as holotype. (18 MCZC, 1 WIBF). Mt. Quita-;

Espuela, Dom.Rep.; July'38, 2–3,000 ft.; Darlington. (2 MCZC). NE foothills; La Hotte; 2–4,000ft.; Oct 10–24/ Haiti; 1934; Darlington. (8 MCZC, 1 WIBF). DOMINC.REP.:Prov.La Vega; Par. Nac.Almando Bermudez; CordilleraCent, LosTablones; 03SEP1988, 1,220m, beating; M.A.Ivie and K.A.Johnson. (1 WIBF). DOMIN.REP: Prov. La Vega; Par. Nac.Armando Bermudez; LaCienega-LosTablones; 1,100–1,245m. 09 APR 1992; dead log. M.A.Ivie. D.Sikes. (5 WIBF). DOMIN.REP: Prov. La Vega; LaCienega, Parque Nac.HQ; 19°04′N, 70°52′W, 1,100m; Rio Yaque N. 04APR1992; M.A.Ivie.D.Sikes.W.Lanier. (1 WIBF). DOMIN.REP: Prov La Vega; La Cienega, 1,100m; 19°04.04′N, 70°51.68′W; 29JULY1999, in rotten log; M.A.Ivie and K.A.Guerrero. (3 WIBF). REPUBLICA DOMINICANA: La; Vega, La Cienaga, P.N.; Armando Burmúdez, noche; (19°4′22″N, 70°51′849″W),; 1,183 m, 19 viii 2006, coll. D.; Perez, R. Bastardo, B. Hierro. (4 UASD). DOMINC.REP.:Prov.La Vega; Par. Nac.Almando Bermudez; CordilleraCent,LosTablone; 03SEP1988, 1,220m, beating; M.A.Ivie and K.A.Johnson. (1 WIBF). REPUBLICA DOMINICANA; Prov. La Vega, La Sal, Reserva; Cientificia Ébano Verde, 2/3.vii.; 1992, S. Navarro, 251. (1 UASD). DOMINICAN REPUBLIC:Pr.; La Vega, 10km.W.Jima; 20-VII-1996; Coll. M.C. Thomas. (1 FSCA). DOMINCAN REPUBLIC:; La Vega Prov., PN Armado; Bermudez, km 1–3 along trail; W of La Cienaga 900–1,100 m; 19°01.753′N, 70°54.654′W; beating - 22 June 2005; Steven Lingafelter. (1 WIBF). DOM.REP; LaVega Prov.; PN.A.Bermudez, Cienaga; 19.VII-2.VIII.95, 1,020m; trop.evgrn.for., FIT; S.+J. Peck, 95-34/ *Nesocyrtosoma*; det. M. A. Ivie 2004. (1 CMNC). DOM.REP., LaVega,; 22km.S.Constanza; IX-3-1997; C.W. O'Brien/PARATYPUS; *Cyrtosoma*; (*Pachycyrtosoma*); *merkli* Marcuzzi, 1999 (on yellow paper). (1 HNHM). DOMINICAN REPUBLIC:; Pico Duarte Trail - 3,300 ft.; Los Tablones - day coll.; 19°08.222′N, 70°27.736′W; 29 June 2004 S. Lingafelter. (1 CMNH, 4 NMNH, 1 WIBF).

Notes. A single specimen of this species collected by Charles O'Brien was designated a *Cyrtosoma (Pachycyrtosoma) merkli* paratype by Marcuzzi in 1999 (now *Nesocyrtosoma merkli* [Marcuzzi]). However, after examination of this specimen, it has been determined that this specimen is not *N. merkli*, but rather *N. otus*, and is included as a paratype of *N. otus*.

Diagnosis. This species can be easily distinguished by its large size, the anterior angles of the pronotum acute, extremely produced, and weakly concave (Fig. 159), the prosternal process flat and widely rounded, the mesoventrite nearly flat (Fig. 160), meso- and metatibia club-like at apex (Fig. 54), and abdominal depressions on 4th and 5th ventrites present as deeply impressed pits (Fig. 75).

Description (male). 8.5–12.0 mm long, 4.5–6.5 mm wide. Body elongate, moderately convex (Figs. 157, 158). Purple to black; antennae, mouthparts, and tarsi ferrugineous. Head densely punctate, punctures smaller than a single eye facet and lightly impressed; extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform; antennomeres 6–10 weakly widened apically, forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 6–11 with stellate sensoria. Mentum with broad median keel raised anteriorly to a point; area laterad keel weakly concave (Fig. 13); ventral portion of eye reaching subgenal sulcus (Fig. 9); postgena without distinct punctures. Dorsal surface of pronotum densely punctate; punctures separated by $<$0.5–0.5 diameters. Pronotal marginal bead complete laterally, anterior and posterior margins with marginal bead effaced medially;

anterior angles of pronotum acute, strongly produced and apically narrowly rounded; area around anterior and posterior angles weakly concave; lateral edge of pronotum sinuate at base (Fig. 159). Hypomeron without distinct punctures. Prosternal process broad, flat, apically rounded; distinct marginal grooves opposite coxae not joined apically (Fig. 160). Elytral striae not impressed, present as small discontinuous punctures; punctures separated by 0.5–1.0 diameters; appearing as a fine stria; elytral interstriae flat; densely punctate; scutellary striae weakly impressed, 4–6 punctures long; scutellum triangular, normal (Figs. 157, 159). Mesoventrite thin antero-posteriorly, nearly flat medially, weakly raised laterally, widely U-shaped, receiving prosternal process; metaventrite subequal in antero-postero length of mesocoxa (Fig. 160). Metathoracic wing fully developed. Legs long, slender, punctate, apical portion of femur reaching beyond elytron; tibiae apically curved ventrally; meso- and metatibia with ventral apical tooth very broad causing the meso- and metatibia to appear club-like, (Fig. 54). Abdominal depressions on 4th and 5th ventrites present as deeply impressed pits (Fig. 75); intercoxal process of first ventrite broadly apically rounded; ventral surface densely punctate; punctures weakly impressed; ventrites I–III with lightly impressed longitudinal grooves (Fig. 160).

Female. Identical to male, except with meso- and metatibiae straight.

Biology. This species has been taken during the day and at night. It has been collected in high elevation pine forest beating dead branches, on dead logs, in rotten logs in moist forest, and beating vegetation at night. It has also been taken in a flight intercept trap and at blacklight.

Distribution. This species is endemic to Hispaniola. It has been taken on Mt. Diego de Ocampo at 915–1,220 m (3,000–4,000 ft) elevation on Santiago Province, Mt. Quita at 610–915 m (2,000–3,000 ft) elevation in Duarte Province, Los Tablones in Parque Nacional Armando Bermudez, La Cienaga and south of Constanza in La Vega Province, and Los Tablones on Pico Duarte Trail in Ázua Province, all of the Dominican Republic (Figs. 260, 263). This species has also been taken in the northeast foothills of La Hotte at 610–1,220 m (2,000–4,000 ft) elevation in du Sud Department, Haiti (Figs. 261, 263).

Etymology. The species epithet, used as a noun in apposition, is from the Latin word *otus*, which is derived from the Greek word, ὠτός, meaning the eared or horned owl. This species has a pronotum that resembles the head of an owl, having the anterior angles acute and extremely produced, much like the ears of an owl.

Nesocyrtosoma darlingtoni Hopp and Ivie, New Species
(Figs. 9, 55, 161–164, 262, 286)

Type Material. HOLOTYPE: Male. NE foothills; La Hotte; 2–4,000ft.; Oct 10–24/ Haiti; 1934; Darlington. (MCZC). PARATYPES (16 specimens): 11 specimens with same label data as holotype. (9 MCZC, 2 WIBF). Desbarriere; Mt. La Hotte; nr 4,000 ft.; Oct 12–14/ Haiti; 1934; Darlington. (3 MCZC). Tardieu; Mt. LaHotte; 3,000 ft./ Haiti; 1934-x-14; Darlington. (2 MCZC).

Diagnosis. This species can be distinguished by the combination of antennomeres 7–10 weakly widened apically, the apically rounded prosternal process (Fig. 164), circular punctures on the hypomeron (Fig. 27), impunctate interstriae (Fig. 161), and males with small ventral apical tooth on metatibia. It closely resembles *N. dolosum*, but can be distinguished from that species by the prosternal process declivous behind (Fig. 164), antennomeres 7–10 weakly widened apically, and males lacking a ventral setal patch. It also closely

resembles *N. mutabile*, but can be distinguished from that species by the more slender body (Fig. 161), deeply excavate mesoventrite (Fig. 164), and the elongate pronotum with more acute, produced, and narrowly rounded anterior angles (Fig. 163). Finally, it is also similar to *N. altagracia*, but can be distinguished from that species by the deeply excavate mesoventrite (Fig. 164).

Description (male). 7.5–8.5 mm long, 4.0–4.5 mm wide. Body elongate, slightly convex (Figs. 161, 162). Glossy dark ferrugineous to purple; antennae, mouthparts, and tarsi tending to be the same color as the legs. Head densely punctate, largest punctures subequal in size to single eye facet and moderately impressed; extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform; antennomeres 7–10 weakly widened apically, forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12); ventral portion of eye reaching subgenal sulcus (Fig. 9); postgena with distinct punctures (Fig. 12). Dorsal surface of pronotum densely punctate; punctures separated by 0.5–1.0 diameters. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin lacking marginal bead; anterior angles of pronotum acute, produced and apically narrowly rounded; lateral edge of pronotum sinuate at base; pronotum evenly convex (Fig. 163). Hypomeron with distinct punctures (Fig. 27). Prosternal process apically rounded, declivous behind; indistinct marginal grooves opposite coxae not joined apically (Fig. 164). Elytral striae not impressed, present as small discontinuous punctures; punctures separated by 0.5–1.0 diameters, appearing as a fine striae; elytral interstriae flat; densely punctate, punctures weakly impressed; scutellary striae 4–6 punctures long, nearly reaching the elytral suture; scutellum triangular, normal (Figs. 161, 163). Mesoventrite thin antero-posteriorly, deeply excavate, V-shaped, receiving prosternal process; metaventrite subequal in antero-postero length of mesocoxa (Fig. 164). Metathoracic wing fully developed. Legs long, slender, punctate, apical portion of femora reaching beyond elytron; meso- and metatibia with small ventral apical tooth (Fig. 55). Abdominal depressions on 4th and 5th ventrites present as weakly impressed pits (Fig. 75); intercoxal process of first ventrite apically triangular; ventral surface densely punctate, punctures weakly impressed (Fig. 164).

Female. Identical to male, except tibiae straight and lacking meso- and metatibial tooth.

Biology. Unknown.

Distribution. This species is endemic to Hispaniola. It has primarily been collected at 610–1,220 m (2,000–4,000 ft) elevation in the northeast foothills of La Hotte, as well as at 1,220 m (4,000 ft) in Desbarriere and 915 m (3,000 ft) in Tardieu, also part of the Tiburon Peninsula of Haiti (Figs. 261, 262).

Etymology. This species is named for Philip J. Darlington, the collector of this species and many others on Hispaniola.

Nesocyrtosoma mutabile Hopp and Ivie, New Species
(Figs. 56, 165–168, 266, 287)

Type Material. HOLOTYPE: Male. DOMINICAN REPUBLIC; Pedernales Prov., PN Sierra; de Baoruco, Las Abejas; 18°09.011′N, 71°37.342′W; 1,150 meters 11 July 2004; blacklight/ S. W. Lingafelter. (NMNH). PARATYPES (30 specimens): 2 specimens with same data as holotype. (1 NMNH, 1 WIBF). DOM. REP: Prov. Pedernales; 26 km N.Cabo Rojo, 915m; 09 SEP 1988,

wet forest; at light and night beating; M. Ivie, Philips and Johnson. (3 WIBF). DOM. REP.: Prov. Pedernales; *ca.* 35 km N CaboRojo; Las Abejas, 1,250m; 26 AUG 1988, mixed forest; M. Ivie, Philips and Johnson. (2 WIBF). DOMINICAN REPUBLIC:; Pedernales. La Abeja,; 38 km NNW Cabo Rojo,; (18-09′N, 71-38W).; 1,250 m. 15 July 1987; J. Rawlins, R. Davidson. (3 CMNH, 1 WIBF — with Carnegie Museum Specimen Numbers: CMNH-349,424, CMNH-349,513, CMNH-349,692, CMNH-377,372). DOMINICAN REPUBLIC:; Pedernales Prov., PN Sierra; de Baoruco, La Abejas, 1,150 m.; 18°09.011′N, 71°37.342′W; 18-VI-2005, Gino Nearns. (2 FSCA). DOMINICAN REPUBLIC:; Pedernales. 26 km; N Cabo Rojo.; 18-06N, 71-38W, 730m/ 19–25 July 1990; L. Masner, J. Rawlins; C. Young. Wet deciduous; forest; intercept trap. (1 CMNH). Las Abejas; Pedernales; 19-V-92; guerrero.eelmonte. (1 WIBF). DOMINICAN REP.: Prov.; Barahona, nr. Filipinas; Larimar Mine; 20–26-VI-; 1992; R. E. Woodruff and; P. E. Skelley; at light. (1 FSCA, 1 WIBF). DOMINICAN REP.: Prov.; Barahona, nr. Filipinas; Larimar Mine; 20–26-VI-; 1992; R. E. Woodruff and; P. E. Skelley; at night. (1FSCA, 1 UASD, 1 WIBF). DOMINICAN REP: Prov.; Barahona, nr. Filipinas; Larimar Mine: 20–26-VI-; VII-1992: R. E. Woodruff,; P. E. Skelley; beating; misc. at night. (1 FSCA). DOMINICAN REP.: Prov.; Barahona, nr. Filipinas,; Larimar Mine: 26-VI-7-; VII-1992: R. E. Woodruff,; P. E. Skelley; day catch. (1 FSCA). DOMINICAN REP.: Prov.; Barahona, nr. Filipinas; Larimar Mine: 26-VI-7-; VII-1992: R. E. Woodruff,; P. E. Skelley; at light. (1 FSCA). DOMINICAN REPUBLIC; Barahona Prov., Paraiso; Rio Nazaito. Blacklighting/; Log picking 18°00′N, 71°06′W; 7 July 2004 S. Lingafelter. (1 NMNH, 1 WIBF). DOMINICAN REPUBLIC:; Barahona. 5 km SE Polo,; slopes of Loma La Torre; 18-03N, 71-16W. 980 m./ 18 July 1992. Disturbed; forest with coffee.; C. Young, R. Davidson,; S. Thompson, J. Rawlins. (2 CMNH, 1 WIBF). DOM. REP: Prov. Barahona; 18km Cabral, Polo Rd.; 1.5 km SE Montear Nuevo; 18°06.452′N, 71°14.717′W; 26JULY1999, 1,020m/ M. A. Ivie and; K. A. Guerrero. (1 WIBF).

Other Material Examined. DOM.REP.:Prov.Pedernales; *ca.* 35 km N CaboRojo; Lab Abejas, 1,250m; 26 AUG 1988, mixed forest; M. Ivie, Philips and Johnson. (2 WIBF — disarticulated). DOM.REP.:Prov.Pedernales; 24km N. Cabo Rojo, 610m; 20-AUG-09SEP1988, wet forest; flight intercept trap; M. Ivie, Philips and Johnson. (1 WIBF — disarticulated).

Diagnosis. This species can be distinguished by the combination of the more elongate and broad body shape (Fig. 165), more transverse pronotum with less acutely rounded anterior angles (Fig. 167), antennomeres 7–10 weakly widened apically, and males with an obvious meso- and metatibial tooth (Fig. 56). This species closely resembles *N. darlingtoni*, but can be distinguished from that species by the broader body (Fig. 165), shallowly excavate mesoventrite (Fig. 168), and the pronotum with more widely rounded, less produced anterior angles (Fig. 167). It is also similar to *N. altagracia*, but can be distinguished from that by the more transverse pronotum with the anterior angles more obtuse, less produced, and more widely rounded (Fig. 167)

Description (male). 8.5–10.5 mm long, 4.5–6.0 mm wide. Body elongate, moderately convex, broad, tapering weakly at apex (Figs. 165, 166). Purple to black; antennae, mouthparts, and tarsi tending to be the same color as the legs. Head densely punctate, punctures variable, largest punctures subequal to a single eye facet, lightly to moderately impressed; extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform; antennomeres 7–10 weakly widened apically, forming a loose, elongate club; apical antennomere

longitudinally ovate; antennomeres 7–11 with stellate sensoria. Mentum with broad median keel raised anteriorly to a point (Fig. 13); ventral portion of eye reaching subgenal sulcus (Fig. 9); postgena without circular punctures. Dorsal surface of pronotum scarcely punctate; shagreened. Pronotal marginal bead complete laterally, anterior and posterior margin with marginal bead effaced medially; anterior angles of pronotum right, moderately produced and apically narrowly rounded; lateral edge of pronotum sinuate at base; pronotum evenly convex (Fig. 167). Hypomeron with distinct punctures. Prosternal process apically rounded; indistinct marginal grooves opposite coxae not joined apically (Fig. 168). Elytral striae not impressed, present as small discontinuous elongate punctures; punctures separated by 0.5–1.0 diameters; elytral interstriae flat; scarcely punctate; shagreened; scutellary striae long; 4–6 punctures long, nearly reaching the elytral suture; scutellum triangular, normal (Figs. 165, 167). Mesoventrite thin antero-posteriorly, shallowly excavate, widely U-shaped, receiving prosternal process; metaventrite subequal in antero-postero length of mesocoxa (Fig. 168). Metathoracic wing fully developed. Legs long, slender, punctate, apical portion of femur reaching beyond elytron; tibiae ventrally apically weakly curved; meso- and metatibia with small, but obvious ventral apical tooth (Fig. 56). Abdominal depressions on 4th and 5th ventrites present as weakly impressed pits (Fig. 75); intercoxal process of first ventrite apically rounded; ventral surface densely punctate, punctures weakly impressed (Fig. 168).

Female. Identical to male, except tibiae straight and meso- and metatibiae lacking ventral apical tooth.

Notes. The specimens of this species vary in size by the locality in which they are found. The specimens collected in Pedernales are larger than those collected in Barahona.

Biology. This species has been taken at light, at night, during the day, by beating dead branches, on logs at night, and under bark in mixed Magnoliaceae forests.

Distribution. This species is endemic to Hispaniola and is quite widespread in Barahona and Pedernales Provinces of the Dominican Republic (Figs. 260, 266).

Etymology. The species epithet comes from the Latin word *mutabilis*, meaning changeable, variable or inconstant, referring to the idea that this species is variable in size depending on where it is found.

Nesocyrtosoma larseni Hopp and Ivie, New Species
(Figs. 57, 169–172, 267, 288)

Type Material. HOLOTYPE: Male. DOM. REP.: Prov.; Barahona, nr. Filipinas,; Larimar Mine: 26-VI-7-; VII-1992: Woodruff and Skelley, at light. (FSCA). PARATYPES (12 specimens): 3 specimens with the same label data as holotype (1 FSCA, 2 WIBF). DOMINICAN. REP.: Prov.; Barahona, nr. Filipinas; Larimar Mine; 20–26-VI-;1992; R. E. Woodruff and; P. E. Skelley, at night. (1 FSCA). DOM. REP.: Prov. Pedernales; 14km N Cabo Rojo, 150m; 19AUG1988, thorn scrub-; trop.dry forest, M. A. Ivie; K. Philips and K. A. Johnson. (3 WIBF). DOMINICAN REPUBLIC; Pedernales Prov., 25 km N; of Cabo Rojo 10 July 2004; 18°06.769′N, 71°37.245′W; 679 meters- Day Collecting; Steven W. Lingafelter. (1 NMNH). DOM. REP.: Prov. La Altagracia; P.N.del Este, Boca de Yuma; entrance, 05 AUG 1999; 18°21.904′N, 68°37.087′W; M. A. Ivie, beating at night. (1 WIBF). Cayamas; 12. 2 Cuba/ E. A. Schwarz; Collector. (1 NMNH). CUBA: Cardenas, Gundlach 703. (1 IESC). Cayamas; 6. 1 Cuba/ E.

A. Schwarz; Collector. (1 NMNH). 1178/ Cuba; Poey Coll./ Tenebrionites. (1 ANSP).

Diagnosis. This species is similar to *N. teresitae*, but can be distinguished from that species and all other species by the dorsal surface of the pronotum having the antero-lateral surface raised and with large, deeply impressed punctures (Fig. 171), distinct punctures on the hypomeron (Fig. 27), elytral strial punctures evenly spaced and impressed throughout (Fig. 169), antennomeres 7–10 enlarged, and absence of a ventral ocular depression.

Description (male). 5.0–6.5 mm long, 3.0–3.5 mm wide. Body elongate, slightly convex (Figs. 169, 170). Shining black; antennae, mouthparts, and tarsi ferrugineous. Head moderately punctate dorsally; largest punctures subequal to a single eye facet, moderately impressed; extremely short golden seta emerging from each puncture. Antenna clavate; antennomeres 7–10 transverse, forming a loose, elongate club; apical antennomere subcircular; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12); ventral portion of eye reaching subgenal sulcus (Fig. 9); postgena without distinct punctures. Dorsal surface of pronotum densely punctate; punctures separated by 0.5–1.5 diameters; punctures range in size from smaller to larger than a single eye facet. Pronotal marginal bead complete laterally, anterior and posterior margins with marginal bead effaced medially; anterior angles of pronotum acute, moderately produced and apically narrowly rounded; lateral edge of pronotum sinuate at base; pronotum with anterolateral surface raised (Fig. 171). Hypomeron with distinct punctures (Fig. 27). Prosternal process apically rounded with distinct marginal grooves opposite coxae not joined apically (Fig. 172). Elytral striae not impressed, present as rows of medium, elongate punctures separated by 0.5–1.0× diameter; punctures becoming more elongate towards lateral and apical portion of elytron; elytral interstriae weakly convex, densely punctate; scutellary striae 4–6 punctures long; scutellum triangular, normal (Figs. 169, 171). Mesoventrite thin antero-posteriorly, V-shaped, receiving prosternal process; metaventrite subequal to antero-postero length of mesocoxa (Fig. 172). Metathoracic wing fully developed. Legs short, punctate; femora reaching beyond edge of elytron; tibia straight; metatibia with apical ventral tooth vestigial (Fig. 57). Abdominal depressions on 4th and 5th ventrites present as moderately impressed pits (Fig. 75); intercoxal process of first ventrite broadly triangular apically; ventral surface densely punctate; punctures weakly impressed (Fig. 172).

Female. Identical to male, except metatibia lacking ventral apical tooth.

Biology. This species has been collected at light, beating at night, in tropical dry forest thorn scrub, and during the day by beating. This species likely flies as it has been collected at light and has flight wings.

Distribution. This species is found on Cuba and Hispaniola and is the only species of *Nesocyrtosoma* to occur on two islands. In Cuba, it has only been collected in Cayamas in Cienfuegos Province (Figs. 258, 267). It has been taken in three different provinces of the Dominican Republic; Barahona Province (at the Larimar Mine), Pedernales Province (between 14 and 25 km north of Cabo Rojo), and La Altagracia Province (Parque Nacional del Este Boca de Yuma) (Figs. 260, 267).

Etymology. This species is named for Kirk J. Larsen, KJH's undergraduate advisor at Luther College, in acknowledgement for sparking and facilitating KJH's interest in entomology and for his continued encouragement and support.

Nesocyrtosoma parallelum (Zayas)
(Figs. 58, 173–176, 264, 289)

Cnodalon parallelus Zayas 1988: 96, Fig. 85.
Nesocyrtosoma parallelus; Doyen 1994: 48.
Cyrtosoma (*Nesocyrtosoma*) *parallelus*; Garrido and Gutiérrez 1996: 281–283.
Cyrtosoma parallelus; Marcuzzi 1998: 160; Peck 2005: 156.
Cnodalon ruficorne Gundlach [*nomen nudum*, in Gundlach collection].

Type Material Examined. LECTOTYPE here designated: Col. F. de Zayas; Cuchillas de Toa; Cupeyal 6 1964; Oriente. CUBA/ red circle label says Tipo/ *C. paralle;lus*. sp. n/ LECTOTYPE; *Cnodalon*; *parallelus* Zayas; det. K. J. Hopp 2008. (FZCM). PARALECTOTYPES here designated: 5 specimens in FZCM labeled: Col. F. de Zayas; Chuchillas de Toa; Cupeyal 6 1964; Oriente. CUBA/ PARALECTOTYPE; *Cnodalon*; *parallelus* Zayas; det. K. J. Hopp 2008.

Zayas Collection Notes. Zayas (1988) described this species from six examples from Cupeyal in his collection. However, in January 2008, there were nine specimens in the collection, all from Cupeyal. The specimen marked with a red Tipo label is here designated as the lectotype and the first five of the remaining eight specimens are here designated as paralectotypes.

Other Material Examined. Sierra del Rangel; VI- 1930; Pinar del Rio. CUBA/ CYRTOSOMA; sp.; det. O.H.G. (1 IESC). Cayamas; 24. 2 Cuba/ E. A. Schwarz; Collector. (1 WIBF). Cayamas; 16. 3 Cuba/ E. A. Schwarz; Collector. (1 NMNH, 1 WIBF). Cayamas; 15. 3 Cuba/ E. A. Schwarz; Collector. (1 WIBF). Cayamas; 13. 2 Cuba/ E. A. Schwarz; Collector. (1 NMNH). Cayamas; 10. 6 Cuba/ E. A. Schwarz; Collector. (1 NMNH). Cayamas; 23. 5 Cuba/ E. A. Schwarz; Collector. (1 NMNH). Sierra del Rangel; VI- 1930; Pinar del Rio. CUBA. (1 IESC). Pico CUBA; Turquino; VI-1964; Zayas-Garcia. (1 OHGC). Gundlach 1658 (1 IESC).

Diagnosis. This species can be distinguished by the sharp anterior angles of the pronotum (Fig. 175), long scutellary striae nearly meeting the median suture of the elytra (Fig. 175), and the prosternal process rounded to a point, with distinct marginal grooves opposite coxae joined apically and the area between the marginal grooves concave, becoming convex at apex (Fig. 176).

Redescription (modified from Zayas 1988) (male). 6.5–7.0 mm long, 4.0–4.5 mm wide. Body elongate, slightly convex (Figs. 173, 174). Purple to black; antennae, mouthparts and tarsi tending to be the same color as the legs. Head densely punctate, largest punctures subequal in size to single eye facet and moderately impressed; extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform; antennomeres 7–10 weakly widened apically, forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12); ventral portion of eye reaching subgenal sulcus (Fig. 9); postgena with circular punctures (Fig. 12). Dorsal surface of pronotum densely punctate; punctures separated by 0.5–1.5 diameters. Pronotal marginal bead complete laterally, anterior and posterior margins with marginal bead effaced medially; anterior angles of pronotum acute, moderately produced and apically narrowly rounded; lateral edge of pronotum sinuate at base; pronotum evenly convex (Fig. 175). Hypomeron with distinct punctures (Fig. 27). Prosternal process apically rounded to a point; distinct marginal grooves opposite coxae joined apically, area between marginal grooves concave between coxae, becoming convex at apex (Fig. 176). Elytral striae not impressed, present as small discontinuous punctures; punctures separated by 0.5–1.0 diameters;

appearing as a fine stria; elytral interstriae flat; densely punctate; scutellary striae 4–10 punctures long, nearly reaching the elytral suture; scutellum triangular, normal (Figs. 173, 175). Mesoventrite thin antero-posteriorly, deeply excavate, U-shaped, receiving prosternal process; metaventrite subequal in antero-postero length of mesocoxa (Fig. 176). Metathoracic wing fully developed. Legs short, punctate, apical 1/4 of femur reaching beyond elytron; tibiae slightly apically curved ventrally; metatibia with apical ventral tooth vestigial (Fig. 58). Abdominal depressions on 4th and 5th ventrites present reduced to slightly impressed slits (Fig. 74); intercoxal process of first ventrite broadly triangular apically; ventral surface densely punctate; punctures moderately impressed (Fig. 176).

Female. Identical to male, except tibiae straight and metatibia lacking ventral apical tooth.

Biology. Unknown.

Distribution. This species is endemic to Cuba and has only been collected at Cayamas in Villa Clara Province (Figs. 258, 264).

Nesocyrtosoma cristalense (Zayas)

(Figs. 59, 177–180, 262, 290)

Cnodalon cristalensis Zayas 1988: 99–100, Fig. 88.
Nesocyrtosoma cristalensis; Doyen and Poinar 1994: 48.
Cyrtosoma (*Nesocyrtosoma*) *cristalensis*; Garrido and Gutiérrez 1996: 281.
Cyrtosoma (*Nesocyrtosoma*) *critalensis*; Garrido and Gutiérrez 1996: 282 [*lapsus calami*].
Cyrtosoma cristalensis; Marcuzzi 1998: 160; Peck 2005: 156.

Type Material Examined. HOLOTYPE: Col. F. de Zayas; Sierra Cristal; 6-1959; Oriente. CUBA/ red circle label Tipo/ *C. cristalen-;sis*.; Zayas. (FZCM).

Other Material Examined. S. del Cristal; Ote. 5/36 Zayas. (1 FSMC). Col. F. de Zayas; Gran Piedra; Jun 1962; Oriente. CUBA. (1 FZMC). Piloto, Moa,; Ote. VI-7-51. (1 FZMC). S. del Cristal; Ote. 5/55 Zayas. (1 NMNH). Sierra del; Cristal - Ote; 5/1955; Zayas/ Tenebrionidae; Ident. OHG 556; *Cyrtosoma cristalensis*; Zayas, 1988. (1 OHGC).

Diagnosis. This species is most similar to *N. elongatum*, but can be distinguished from that species and all others by the elongate, less convex body form (Figs. 177, 178), anterior angles of the pronotum obtuse and broadly rounded (Fig. 179), the humeral angle effaced (Fig. 177), prosternal process curved to apex (Fig. 180), and purple coloration.

Redescription (modified from Zayas 1988) (male). 7.5–9.0 mm long, 5.0 mm wide. Body elongate, slightly convex (Figs. 177, 178). With purple tinge; antennae, mouthparts, and tarsi tending to be the same color as legs. Head moderately punctate, largest punctures subequal in size to a single eye facet, moderately impressed, extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform; antennomeres 7–10 weakly widened apically, forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12); ventral portion of eye reaching subgenal sulcus (Fig. 9); postgena without distinct punctures. Dorsal surface of pronotum moderately punctate; punctures separated by 1.0–2.0 diameters. Pronotal marginal bead complete laterally, anterior and posterior margins with marginal bead effaced medially; anterior angles of pronotum obtuse, moderately produced and widely rounded apically; lateral edge of pronotum strongly sinuate at base;

pronotum evenly convex (Fig. 179). Hypomeron with distinct punctures (Fig. 27). Prosternal process apically rounded, distinct longitudinal marginal grooves opposite coxae joined apically (Fig. 180). Elytral striae not impressed, present as small discontinuous punctures; elytral interstriae densely punctate; scutellary striae 4–10 punctures long; scutellum triangular, normal (Figs. 177, 179). Humeral angle effaced (Fig. 177). Mesoventrite thin antero-posteriorly, deeply excavate, V-shaped receiving prosternal process; metaventrite subequal to antero-postero length of mesocoxa (Fig. 180). Metathoracic wing fully developed. Legs long, slender, densely and lightly punctate; apical 1/3 of femur reaching beyond edge of elytron; metatibia with apical ventral tooth vestigial (Fig. 59). Abdominal depressions on 4th and 5th ventrites present as weakly impressed pits (Fig. 75); intercoxal process of first ventrite broadly triangular apically; ventral surface densely punctate, punctures weakly impressed (Fig. 180).

Female. Identical to male, except metatibia without ventral apical tooth.

Biology. Unknown.

Distribution. This species is endemic to Cuba and has only been taken in the Sierra de Cristal in Guantánamo Province (Figs. 258, 262).

Nesocyrtosoma cuprosum (Zayas), New Combination
(Figs. 60, 77–78, 83, 181–184, 267, 291)

Cnodalon cuproso Zayas 1988: 98–99, Fig. 87.
Cyrtosoma (*Nesocyrtosoma*) *cuprosa*; Garrido and Gutiérrez 1996: 281–283.
Cyrtosoma cuprosa; Peck 2005: 156.
Cyrtosoma cuproso; Marcuzzi 1998: 160.

Type Material Examined. HOLOTYPE: Col. F. de Zayas; Loma del Gato; 7-1860; Oriente. CUBA/ red circle label Tipo/ *C. cuprosus*; sp.n; Zayas. (FZCM).

Other Material Examined. Col. F. de Zayas; Sierra Maestra; Turquino 6 1963; Oriente. CUBA. (2 FZCM). Col. F. de Zayas; Sierra Maestra; Turquino 6 1964; Oriente. CUBA (1 FZCM). Col. F. de Zayas; Sierra Maestra; 6-1967; Oriente. CUBA/ Siberia. (1 FZCM). Loma del Gato; Cobre Range, O; July 3–7, 1936; about 3,000 ft./ Cuba 1936; Darlington; Collector. (9 MCZC, 2 WIBF). Mts. N. of Imias; eastern Oriente; July 25–28, 1936; 3,000–4,000 ft./ Cuba 1936; Darlington; Collector. (1 MCZC). Pico Turquino; S. side; June 1936; 3,000–5,000 ft./ Cuba 1936; Darlington; Collector. (1 MCZC). Pico Turquino; S. side; 1,500 ft.; June 25 1936/ Cuba 1936; Darlington; Collector. (1 MCZC). Loma del Gato Ot; Junio 17/20 1952; Zayas Alayo Coll. (1 MCZC). 1460 [in Gundlach record book: *Cnodalon*? Yateras, Brazo de Cauto.]. (2 Gundlach Collection, IESC). La Punta- 5 km E; de la Mula - S.; Maestra 9-80; L. de Armas; L. R. Hern./ Tenebrionidae; Ident. OHG 549; *Cyrtosoma cuproso*; Zayas, 1988. (1 OHGC). Turquino; 26 ril - 1967; I. GARCIA y R. G. Broche/ Tenebrionidae; Ident. OHG 293; *Cyrtosoma cuproso*; Zayas, 1988. (1 OHGC). Cardero, Pico; Turquino, Ote.; 7-1966; I. Garcia. (3 OHGC — OHG 288, OHG 290, OHG 552). Cardero.; P. Turquino; X-1966; I. Garcia. (3 OHGC — OHG 289, OHG 550, OHG 551). Pico Turquino; Ote. VII- 1970/ Tenebrionidae; Ident. OHG 529; *Cyrtosoma cuproso*; Zayas, 1988. (1 OHGC). Pico Turquino; S. Maestra; VII-1970/ Tenebrionidae; Ident. OHG 553; *Cyrtosoma cuproso*; Zayas, 1988. (1 OHGC). CUBA, Parque Nacional; La Bayamesa, Ladera S.; Sierra Maestra; Barrio Nuevo; ii. 2004. Colls. JA Genaro. (1 OHGC). Ascenso al Pico LA; BAYAMESA (Parque NAC); POR LA FALDA SUR/ TENEBRIONIDAE; *CYRTOSOMA*. (1 OHGC). Pico Turquino; Oriente; V-1969; N. Novoa/

Tenebrionidae; Ident. OHG 292; *Cyrtosoma cuproso*; Zayas, 1988. (1 OHGC). Cardero, tur-;quino, Ote.; X -1966,; Gl. I. Garcia. (26 IESC).

Diagnosis. This species can be distinguished by its large size, broad, elongate body form (Fig. 181), prosternal process narrowly rounded apically, males with distinct metatibial ventral apical tooth, intercoxal process of first ventrite broadly rounded at base (Fig. 184), and bronze shining surface. The smaller specimens of this species resemble *N. elongatum*, but can be distinguished from that by the prosternal process narrowly rounded apically (Fig. 184), and the male metatibia with a distinct ventral apical tooth (Fig. 60).

Redescription (modified from Zayas 1988) (male). 7.0–10.0 mm long, 4.5–5.5 mm wide. Body elongate, slightly convex (Figs. 181, 182). Shining metallic bronze; antennae, mouthparts, and tarsi tending to be the same color as legs. Head densely punctate, largest punctures subequal to a single eye facet, moderately impressed; extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform; antennomeres 7–10 weakly widened apically, forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12); ventral portion of eye reaching subgenal sulcus (Fig. 9); postgena without distinct punctures. Dorsal surface of pronotum densely punctate; punctures separated by 1.0–1.5 diameters. Pronotal marginal bead complete laterally, anterior and posterior margins with marginal bead effaced medially; anterior angles of pronotum obtuse, moderately produced and widely rounded apically; lateral edge of pronotum sinuate at base; pronotum evenly convex (Fig. 183). Hypomeron with distinct punctures (Fig. 27). Prosternal process apically rounded narrowly with distinct marginal grooves opposite coxae not joined apically (Fig. 184). Elytral striae present as moderately impressed, small, discontinuous punctures; elytral interstriae densely punctate; scutellary striae 4–10 punctures long; scutellum triangular, normal (Figs. 181, 183). Mesoventrite thin antero-posteriorly, deeply excavate, V-shaped receiving prosternal process; metaventrite subequal in antero-postero length of mesocoxa (Fig. 184). Metathoracic wing fully developed. Legs short, slender, punctate; apical 1/4 of femur reaching beyond edge of elytron; tibiae slightly apically curved ventrally; metatibia with small ventral apical tooth (Fig. 60). Abdominal depressions on 4th and 5th ventrites present as weakly impressed pits (Fig. 75); intercoxal process of first ventrite broadly triangular apically; ventral surface densely punctate, punctures weakly impressed (Fig. 184).

Female. Identical to male, except tibiae straight and metatibia lacking ventral apical tooth.

Biology. Unknown.

Distribution. This species is endemic to Cuba. It has been taken primarily on Loma del Gato and Pico Turquino in the Sierra Maestra in Santiago de Cuba Province, but has also been taken once in the mountains north of Imias in Guantánamo Province (Figs. 258, 267).

Nesocyrtosoma elongatum (Zayas), New Combination
(Figs. 61, 185–188, 263, 292)

Cnodalon elongatus Zayas 1988: 101, Fig. 89.
Cyrtosoma (*Nesocyrtosoma*) *elongatus*; Garrido and Gutiérrez 1996: 283.
Cyrtosoma elongatus; Marcuzzi 1998: 106; Peck 2005: 156.

Type Material Examined. LECTOTYPE here designated: Col. F. de Zayas; Cuchillas de Toa; Cupeyal 6 1964; Oriente. CUBA/ red circle label Tipo/ *C. elongatus*; sp. n./ LECTOTYPE; *Cnodalon*; *elongatus* Zayas; det. K. J. Hopp 2008 (FZCM). PARALECTOTYPES here designated: 8 specimens in FZCM: 6 specimens labeled Col. F. de Zayas; Cupeyal; VI 1965; Prov. Ote. CUBA/ PARALECTOTYPE; *Cnodalon*; *elongatus* Zayas; det. K. J. Hopp 2008; 1 specimens labeled Col. F. de Zayas; Cupeyal; 6 1965; Prov. Ote. CUBA/ PARALECTOTYPE; *Cnodalon*; *elongatus* Zayas; det. K. J. Hopp 2008; 1 specimen labeled Col. F. de Zayas; Chuchillas de Toa; Cupeyal 6 1964; Oriente. CUBA/ PARALECTOTYPE; *Cnodalon*; *elongatus* Zayas; det. K. J. Hopp 2008.

Zayas Collection Notes. Zayas (1988) described this species from 15 specimens from Cupeyal collected in 1959, however when we visited his collection in January 2008, there were only nine specimens in the collection. The specimen with the red Tipo label is here designated as the lectotype and the remaining eight specimens are here designated as paralectotypes.

Other Material Examined. Cupeyal; Ote. VI-65; Col- Zayas-valdis. (2 IESC). Col. F. de Zayas; Cupeyal; VI-1968; Prov. Ote. CUBA/ Cupeyal, Sagua de Ta'namo; 4/1968; Zayas/ Tenebrionidae; Ident. OHG 548; *Cyrtosoma elongatus*; Zayas, 1988. (1 OHGC). Cupeyal- Sagua; de Ta'namo- Ote.; VI-1968 Zayas; y Valdes/ Tenebrionidae; Ident. OHG 277; *Cyrtosoma elongatus*; Zayas, 1988. (1 OHGC). Cupeyal; Yateras, Ote.; I. Garcia - VI/64/ *CYRTOSOMA*; sp.; det. O.H.G. (1 IESC). Cupeyal; Ote. VI-65; Col- Zayas-valdis. (1 IESC).

Diagnosis. This species can be distinguished by the pronotum, which is more transverse and has four pits, one on each side of the midline anteriorly and one on each side of the midline posteriorly (Fig. 187). It is similar to *N. cristalense*, but differs from that species by a shorter, broader body, more transverse pronotum, elytra more convex, humeral angle distinct (Fig. 185), prosternal process flat to apex, and entirely black coloration. These two species are extremely difficult to differentiate without looking at the species at the same time.

Redescription (modified from Zayas 1988) (male). 7.5–8.0 mm long, 5.0 mm wide. Body elongate, slightly convex (Figs. 185, 186). Shining black in color; antennae, mouthparts, and tarsi tending to be the same color as the legs. Head moderately punctate, largest punctures subequal in size to a single eye facet; punctures moderately impressed; extremely short golden seta emerging from each puncture. Antenna weakly clavate, nearly filiform; antennomeres 7–10 widened forming a loose, elongate club; apical antennomere longitudinally ovate; antennomeres 7–11 with stellate sensoria. Mentum with broad median keel raised anteriorly to a point (Fig. 13); ventral portion of eye reaching subgenal sulcus (Fig. 9); postgena without distinct punctures; area laterad gula densely punctate. Dorsal surface of pronotum densely punctate; punctures separated by 0.5–1.0 diameters. Pronotal marginal bead complete laterally, anterior and posterior margins with marginal bead effaced medially; anterior angles of pronotum obtuse, moderately produced and widely rounded apically; lateral edge of pronotum sinuate at base; pronotum evenly convex (Fig. 187). Hypomeron with distinct punctures (Fig. 27). Prosternal process apically rounded, distinct longitudinal marginal grooves opposite coxae joined apically (Fig. 188). Elytral striae not impressed, present as small discontinuous punctures; elytral interstriae densely punctate; scutellary striae 4–10 punctures long; scutellum triangular, normal (Figs. 185, 187). Humeral angle distinct (Fig. 185). Mesoventrite thin antero-posteriorly, deeply excavate, V-shaped receiving prosternal process; metaventrite subequal to antero-postero length of mesocoxa (Fig. 188).

Metathoracic wing fully developed. Legs long, slender, densely punctate; apical 1/4 of femur reaching beyond edge of elytron; tibiae slightly curved apically; meso- and metatibia with ventral apical tooth vestigial (Fig. 61). Abdominal depressions on 4th and 5th ventrites present as weakly impressed pits (Fig. 75); intercoxal process of first ventrite broadly triangular apically; ventral surface densely punctate, punctures weakly impressed (Fig. 188).

Female. Identical to male, except meso- and metatibia lacking ventral apical tooth.

Biology. Unknown.

Distribution. This species is endemic to Cuba. It has only been collected in Cupeyal of Guantánamo Province (Figs. 258, 263).

Serrania Species-group — Extant Species

Two species are redescribed and 12 new species are described for the first time. Species are listed in phylogenetic order.

Nesocyrtosoma bankense Hopp and Ivie, New Species
(Figs. 2, 11, 62, 189–193, 268, 293)

Type Material. HOLOTYPE: Male. VIRGIN IS: St. John; Cinnamon Bay; 03JAN1993, at light; VIBFP colrs. (from WIBF, deposited NMNH). PARATYPES (20 specimens, males only): 2 specimens with same label data as holotype. (2 WIBF). VIRGIN IS: St. John; VINP, Cinnamon Bay; 02NOV1992, at light; VIBFP colrs. (1 WIBF). VIRGIN IS: St. John; Est. Great CinnamonBay; Cinnamon Bay, at light; 02NOV1992. M. A. Ivie. (2 WIBF). VIRGIN IS: St. John; Estate Cinnamon Bay; VINP, Cinnamon Bay; 04NOV1992, at light; M. A. Ivie colr. (1 WIBF). VIRGIN IS: St. John,; Cinnamon Bay; 23-vi-1996 beating; B.andB.Valentine. (2 WIBF). VIRGIN IS: St. John; Est. Lameshur Bay; V.I.Ecol.Res.Sta.; 14–21 JULY 1994; M. S. Becker, uv light. (2 WIBF). VIRGIN IS: St. John; Lameshure Bay, VIERS; 21–28 JULY 1994; M. S. Becker colr; ultraviolet light. (1 CMNH). VIRGIN IS: St. John; Est. Lamesur Bay, nr.; Lameshur Bay, Reef Bay; Trail, 14OCT1994, beat.; vines, M. A. Ivie and L. L. Ivie. (2 WIBF). VIRGIN IS: St. John; Est. Lameshur Bay; Europa-Lt.Lameshur; Bay, 25JULY1994; M. S. Becker, at night. (1 WIBF). VIRGIN IS: St. Thomas; Est. Enighed Magen's; Bay Arboretum. light; 01JAN1993. VIBFP colrs. (2 WIBF). VIRGIN IS: St. Thomas; Est. Enighed Magen's; Bay Arboretum. 01JAN; 1993. VIBFP colrs/ *Nesocyrtosoma*; Det. J. Doyen 1995. (1 FSCA, 1 WIBF). PUERTO RICO:Guanica; For.Res. 26SEP1987; M.A.Ivie colr. 33m; beating, thornscrub. (3 WIBF).

Other Material Examined (females). VIRGIN IS: St. Thomas; Est. Enighed Magen's; Bay Arboretum. 01JAN; 1993. VIBFP colrs. (3 WIBF). VIRGIN IS: St. John; Cinnamon Bay; 03JAN1993, at light; VIBFP colrs. (2 WIBF). VIRGIN IS: St. John; Est. Lameshur Bay; V.I.Ecol.Res.Sta.; 14–21 JULY 1994; M. S. Becker, uv light. (1 WIBF). PUERTO RICO:Guanica; For.Res. 26SEP1987; M. A. Ivie colr. 33m; beating, thorn scrub. (1 WIBF). PUERTO RICO; Hwy.371,Km.10; July25, 1979; C.W. O'Brien/ under bark. (1 WIBF). PUERTO RICO; Hwy.371,Km.10; July 25, 1979; L.B. O'Brien. (1 WIBF). Poncee P.R.; VII-21-33; Rcoa Kley/ on leaf; of Moca; SJ#4363. (1 NMNH). PUERTO RICO:Guanica; For.Res. 26SEP1987; M.A.Ivie colr. 33m; beating, thornscrub. (2 WIBF). PUERTO RICO; CambalacheForest; Res.,July28,1979; C.W.O'Brien. (1 MCZC).

Notes. Although the females of this species can be identified, they can be easily confused with *Nesocyrtosoma puertoricense*, and are thus not designated as paratypes.

Diagnosis. This species can be distinguished from all other species by the combination of the dark ferrugineous to black color, deeply impressed elytral striae (Fig. 189), absence of a hypomeral bead, antennomeres 7–10 enlarged, presence of an ocular depression (Fig. 193), intercoxal process of first ventrite with apical nipple (Figs. 76, 192), and the very weak to absent longitudinal grooves on the tibiae. It is nearly identical to *N. puertoricense* and *N. curvum*, but can be distinguished from the former by the weak to absent longitudinal grooves on the tibiae and the male metatibia. Males of *N. bankense* have a ventral metatibial tooth proximad apex (Fig. 62), while the males of *N. puertoricense* have a ventral metatibial tooth at the apex (Fig. 64). *Nesocyrtosoma bankense* can be distinguished from *N. curvum* by the antenna and male metatibia. *Nesocyrtosoma bankense* has antennomeres 7–10 enlarged and the male metatibia is slender, gradually curved toward the apex with a tooth proximad apex (Fig. 62), whereas *N. curvum* has antennomeres 6–10 enlarged and the male metatibia is broad and abruptly emarginate towards the apex (Fig. 69).

Description (male). 4.0–5.5 mm long, 2.0–3.0 mm wide. Small, moderately convex, elytra widest in apical half, tapered at apex (Figs. 189, 190). Dark ferrugineous to black; antennae, mouthparts, and tarsi ferrugineous. Head densely variably punctate dorsally; largest punctures larger than a single eye facet, weakly to moderately impressed; extremely short golden seta emerging from each puncture. Antenna clavate, antennomeres 7–10 weakly widened apically, forming a loose club; apical antennomere subcircular; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel, anteriorly raised to a point (Figs. 10, 12). Ventral portion of eye not reaching subgenal sulcus (Fig. 8); ventral ocular groove present (Fig. 193); postgena without distinct punctures. Dorsal surface of pronotum densely punctate; punctures separated by 0.5–1.0 diameters. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin lacking marginal bead; anterior angles of pronotum right, weakly produced and widely rounded apically; lateral edge of pronotum evenly curved to base; pronotum evenly convex (Fig. 191). Hypomeron without distinct punctures. Prosternal process apically rounded, with distinct marginal grooves opposite coxae joined apically (Fig. 192). Elytral striae deeply impressed, present as rows of small punctures separated by 0.5–1.0× diameter, with a deeply impressed line through the middle of the punctures, connecting the row of punctures; elytral interstriae roundly convex, scarcely punctate, shagreened; scutellary striae 4–6 punctures long, nearly reaching the elytral suture; scutellum triangular, normal (Figs. 189, 191). Mesoventrite broad antero-posteriorly, U-shaped, excavate, receiving prosternal process; metaventrite subequal to antero-postero length of mesocoxa (Fig. 192). Metathoracic wing fully developed. Legs short, punctate; femora barely reaching beyond edge of elytra; tibia slightly shorter than femur; tibial dorsal longitudinal groove very faint or absent; metatibia with tooth proximad apex (Fig. 62). Abdominal depressions on 4th and 5th ventrites reduced to indistinct slits (Fig. 74); intercoxal process of first ventrite rounded, without apical nipple, not reaching past metacoxa; ventral surface densely punctate, punctures weakly impressed (Fig. 192).

Female. Identical to male, except metatibia lacking ventral apical tooth.

Biology. This species has been taken by beating dead branches, vines, and thorn scrub at night in dry tropical forest, at light, under bark, and on a leaf.

Distribution. This species is known from the Virgin Islands of St. John and St. Thomas (Fig. 268). It has been collected on Great Cinnamon Bay and Lameshur Bay on St. John and the Magen's Bay Arboretum Estate Enighed on St. Thomas. It is also known from the Guánica Forest Reserve in southwestern Puerto Rico (Fig. 268).

Etymology. This is the only species of *Nesocyrtosoma* known to occur on several islands of the Puerto Rican Bank, and is thus called *bankense*.

Nesocyrtosoma fernandoi Hopp and Ivie, New Species
(Figs. 194–199, 264)

Type Material. HOLOTYPE: Sex unknown. "Gacunagaua; June-33; Zayas/ HOLOTYPE; *Nesocyrtosoma*; *fernandoi* Hopp; det. K. J. Hopp 2008" (FZMC).

Notes. This species is described from one specimen in the FZMC, which could not be borrowed and was only studied on-site. The photographs of this species were taken with MiScope®.

Diagnosis. This species can be distinguished from all other species, particularly the other *Serrania* species-group species, by the combination of its large size, the broad, elongate body form, long scutellary striae (Fig. 196), and the presence of a ventral ocular depression (Fig. 197). This species most closely resembles *N. guerreroi*, but can be distinguished from that by having a thin mesoventrite antero-posteriorly (Fig. 198).

Description (sex unknown). 6.0 mm long, 3.0 mm wide. Body elongate, slightly convex (Figs. 194, 195). Shinning greenish-purple; antennae, mouthparts, and tarsi ferrugineous. Head moderately punctate dorsally; largest punctures subequal to a single eye facet; extremely short golden seta emerging from each puncture. Antenna clavate, antennomeres 7–10 transverse, forming a loose club; apical antennomere subcircular; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12). Ventral portion of eye not reaching subgenal sulcus (Fig. 8); ventral ocular depression present (Fig. 197). Dorsal surface of pronotum moderately punctate; punctures separated by 1.5–0.5 diameters. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin without marginal bead; anterior angles of pronotum acute, weakly produced and apically narrowly rounded; lateral edge of evenly curved to base; pronotum evenly convex (Fig. 196). Hypomeron without distinct punctures. Prosternal process apically rounded, marginal grooves opposite coxae indistinct (Fig. 198). Elytral striae not impressed, present as rows of small punctures separated by 0.5–1.0× diameter; elytral interstriae flat, impunctate; scutellary striae 6–8 punctures long scutellum triangular, normal (Figs. 194, 196). Mesoventrite broad antero-posteriorly, U-shaped, receiving prosternal process; metaventrite subequal to antero-postero length of mesocoxa (Fig. 198). Metathoracic wing fully developed. Legs long, punctate, short golden seta emerging from each puncture; femora reaching beyond edge of elytron; tibiae straight. Abdominal depressions on 4th and 5th ventrites reduced to indistinct slits (Fig. 74); intercoxal process of first ventrite broadly rounded apically; ventral surface densely punctate, punctures moderately impressed (Fig. 198).

Biology. Unknown.

Distribution. This species is endemic to Cuba and is only known from the type locality of Cumanayagua (which may not be correct as the label was extremely difficult to read and could barely be interpreted by Teresita Zayas) (Figs. 199, 264).

Etymology. This species is named for Fernando de Zayas, a Cuban entomologist who described several species of *Nesocyrtosoma*. The single specimen from which this species is described was discovered in the FZMC.

Nesocyrtosoma garridoi Hopp and Ivie, New Species
(Figs. 63, 200–203, 266, 294)

Type Material. HOLOTYPE: Male. CUBA: Santa Clara.; North end of Lago del; Hanabanilla 1 July 1990; J. E. Rawlins, S. Thompson. (CMNH). PARATYPES (3 specimens): Cayamas; 10. 6 Cuba/ E. A. Schwarz; Collector/ 988/ *Platydema*; n. sp./ *Nesocyrtosoma*; sp.; Det. J. Doyen 1991. (1 WIBF). Cayamas; 10. 6 Cuba/ E. A. Schwarz; Collector. (1 NMNH). MinaCarlota; TrinidadMts/ Cuba, 1917; W M Mann. (1 NMNH).

Notes. All four specimens are in poor condition; there is not a single complete specimen as all are missing legs and/or antennae. However, based on a few diagnostic characters, these specimens can be distinguished from all other species and grouped together as a distinct species.

Diagnosis. This species can be distinguished by the combination of a slender, elongate body form, elytra with deeply impressed striae (Fig. 200), hypomeral bead absent, antennomeres 6–10 apically enlarged, and the presence of an ocular depression. It most closely resembles *N. dentatum*, but can be distinguished from that species by the absent hypomeral bead and males without a tooth on the metafemur distad the trochanter.

Description (male). 4.0–4.5 mm long, 1.5–2.5 mm wide. Small, body slender, elongate, slightly convex (Figs. 200, 201). Shining dark ferrugineous to purple; antennae, mouthparts, and tarsi ferrugineous. Head densely variably punctate; largest punctures subequal to a single eye facet, weakly to moderately impressed; extremely short golden seta emerging from each puncture. Antenna clavate, antennomeres 6–10 transverse, forming a loose club; apical antennomere subcircular; antennomeres 6–11 with stellate sensoria. Mentum with acute median keel, anteriorly raised to a point (Figs. 10, 12). Ventral portion of eye not reaching subgenal sulcus (Fig. 8); ventral ocular groove present; postgena without distinct punctures. Dorsal surface of pronotum densely punctate; punctures separated by 0.5–1.0 diameters. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin lacking marginal bead; anterior angles of pronotum right, weakly produced and widely rounded apically; lateral edge of pronotum evenly curved to base; pronotum evenly convex (Fig. 202). Hypomeron with or without distinct punctures. Prosternal process apically rounded to a point; indistinct marginal grooves opposite coxae not joined apically (Fig. 203). Elytral striae deeply impressed, present as rows of small punctures separated by 0.5–1.0× diameter, with a deeply impressed line through the middle of the punctures, connecting the row of punctures; elytral interstriae roundly convex, densely punctate; scutellary striae 4–6 punctures long; scutellum triangular, normal (Figs. 200, 202). Mesoventrite thin antero-posteriorly, U-shaped, excavate receiving prosternal process; metaventrite subequal to antero-postero length of mesocoxa (Fig. 203). Metathoracic wing fully developed. Legs short, punctate, short golden seta emerging from each puncture; femora barely reaching beyond edge of elytron; tibiae straight (Fig. 63). Abdominal depressions on 4th and 5th ventrites reduced to indistinct slits (Fig. 74); intercoxal process of first ventrite apically rounded; ventral surface densely punctate, punctures moderately impressed (Fig. 203).

Female. Identical to male.

Biology. Unknown.

Distribution. This species is endemic to Cuba, and has been collected in Cayamas in Cienfuegos Province, Lago del Hanabanilla in Santa Clara Province and in Miña Carlota in Las Villas Province (Figs. 258, 258, 266).

Etymology. This species is named for Orlando H. Garrido who has worked on *Nesocyrtosoma* and who was most kind and helpful when we visited Cuba in January 2008.

Nesocyrtosoma puertoricense Hopp and Ivie, New Species
(Figs. 64, 204–208, 268, 295)

Type Material. HOLOTYPE: Male. PUERTO RICO, Hwy.; 120,K13H8,Maricao; For.Res.,July 26,; 1979 G.B.Marshall. (from WIBF, deposited NMNH). PARATYPES (4 specimens, males only): PUERTO RICO, Hwy.; 120,K13H8, Maricao; For.Res.,July25,; 1979C.W.O'Brien. (1 WIBF). PUERTO RICO; Maricao Forest, 890m,; 28–30-VII-2004; G.Nearns, beating. (2 FSCA, 1 WIBF).

Other Material Examined (females). PUERTO RICO, Mari-; caoFor.-Res.Hwy.; 120,K13H8,July26,; 1979 C.W.O'Brien. (1 WIBF). PUERTO RICO, Hwy.; 120,K13H8,Maricao; For.Res.,July25,; 1979C.W.O'Brien. (1 WIBF). PUERTO RICO; GuilarteFor.Res.; Hwy. 131and158, July; 23,1979GBMarshall. (1 WIBF). PUERTO RICO: Maricao; Forest Carr. 120, km 9–15; 18°08′45″N, 66°58′52″W; 27 July 2004-850-950m; Beating Vegetation; Steven W. Lingafelter. (1 NMNH). PUERTO RICO; Maricao Forest, 890m,; 28–30-VII-2004; G.Nearns, beating. (3 FSCA).

Notes. Although the females of this species can be identified, they can be easily confused with *N. bankense* and are thus not designated as paratypes.

Diagnosis. This species can be distinguished from all other species by the combination of shining bronze color, impressed elytral striae (Fig. 204), absence of a hypomeral bead, antennomeres 7–10 enlarged, presence of an ocular depression, intercoxal process of first ventrite with apical nipple (Fig. 207), and the presence of distinct dorsal longitudinal grooves on the tibiae (Fig. 37). This species is nearly identical to *N. bankense*, however, it can be distinguished from that species by the shining bronze color, the presence of distinct longitudinal grooves on the tibiae (Fig. 37), and the male metatibia. The males of this species have a ventral metatibial tooth at the apex (Fig. 64), whereas *N. bankense* males have a ventral metatibial tooth proximad apex (Fig. 62). This species also closely resembles *N. curvum*, but can be distinguished from that species by having antennomeres 7–10 enlarged and the male metatibia slender and evenly curved to the apex with a ventral apical tooth (Fig. 64), whereas *N. curvum* has antennomeres 6–10 enlarged and the male metatibia is broad and abruptly emarginate towards the apex (Fig. 69).

Description (male). 4.0–5.5 mm long, 2.0–3.0 mm wide. Small, moderately convex, elytra widest in apical half, tapered at apex (Figs. 204, 205). Shining bronze; antennae, mouthparts, and tarsi ferrugineous. Head densely variably punctate; largest punctures larger than a single eye facet, weakly to moderately impressed; extremely short golden seta emerging from each puncture. Antenna clavate, antennomeres 7–10 weakly widened apically, forming a loose club; apical antennomere subcircular; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel, anteriorly raised to a point (Figs. 10, 12). Ventral portion of eye not reaching subgenal sulcus (Fig. 8); ventral ocular groove present (Fig. 208); postgena without distinct punctures. Dorsal surface of pronotum densely punctate; punctures separated by 0.5–1.0 diameters. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially,

posterior margin without marginal bead; anterior angles of pronotum right, weakly produced and widely rounded apically; lateral edge of pronotum evenly curved to base; pronotum evenly convex (Fig. 206). Hypomeron without distinct punctures. Prosternal process apically rounded, with distinct marginal grooves opposite coxae joined apically (Fig. 207). Elytral striae deeply impressed, present as rows of small punctures separated by 0.5–1.0× diameter, with a deeply impressed line through middle of puncture rows, connecting the row of punctures; elytral interstriae roundly convex, scarcely punctate, shagreened; scutellary striae 4–6 punctures long, nearly reaching the elytral suture; scutellum triangular, normal (Figs. 204, 206). Mesoventrite broad antero-posteriorly, U-shaped, excavate, receiving prosternal process; metaventrite subequal to antero-postero length of mesocoxa (Fig. 207). Metathoracic wing fully developed. Legs short, punctate; femora barely reaching beyond edge of elytra; tibiae with distinct dorsal longitudinal groove, metatibia weakly curved toward apex with tooth at apex (Fig. 64). Abdominal depressions on 4th and 5th ventrites reduced to indistinct slits (Fig. 74); intercoxal process of the first ventrite apically rounded; ventral surface densely punctate, punctures weakly impressed (Fig. 207).

Female. Identical to male, except metatibia straight, lacking ventral apical tooth.

Biology. This species has been taken by beating vegetation.

Distribution. This species is endemic to Puerto Rico. It has been collected in Guánica, Maricao Forest, Guilarte, and Camalache Forest Reservation (Fig. 268).

Etymology. This species is named for the island of Puerto Rico.

Nesocyrtosoma serratum Hopp and Ivie, New Species
(Figs. 38, 65, 209–212, 264, 296)

Type Material. HOLOTYPE: Male. DOMINICAN REPUBLIC; Pedernales prov., 172 m,; ~10 km on trail to Carlitos,; Parque Nacional Jaragua,; 17°47.892′N 71°28,965′W; 708.iv.2004, D. Perez, B.; Hierro, R. Bastardo. [RD-216]. (NMNH). PARATYPES (5 specimens): 1 WIBF specimen with same data as holotype. (WIBF). DOM. REP.: Prov. LaAltagracia; Boca de Yuma entr., Par. Nac; del Este, 06AUG1999, 12 m; 18°21.904′N, 68°37.094′W; M. A. Ivie, beating vegetation. (1 WIBF). DOMINICAN REPUBLIC:; Pedernales Prov., PN Jaragua; 3 km S. of Los Tres Charcos; 99 m; 17°48.063′N, 71°26.809′W; 16-VI-2005, Gino Nearns. (1 FSCA). DOMINICAN REPUBLIC; La Altagracia Prov., PN del; Este, Boca de Yuma; 18°21.508′N, 68°36.956′W; 20m-day coll. 19 July 2004; Steven W. Lingafelter. (1 WIBF). DOMINICAN REPUBLIC; La Altagracia Prov., PN del; Este, Guargauao- day coll.; 18°19.568′N, 68°48.500′W; 0–5 meters 21 July 2004; Norman Woodley. (1 NMNH).

Other Material Examined. DOM. REP.: Prov. Pedernales; Par. Nac. Jaragua; 8 km NW Oviedo; 20AUG1997, P. W. Kovarik. (1 WIBF — head missing).

Diagnosis. This species can be distinguished by the combination of the elytral striae deeply impressed (Fig. 209), strong hypomeral bead (Fig. 27), antennomeres 7–10 enlarged, and the absence of an ocular depression. It most closely resembles *Nesocyrtosoma skelleyi*, but can be distinguished from that species by the presence of a strong hypomeral bead (Fig. 27) and broad mesoventrite (Fig. 212).

Description (male). 4.5–5.0 mm long, 2.3–2.8 mm wide. Small, body elongate, moderately convex (Figs. 209, 210). Dark blue to purple; antennae, mouthparts, and tarsi ferrugineous. Head densely variably punctate; largest punctures

subequal to a single eye facet, weakly to moderately impressed; extremely short golden seta emerging from each puncture. Antenna clavate, antennomeres 7–10 transverse, forming a loose club; apical antennomere subcircular; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel, anteriorly raised to a point (Figs. 10, 12). Ventral portion of eye not reaching subgenal sulcus (Fig. 8); postgena with distinct punctures (Fig. 12). Dorsal surface of pronotum densely punctate; punctures separated by 0.5–1.5 diameters. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin without marginal bead; anterior angles of pronotum obtuse, weakly produced and widely rounded apically; lateral edge of pronotum evenly curved to base; pronotum evenly convex (Fig. 211). Strong hypomeral bead (Fig. 27); hypomeron with distinct punctures (Fig. 27). Prosternal process apically rounded, distinct marginal grooves opposite coxae joined apically (Fig. 212). Elytral striae deeply impressed, present as rows of small punctures separated by 0.5–1.0× diameter, with a deeply impressed line through the middle of each puncture row; elytral interstriae roundly convex, scarcely punctate; scutellary striae 4–6 punctures long; scutellum triangular, normal (Figs. 209, 211). Mesoventrite broad antero-posteriorly, U-shaped, excavate receiving prosternal process; metaventrite subequal to antero-postero length of mesocoxa (Fig. 212). Metathoracic wing fully developed. Legs short, punctate; femora reaching beyond edge of elytron; tibiae sometimes with weak dorsal longitudinal groove (Fig. 37), tibiae straight except metatibia weakly curved with vestigial tooth at apex; metatibia with small serrations extending from tooth to apical 1/3 its length (Figs. 38, 65). Abdominal depressions on 4th and 5th ventrites reduced to indistinct slits (Fig. 74); intercoxal process of the first ventrite rounded with apical nipple; ventral surface densely punctate, punctures moderately to strongly impressed (Fig. 212).

Female. Identical to male, except metatibia straight and lacking ventral apical tooth and serrations.

Biology. This species has been taken by beating vegetation in dry forest and hand collecting during the day.

Distribution. This species is endemic to Hispaniola. It has been collected in Parque Nacional Jaragua in Pedernales Province and Parque Nacional del Este Boca de Yuma and Parque Nacional del Este Guargauao in La Altagracia Province of the Dominican Republic (Figs. 260, 264).

Etymology. Males of this species have a series of tiny serrations on the ventral apical 1/3 of the metatibia (Fig. 38), and is thus called *serratum*, from the Latin word *serratus*.

Nesocyrtosoma skelleyi Hopp and Ivie, New Species
(Figs. 29, 66, 76, 213–216, 265, 297)

Type Material. HOLOTYPE: Male. DOMINICAN REP.: Prov; Barahona, nr. Filipinas,; Larimar Mine; 20–26-; VI-1992; Woodruff and; Skelley; at night. (FSCA). PARATYPES (42 specimens): 3 specimens with same label data as holotype. (3 FSCA). DOMINICAN REP.: Prov.; Barahona, nr. Filipinas,; Larimar Mine; 20–26-VI-; 1992; R. E. Woodruff and; P. E. Skelley, at night. (1 FSCA, 2 WIBF). DOMINICAN REP.: Prov.; Barahona, nr. Filipinas,; Larimar Mine; 20–26-VI-; 1992; R. E. Woodruff and; P. E. Skelley; at light. (3 FSCA, 2 WIBF). DOMINICAN REP.: Prov.; Barahona, nr. Filipinas,; Larimar Mine: 26-VI-7-; VII-1992: Woodruff and; Skelley, at light. (14 FSCA, 7 WIBF). DOMINICAN REP.: Prov.; Barahona, nr. Filipinas,; Larimar Mine: 26-VI-7-;

VII-1992: Woodruff and; Skelley, day beating. (1 WIBF). DOMINICAN REP.: Prov.; Barahona, nr. Filipinas,; Mt. Tutu; 26-VI–7-VII-; 1992; P.E.Skelley; day catch, beating. (1 FSCA, 1 MCZC, 2 WIBF). DOMINICAN REPUBLIC:; Pedernales. 23.5 km; N Cabo Rojo.; 18-06N, 71-38W. 540m/ 13–19 July 1990; L. Masner, J. Rawlins; C. Young, Deciduous; forest; intercept trap/ Carnegie Museum; Specimen Number; CMNH-376,814. (1 CMNH). DOMINICAN REPUBLIC:; Pedernales. 26 km; N Cabo Rojo.; 18-06N, 71-38W. 730m/ 19–28 July 1990; L. Masner, J. Rawlins; C. Young, Wet deciduous; forest; intercept trap/ Carnegie Museum; Specimen Number; CMNH-349,284. (1 CMNH). DOMINICAN REPUBLIC; Pedernales Prov.,; 25.5km N. Cabo Rojo; 12–21-V-1992; coll. M.C. Thomas. (1 FSCA).

Other Material Examined. DOMINICAN REP.: Prov.; Barahona, nr. Filipinas,; Larimar Mine; 26-VI-7-; VII-1992; Woodruff and; Skelley, at light. (1 FSCA — missing head and pronotum). DOMINICAN REP.: Prov.; Barahona, nr. Filipinas; Larimar Mine; 20–26-; VI-1992; Woodruff and; Skelley; at night. (1 WIBF — disarticulated).

Diagnosis. This species can be distinguished by the elytral striae deeply impressed (Fig. 213), hypomeral bead absent to extremely faint, antennomeres 7–10 enlarged, and the absence of an ocular depression. It most closely resembles *N. serratum*, but can be distinguished from that species by the absent to faint hypomeral bead (Fig. 27) and the thin mesoventrite (Fig. 216).

Description (male). 4.0–5.5 mm long, 2.0–3.0 mm wide. Small, body elongate, moderately convex (Figs. 213, 214). Shining metallic green to purple; antennae, mouthparts, and tarsi ferrugineous. Head densely variably punctate; largest punctures larger than a single eye facet, weakly to moderately impressed; extremely short golden seta emerging from each puncture. Antenna clavate, antennomeres 7–10 transverse, forming a loose club; apical antennomere subcircular; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel anteriorly raised to a point (Figs. 10, 12). Ventral portion of eye not reaching subgenal sulcus (Fig. 8); postgena with distinct punctures (Fig. 12). Dorsal surface of pronotum densely punctate; punctures separated by 0.5–1.5 diameters. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin without marginal bead; anterior angles of pronotum right, weakly produced and widely rounded apically; lateral edge of pronotum evenly curved to base; pronotum evenly convex (Fig. 215). Hypomeral bead absent to very faint; hypomeron without distinct punctures. Prosternal process apically rounded, with marginal grooves opposite coxae joined apically (Fig. 216). Elytral striae deeply impressed, present as rows of small punctures separated by 0.5–1.0× diameter, with a deeply impressed line through the middle of each puncture row; elytral interstriae roundly convex, sparsely punctate; scutellary striae 4 punctures long; scutellum triangular, normal (Figs. 213, 215). Mesoventrite thin antero-posteriorly, V-shaped, excavate receiving prosternal process; metaventrite subequal to antero-postero length of mesocoxa (Fig. 216). Metathoracic wing fully developed. Legs short, punctate; femora reaching beyond edge of elytron; tibia sometimes with weak dorsal longitudinal groove (Fig. 37); metatibia weakly curved apically, with an obvious tooth at apex; metatibia with small serrations extending from tooth to apical 1/3 its length (Fig. 66). Abdominal depressions on 4th and 5th ventrites reduced to indistinct slits (Fig. 74); intercoxal process of first ventrite rounded with apical nipple; ventral surface densely punctate; punctures weakly to moderately impressed (Fig. 216).

Female. Identical to male, except metatibia straight, lacking ventral apical tooth and serrations.

Biology. This species has been collected at night by light, by day beating, and in flight intercept traps. This suggests that this species flies as it comes to light and has flight wings.

Distribution. This species is endemic to Hispaniola. An extremely long series of this species was taken at the Larimar Mine in Barahona Province in the Dominican Republic. It has also been taken on Mt. Tutu in Barahona Province. Finally, it has been taken on the mine road at 23 and 26 km north of Cabo Rojo in Pedernales Province (Figs. 260, 265).

Etymology. This species is named for Paul E. Skelley, who collected the majority of the specimens.

Nesocyrtosoma nearnsi Hopp and Ivie, New Species
(Figs. 67, 217–220, 265, 298)

Type Material. HOLOTYPE: Male. DOMINICAN REPUBLIC:; La Vega Prov., PN Armando; Bermudez, km 1–3 along trail; W of La Cienga, 900–1,100,; 19°01.753′N, 70°54.654′W; 6-VI-2005; Gino Nearns. (FSCA). PARATYPES (19 specimens): 2 FSCA specimens with the same label data as holotype. DOM.REP: Prov. La Vega; Par.Nac.ArmandoBermudez; LaCienaga-Los Tablones; 970–1,080m, 23JULY1993; D.S.Sikes and R.Rosenfeld. (1 WIBF). DOMINIC.REP.: Prov.La Vega; Par.Nac.Almando Bermudez; CordilleraCent,LosTablones; 03SEP1988, 1,220m, beating; M.A.Ivie and K.A.Johnson. (1 WIBF). DOMINICAN REPUBLIC:; La Vega Province; 1km. NW Manabao; 5-VI-1994; coll. M.C. Thomas. (4 FSCA, 1 WIBF). DOMINICAN REPUBLIC; La Vega Prov., 9km; W. Jima 24-V-1992; coll. M.C. Thomas. (1 WIBF). DOM. REP., LaVega, 20; km.SW.PiedraBlanca; May 29, 1978 CWandLB; O'BrienandMarshall. (1 FSCA, 1 WIBF). DOM. REP., LaVega,; 24km. E. El Rio; August 3, 1978; C.W.O'Brien. (1 WIBF). DOM. REP., LaVega,; 24km.SE.Constanza,; August 4, 1979; C.W.O'Brien. (1 WIBF). cloudforest; vic.Valle Nuevo; Aug'38, Dom. Rep.; c. 6,000 ft, Darl./ *Nesocyrtosoma*; n. sp.; Det. J. Doyen 1988. (1 MCZC). DOM.REP:Prov.La Altagracia; P.N.del Este, Boca de Yuma, entr. to Par., Nac; del Este, 06AUG1999, 12m; 18°21.904′N, 68°37.094′W; M.A.Ivie beating vegetation. (1 WIBF). San Lorenso; R. Dom. VI.27-29,15. (1 AMNH). DOM.REP:Prov.Hato Mayor; W. Sabana de la Mar; Par. Nac. Los Haitises; bosque humido, 01JULY1992; M.A. and R.O.Ivie colrs/ *Nesocyrtosoma*; det. M. A. Ivie 1994. (1 WIBF). DOMINICAN REPUBLIC:; Hato Mayor. Parque Los; Haitises, 3 km W Cueva; de Arena, 19-04N,69-29W/ 20 m. 7–9 July 1992; R. Davidson, J. Rawlins; S. Thompson, C. Young; Mesic lowland forest. (1 CMNH).

Other Material Examined. HAITI: Department; du Sud, Ville Formon; 31 km NW Les Cayes,; S slope Morne Formon; Massif de La Hotte,/ 18-20N, 74-01W; 1,405m, 7–8 Sept 1995; R. Davidson, G. Onore,; J. Rawlins. Disturbed; forest and fields/ Carnegie Museum; Specimen Number; CMNH-377,284. (1 CMNH).

Notes. The specimen from Haiti is not included in the type series as it is the only specimen from Haiti and varies slightly in the placement of the metatibial tooth. However, this is likely a simple case of variation, as this specimen does not have any other differences from the Dominican specimens.

Diagnosis. This species can be distinguished by the combination of elytral striae present as small, almost continuous punctures, with a weakly impressed line

through the middle of the puncture row, the interstriae scarcely punctate, and the eyes weakly laterally inflated (Fig. 219). The males of this species are distinguished by the metatibia strongly curved with a small ventral tooth at the apex and serrations extending from the tooth towards the basal third of the tibia (Figs. *cf.* 38, 67).

Description (male). 4.0–6.5 mm long, 2.0–3.5 mm wide. Small, broad, moderately convex (Figs. 217, 218). Shining black with metallic greenish-bronze luster; antennae, mouthparts, and tarsi ferrugineous. Head densely punctate dorsally; punctures smaller than a single eye facet, lightly impressed; extremely short golden seta emerging from each puncture. Antenna clavate, antennomeres 7–10 transverse, forming a loose club; apical antennomere subcircular; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel (Figs. 10, 12), area laterad ridge concave, anteriorly raised to a weak point. Ventral portion of eye reaching subgenal sulcus (Fig. 9); postgena without distinct punctures. Dorsal surface of pronotum moderately punctate; punctures separated by 1.0–2.0 diameters. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin lacking marginal bead; anterior angles of pronotum right, weakly produced and widely rounded apically; lateral edge of pronotum evenly curved to base; pronotum evenly convex (Fig. 219). Hypomeron without distinct punctures. Prosternal process apically rounded, marginal grooves indistinct (Fig. 220). Elytral striae lightly impressed, present as rows of small punctures separated by 0.5–1.0× diameter, with a lightly impressed line through the middle of each row of punctures; elytral interstriae flat, scarcely punctate; scutellary striae 6–8 punctures long; scutellum triangular, normal (Figs. 217, 219). Mesoventrite broad antero-posteriorly, U-shaped, excavate, receiving prosternal process; metaventrite subequal to antero-postero length of mesocoxa (Fig. 220). Metathoracic wing fully developed. Legs short, punctate; only metafemur reaching beyond edge of elytron; tibiae with distinct dorsal longitudinal groove (Fig. 37), all but metatibia straight; metatibia strongly curved with ventral tooth at apex (Fig. 67), serrations extending ventrally from the tooth towards the basal third of metatibia. Abdominal depressions on 4th and 5th ventrites reduced to indistinct slits (Fig. 74); intercoxal process of first ventrite rounded with apical nipple; ventral surface densely punctate, punctures weakly impressed (Fig. 220).

Female. Identical to male, except metatibia straight and lacking ventral apical tooth.

Biology. This species has been collected by beating dead branches in high elevation pine forest. It has also been collected by beating vegetation at night in dry and moist tropical forests.

Distribution. This species is endemic to Hispaniola. It has been primarily collected in La Vega Province in the Dominican Republic. In this province, it has been taken at Parque Nacional Armando Bermudez, near Manabao, Jima, Piedra Blanca, El Rio, and Constanza. It has also been taken in La Altagracia Province at Parque Nacional del Este Boca de Yuma and in San Lorenso and Parque Nacional Los Haitises in Hato Mayor Province (Figs. 260, 265). Also, this species has been collected once in Haiti on the south slope of Morne Formon Massif de La Hotte (Figs. 261, 265).

Etymology. This species is named for Eugenio H. Nearns, who played an integral part in the planning and overall success of our trip to Cuba, and is the collector of the holotype of this species.

Nesocyrtosoma productum Hopp and Ivie, New Species
(Figs. 221–224, 264)

Type Material. HOLOTYPE: Female. DOMIN. REP: Prov. La Vega; LaCienega, Parque Nac. HQ; 19°04′N, 70°52′W. 1,100m; Rio Yaque N. 04APR1992; M. A. Ivie, D.Sikes, W.Lanier. (from WIBF, deposited in NMNH). PARATYPE (1 specimen): DOMIN.REP: Prov.LaVega; La Cienega, 1,100 m; 19°04.07′N, 70°51.68′W; 29JULY1999, at light; M.A.Ivie and K.A.Guererro. (1 WIBF).

Diagnosis. This species can be distinguished by its shiny golden-bronze to dark ferrugineous color, anterior angles of the pronotum acute and extremely produced (Fig. 223), and interstriae densely punctate, the punctures moderately impressed (Figs. 221, 223).

Description (female). 4.0–5.0 mm long, 2.0–2.5 mm wide. Small, short, ovate moderately convex (Figs. 221, 222). Shining golden-bronze to dark ferrugineous; antennae, mouthparts and tarsi light ferrugineous. Head moderately punctate dorsally; punctures smaller than a single eye facet, slightly impressed; extremely short golden seta emerging from each puncture. Antenna clavate, antennomeres 7–10 transverse, forming a loose club; apical antennomere subcircular; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12). Ventral portion of eye reaching subgenal sulcus (Fig. 9); postgena without distinct punctures. Dorsal surface of pronotum moderately punctate; punctures separated by 0.5–1.0 diameters. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin lacking marginal bead; anterior angles of pronotum acute, strongly produced and apically narrowly rounded; lateral edge of pronotum evenly curved to base; pronotum evenly convex (Fig. 223). Hypomeron without distinct punctures. Prosternal process ends in rounded form that abuts the anterior face of the mesoventrite, marginal grooves opposite coxae indistinct, not joined apically (Fig. 224). Elytral striae lightly impressed, present as rows of small punctures separated by 0.5–1.0× diameter, with a lightly impressed line through the middle of each puncture row; elytral interstriae flat, densely punctate, punctures moderately impressed; scutellary striae 4 punctures long; scutellum triangular, normal (Figs. 221, 223). Mesoventrite broad antero-posteriorly, weakly U-shaped, weakly excavate to receive prosternal process; metaventrite subequal to antero-postero length of mesocoxa (Fig. 224). Metathoracic wing fully developed. Legs short, punctate; all but mesofemora reaching beyond edge of elytron; tibia straight. Abdominal depressions on 4th and 5th ventrites reduced to indistinct slits (Fig. 74); intercoxal process of first ventrite rounded with apical nipple; ventral surface densely punctate, punctures weakly impressed (Fig. 224).

Male. No males were available for study.

Biology. This species has been taken at light in moist forest and beating vegetation at night.

Distribution. This species is endemic to Hispaniola. It has been collected at La Ciénaga in the province of La Vega of the Dominican Republic (Figs. 260, 264).

Etymology. This species has the anterior angles of the pronotum extremely produced, and is thus called *productum*.

Nesocyrtosoma teresitae Hopp and Ivie, New Species
(Figs. 68, 225–229, 264, 299)

Type Material. HOLOTYPE: Male. Pico Turquino; S.side, 1,500 ft.; June 25 1936/ Cuba 1936; Darlington; Collector. (MCZC). PARATYPES (3 specimens): 1

female MCZC specimen with the same label data as holotype. Cardero, tur-;quino, Ote.; G.I. Garcia/ Cardero, Turquino; X-1966; I. GARCIA/ Tenebrionidae; Ident. OHG 871; Genero y especie n. (1 OHGC). 536; *Cnodalon?*; *ruficorne*. (1 Gundlach Collection – IESC).

Diagnosis. This species can be distinguished by the combination of the elongate, less convex body form (Figs. 225, 226), flat dorsal surface of the pronotum (Fig. 227), antennomeres 6–10 apically enlarged (Fig. 225), and the presence of a ventral ocular depression (Fig. 229). It most closely resembles *N. larseni*, but can be distinguished from this species by having a flat dorsal surface of the pronotum, antennomeres 6–10 weakly transverse, and the presence of a ventral ocular depression (Fig. 229).

Description (male). 4.5–6.0 mm long, 2.5–3.0 mm wide. Body elongate, slightly convex (Figs. 225, 226). Shining black; antennae, mouthparts, and tarsi ferrugineous. Head moderately punctate dorsally; largest punctures subequal to a single eye facet, slightly impressed; extremely short golden seta emerging from each puncture. Antenna weakly clavate, antennomeres 6–10 weakly transverse, forming a loose club; apical antennomere subcircular; antennomeres 6–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12). Ventral portion of eye not reaching subgenal sulcus (Fig. 8); ventral ocular depression present (Fig. 229); postgena with distinct punctures (Fig. 12). Dorsal surface of pronotum moderately punctate; punctures separated by 1.5–0.5 diameters. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin lacking marginal bead; anterior angles of pronotum acute, weakly produced and narrowly rounded apically; lateral edge of pronotum slightly sinuate at apex, then evenly curved to base; pronotum evenly convex (Fig. 227). Hypomeron without distinct punctures. Prosternal process raised mediobasaly, apically rounded, marginal grooves indistinct, not joined apically (Fig. 228). Elytral striae not impressed, present as rows of medium, elongate punctures separated by 0.5–1.0× diameter; punctures becoming more elongate towards lateral and apical portion of elytron; elytral interstriae weakly convex, scarcely punctate; scutellary striae 3 punctures long; scutellum triangular, normal (Figs. 225, 227). Mesoventrite broad antero-posteriorly, weakly V-shaped, receiving prosternal process; metaventrite subequal to antero-postero length of mesocoxa (Fig. 228). Metathoracic wing fully developed. Legs long, punctate; femora reaching beyond edge of elytron; tibiae straight (Fig. 68). Abdominal depressions on 4th and 5th ventrites reduced to indistinct slits (Fig. 74); intercoxal process of first ventrite apically rounded; ventral surface densely punctate, punctures weakly impressed (Fig. 228).

Female. Identical to male.

Biology. Unknown.

Distribution. This species is endemic to Cuba and likely to Pico Turquino in the Sierra Maestra of Oriente Province (Figs. 259, 264).

Etymology. This species is named for Teresa de Zayas Revuelta, the daughter of Fernando de Zayas, in acknowledgment of her role in preserving the Fernando de Zayas Collection since her father's death in 1983, and for her generous hospitality during our visit to the collection in January 2008.

Nesocyrtosoma curvum Hopp and Ivie, New Species
(Figs. 69, 230–233, 268, 300)

Type Material. HOLOTYPE: Male. PUERTO RICO; Maricao Forest, 890m,; 28–30-VII-2004; G.Nearns, beating. (FSCA).

Diagnosis. This species can be distinguished from all other species by the combination of the shining bronze color, impressed elytral striae (Fig. 230), absence of a hypomeral bead, antennomeres 6–10 enlarged, presence of an ocular depression, intercoxal process of first ventrite without apical nipple (Fig. 233), the presence of a weakly impressed dorsal longitudinal groove on the tibiae, and the anterior angles of the pronotum acute, moderately produced, and narrowly rounded (Fig. 232). It is nearly identical to *N. bankense* and *N. puertoricense*, but can be distinguished from those by the above characters and the male metatibia. The male metatibia of *N. curvum* is broad and abruptly emarginate at the apex without a ventral tooth (Fig. 69), whereas the male metatibia of *N. bankense* and *N. puertoricense* are slender and evenly curved at the apex with a ventral tooth (Figs. 63, 64).

Description (male). 3.5 mm long, 2.3 mm wide. Small, moderately convex, elytra widest in apical half, tapered at apex (Figs. 230, 231). Shining bronze; antennae, mouthparts, and tarsi ferrugineous. Head densely variably punctate; largest punctures larger than a single eye facet, weakly to moderately impressed; extremely short golden seta emerging from each puncture. Antenna clavate, antennomeres 6–10 weakly widened, forming a loose club; apical antennomere subcircular; antennomeres 6–11 with stellate sensoria. Mentum with weak acute median keel anteriorly raised to a point (Figs. 10, 12). Ventral portion of eye not reaching subgenal sulcus (Fig. 8); ventral ocular groove present (Fig. 191); postgena without distinct punctures. Dorsal surface of pronotum densely punctate; punctures separated by 0.5–1.0 diameters. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin without marginal bead; anterior angles of pronotum acute, moderately produced and narrowly rounded apically; lateral edge of pronotum evenly curved to base; pronotum evenly convex (Fig. 232). Hypomeron without distinct punctures. Prosternal process apically rounded, with indistinct marginal grooves opposite coxae not joined apically (Fig. 233). Elytral striae deeply impressed, present as rows of small punctures separated by 0.5–1.0× diameter, with a deeply impressed line through middle of puncture rows, connecting the row of punctures; elytral interstriae roundly convex, scarcely punctate, shagreened; scutellary striae 3 punctures long; scutellum triangular, normal (Figs. 230, 232). Mesoventrite broad antero-posteriorly, U-shaped, excavate, receiving prosternal process; metaventrite subequal to antero-postero length of mesocoxa (Fig. 233). Metathoracic wing fully developed. Legs short, punctate; femora barely reaching beyond edge of elytra; tibiae with indistinct dorsal longitudinal groove, metatibia abruptly emarginate at apex with small serrations in the emarginate portion (Fig. 69). Abdominal depressions on 4th and 5th ventrites reduced to indistinct slits (Fig. 74); intercoxal process of the first ventrite apically rounded; ventral surface densely punctate, punctures moderately impressed (Fig. 232).

Female. Unknown.

Biology. This species has been collected by beating vegetation at 890 m.

Distribution. This species is endemic to Puerto Rico. It has been collected in the Maricao Forest in west-central Puerto Rico (Fig. 268).

Etymology. The species epithet comes from the Latin word *curvus* meaning curved or bowed, referring to the male metatibia as it is abruptly emarginate or curved near the ventral apex (Fig. 69).

Nesocyrtosoma guerreroi Hopp and Ivie, New Species
(Figs. 10, 15, 70, 234–238, 266, 301)

Type Material. HOLOTYPE: Male. DOM.REP:Prov.Pedernales; 26 km N.Cabo Rojo, 915m; 09 SEP 1988,wet forest; at light and night beating;

M.Ivie,Philips and Johnson. (from WIBF, deposited NMNH). PARATYPES (21 specimens): 1 WIBF specimen with same label data as type. DOMINICAN REPUBLIC; Barahona Prov., Filipinas; 18°07.339′N, 71°07.152′W; 625 m; Day beating; 7 July 2004 S. Lingafelter. (1 WIBF). DOMINICAN REP.:Prov.; Barahona, nr. Filipinas,; Larimar Mine; 26-VI-7-; VII-1992; Woodruff and; Skelley, at light. (2 FSCA, 1 WIBF). DOMINICAN REP.:Prov.; Barahona, nr. Filipinas; Larimar Mine;20–26-VI-1992;Woodruff and; Skelley; at night. (1 FSCA). DOMINICAN REPUBLIC: Pr.; Barahona, Rd.to Polo, S.; slope,860m 14-VII-1996; Coll. M.C. Thomas. (3 FSCA). DOMINICAN REPUBLIC:Prov.; La Vega, 1km NW Manabao; 6-VI-1994; coll. M.C. Thomas. (1 WIBF). DOM.REP; LaVega Prov.; PN.A.Bermudez, Cienaga; 19.VII-2.VIII.95, 1,100m; trop.evgrn.for.,FIT; S.+J. Peck, 95-36. (2 CMNC). DOMINICAN REPUBLIC:; La Vega Prov., PN Armando; Bermudez, km 1–3 along trail; W of La Cienga, 900–1,100,; 19°01.753′N, 70°54.654′W; 6-VI-2005; Gino Nearns. (1 WIBF). DOMIN.REP:Prov. LaVega; La Cienega, 1,100m; 19°04.07′N, 70°51.68′W; 29JULY1999, at night; M.A.Ivie and K.A.Guerrero. (1 WIBF). DOM.REP:-Prov.Pedernales; 24 km N.Cabo Rojo, 610m; 21 AUG 1988,wet forest; at light and night beating; M.Ivie,Philips and Johnson. (1 WIBF). DOM.REP:Prov.Pedernales; 24 km N.Cabo Rojo, 610m; 20AUG-09SEP1988,wetforest; Malaise trap, M.A. Ivie,; T.K. Philips and K.A. Johnson. (1 WIBF). DOMINICAN REPUBLIC: Pr.; Pedernales,25kmN.Cabo; Rojo,700m 10-VII-1996; Coll. M.C. Thomas. (1 FSCA). DOM.REP:Prov. La Altagracia; P.N.del Este, Boca de Yuma; entrance, 05AUG1999, at night; 18°21.904′N, 68°37.087′W; M.A.Ivie, beating veget. (2 WIBF). DOM.REP:Prov. La Altagracia; P.N.del Este, Boca de Yuma, entr. to Par.; Nac.delEste, 12m, 06AUG1999; at night, 18°21.904′N, 68°37.094′W; M.A.Ivie beating at night. (1 WIBF). DOMINICAN REPUBLIC:Prov.; Puerto Plata,1km, ESE; Estero Hondo, 1-VI-1994; coll. M.C. Thomas. (1 FSCA). DOMINICAN REPUBLIC; Peravia Prov., Cerro Gordo; south of Baní 65 meters; 18°16.120′N, 70°20.607′W; 28 June 2004 S. Lingafelter. (1 NMNH).

Diagnosis. This species can be distinguished by the combination of the elytral striae present as rows of small, lightly impressed, discontinuous punctures (Fig. 234), hypomeral bead absent, antennomeres 6–10 transverse, ocular depression present (Fig. 238), and tibiae with a weak dorsal longitudinal groove (Fig. 37). It most closely resembles *N. fernandoi*, but can be distinguished from that species by having an antero-posteriorly broad mesoventrite (Fig. 237).

Description (male). 4.0–5.5 mm long, 2.0–3.0 mm wide. Small, body short, moderately convex (Figs. 234, 235). Dark ferrugineous to purple; antennae, mouthparts, and tarsi ferrugineous. Head densely variably punctate; largest punctures subequal to a single eye facet, weakly to moderately impressed; extremely short golden seta emerging from each puncture. Antenna clavate, antennomeres 6–10 transverse, forming a loose club; apical antennomere subcircular; antennomeres 6–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12). Ventral portion of eye not reaching subgenal sulcus (Fig. 8); ventral ocular groove present (Fig. 238); postgena with distinct punctures (Fig. 12). Dorsal surface of pronotum densely punctate; punctures separated by 0.5–1.5 diameters. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin lacking marginal bead; anterior angles of pronotum right, weakly produced and widely rounded apically; lateral edge of pronotum evenly curved to base; pronotum evenly convex (Fig. 236). Hypomeron without distinct punctures.

Prosternal process apically rounded with indistinct marginal grooves opposite coxae not joined apically, mediobasal portion of prosternal process raised (Fig. 237). Elytral striae weakly impressed, present as rows of small punctures separated by 0.5–1.0× diameter; elytral interstriae flat, scarcely punctate; scutellary striae 3 punctures long; scutellum triangular, normal (Figs. 234, 236). Mesoventrite broad antero-posteriorly, U-shaped, excavate, receiving prosternal process; metaventrite subequal to antero-postero length of mesocoxa (Fig. 237). Metathoracic wing fully developed. Legs short, punctate; femora reaching beyond edge of elytron; tibiae with a weak dorsal longitudinal groove; metatibia straight, lacking ventral apical tooth (Fig. 70). Abdominal depressions on 4th and 5th ventrites reduced to indistinct slits (Fig. 74); intercoxal process of first ventrite apically rounded; ventral surface densely punctate, punctures weakly to moderately impressed (Fig. 237).

Female. Identical to male.

Biology. This species has been collected at light, by beating dead branches at night in wet forest and moist tropical forest, and by beating vegetation in dry forest. It has also been taken during the day by beating secondary *Acacia* Mill. and *Cassia* L. (both Fabaceae) thorn scrub. It has also has been taken in a Malaise trap.

Distribution. This species is endemic to Hispaniola. It has been collected in Barahona Province at the Larimar Mines and on the road to Polo; in La Vega Province at Parque Nacional Armando Bermudez in Ciénaga; in Pedernales Province north of Cabo Rojo; in La Altagracia Province in Parque Nacional del Este Boca de Yuma; and variously in Puerto Plata Province, Peravia Province, and La Estrel Province (Figs. 260, 266).

Etymology. This species is named for Kelvin Guerrero, former student of MAI who helped collect some of the series and is infamous around our laboratory for the saying "Sistemática, no es easy!"

Nesocyrtosoma virens (LaPorte and Brullé), New Combination
(Figs. 12, 37, 71, 80, 82, 239–242, 263, 302)

Platydema virens LaPorte and Brullé 1831: 391–392; Leng and Mutchler 1914: 462; Gebien 1938–1942*a*: 538; Blackwelder 1945: 529; Marcuzzi 1984: 89.

Hoplocephala flavicornis Chevrolat 1877: 170 [synonymy follows Blackwelder 1945: 529].

Neomida viridula Gundlach, *nomen nudum* [in Gundlach collection].

Diaperis viridula Zayas 1988: 93, Fig. 81. **New Synonymy**.

Serrania viridula; Garrido 2003: 50–51, Fig. 1; Peck 2005: 150.

Platydema antennatum [not LaPorte and Brullé]; Ivie 1991: 400 (misidentification); Marcuzzi 1998: 158 (misidentification).

Taxonomic Notes. Garrido (2003) described the monotypic genus *Serrania* for *Diaperis viridula* Zayas, 1988, placing it in the Diaperini. *Diaperis viridula* was described from two specimens in the Gundlach collection with the *nomen nudum Neomida viridula* and the number 656.

Three years after Zayas' publication, Ivie (1991) visited the residence of Zayas and examined part of the collection and synonymized several taxa described by Zayas. Among these, Ivie incorrectly synonymized *Diaperis viridula* Zayas, 1988 with *Platydema antennatum* LaPorte and Brullé, 1831. Garrido (2003), detecting Ivie's mistake, attempted to resolve the taxonomic placement of this species. However, when he sent two topotypes to C. A. Triplehorn, Triplehorn identified

them as *Nautes* Pascoe sp. in the tribe Helopini, resulting in yet another discrepancy in determination between Zayas, Ivie, and Triplehorn (Garrido 2003). Thus, Garrido (2003) described a new genus, *Serrania*, with *D. viridula* as the type species, under the new combination, *Serrania viridula* (Zayas).

While Garrido was correct that *D. viridula* does not fit within any of the current Diaperinae genera, he failed to recognize that it does not belong in the Diaperinae at all. This species has the clypeal membrane concealed and the metatibia does not bear a fine, crenulate, longitudinal ridge on the external (dorsal) surface. This automatically rules out this species from the Diaperinae as the Diaperinae have the clypeal membrane exposed and the metatibia bears a fine, crenulate, longitudinal ridge on the external (dorsal) surface (Triplehorn 1965).

While dealing with the *Serrania* problem, a second species, *Platydema virens* LaPorte and Brullé, 1831, came into the picture. Much like *S. viridula*, *P. virens* lacks the external apomorphies of the Diaperinae. Interestingly enough, after the examination of *P. virens* type specimens in Torino, Italy by Ivie, it was discovered that *Serrania viridula* (Zayas) is a synonym of *Platydema virens* LaPorte and Brullé **New Synonymy**. With this new synonymy, females of this species were dissected in order to determine its taxonomic placement.

Dissections of the female genitalia revealed the true taxonomic placement of this species in the Stenochiinae: Cnodalonini and in the genus *Nesocyrtosoma*. First, the defensive reservoirs are attached medially and have annular bands, which are consistent with Stenochiinae defensive reservoirs (Fig. 82) (Tschinkel and Doyen 1980). Second, the genital tube is a bursa-less vagina with an apical, smooth spermathecal accessory gland ending distally in a membranous, abruptly saccate spermatheca, which is consistent with the Stenochiinae (Fig. 80) (Tschinkel and Doyen 1980). Third, the ovipositor is consistent with the Stenochiinae with the paraprocts much shorter than the coxites, and at rest are rotated 180° so that the morphologically proximal ends lie distally beside the coxites, the proximal lobe of the coxites is longer than the distal three lobes combined (Fig. 83) (Tschinkel and Doyen 1980; Doyen 1989). Finally, the stiffened-cuticular tube is consistent with the NSCT-type, thus this species is placed in *Nesocyrtosoma* and recognized for the first time as *Nesocyrtosoma virens* (LaPorte and Brullé) **New Combination**.

Type Material Examined. *Diaperis viridula* Zayas: HOLOTYPE: "Col. F. de Zayas; Sierra Maestra; Turquino 6 1963; Oriente. CUBA/ red circle label Tipo/ *D. viridula*; Zayas" (FZCM).

Serrania viridula (Zayas): TOPOTYPES designated by Garrido (2003): 7 specimens in OHGC. Examined 5 of 7 (other two were not found in collection when visited); 1 specimen labeled "Coleccion M. Barro; Soledad; 14 VI 1933; Prov. S.C. CUBA/ Tenebrionidae; Ident. OHG 210; *Serrania viridula*; Zayas, 1988;" 3 other specimens with the same label data but with OHG numbers 203, 207 and 1470; 1 specimen labeled "Corralillo; 14.VI.33; L.V. Cuba/ Tenebrionidae; Ident. OHG 205; *Serrania viridula*; Zayas, 1988."

Platydema virens LaPorte and Brullé: LECTOTYPE of *Platydema virens* here designated (female): ~~*Diaperis*~~; *virens* Klug; Is. (??) Cuba D. Schüppel. PARALECTOTYPE of *Platydema virens* here designated (sex unknown): ~~*Diaperis*~~; *virens* Klug; Is. (??) Cuba D. Schüppel.

A second specimen with the same label data as the type is reported in the Zayas description, but was not designated as a paratype.

Other Material Examined. Coleccion M. Barro; Soledad; 14.VI 1933; Prov. S.C. CUBA. (6 OHGC—OHG 157, OHG1881, OHG 1884, OHG 1885, OHG

1889, OHG 1890,). Turquino- Ote; VI- 1967; Zayas-Alayo; Garcia. (1 OHGC—OHG 1882). Cardero-; Turquino; X-1966; I. Garcia. (7 OHGC—OHG 209, OHG 1882, OHG 1883, OHG 1886, OHG 1463, OHG 1469, OHG 1877; 3 IESC—OHG 301, OHG 302, OHG 304). Cardero-Turquino; VI-1964; I. Garcia/ Tenebrionidae; Ident. OHG 1887; *Serrania viridula*; Zayas, 1988. (1 OHGC). Turquino- Ote; VI-1967; Zayas-Alayo; Garcia/ Tenebrionidae; Ident. OHG 1882; *Serrania viridula*; Zayas, 1988. (1 OHGC). Soledad; 13. VI. 32; S.C. CUBA/ Tenebrionidae; Ident. OHG 1891; Serrania viridula; Zayas, 1988. (1 OHGC). Soledad; 14 VI 1933; S.C. Cuba/ Tenebrionidae; Ident. OHG 1890; *Serrania viridula*; Zayas, 1988. (1 OHGC). Sierra de; Rangel- P.R.; VI-1930/ Tenebrionidae; Ident. OHG 1888; *Serrania viridula*; Zayas, 1988. (1 OHGC). Cayamas; 11. 3 Cuba/ E. A. Schwarz; Collector. (1 NMNH). Cayamas; 13. 3 Cuba/ E. A. Schwarz; Collector. (1 NMNH). Cayamas; Cuba, Baker/ 4171/ CASEY; bequest; 1925/ *Platydema*; *virens*; Cast. (1 NMNH). Loma del Gato; Cobre Range, O; July 3–7 1936; about 3,000 ft./ Cuba 1936; Darlington; Collector/ *Platydema*; *virens* Lap. and Brll.; Det. Triplehorn '64. (4 OSUC). [Soledad, Cuba; (Cienfuegos); May, 1936; Darlington. (1 OSUC). 454/ Cuba; Poey Coll. (2 ANSP). 454; var./ Cuba; Poey Coll. (1 ANSP). Poey; Collection/ Cuba. (1 ANSP). 285/ Poey Coll./ Cuba./ *Neomida*; *viridula*; M. Berl; Diaperiales. (1 ANSP). CUBA: Las Villas; Topes de Collantes; Sierra de Trinidad; 11 June 1959; M. W. Sanderson. (1 WIBF). CUBA: Oriente, Loma; (Pico) del Gato, Sierra; Maestra, 26–28 MAR 1959; M. W. Sanderson. (1 WIBF). 182; *Neomida virens*. (1 Gundlach Collection, IESC). 656; *Neomida viridula* (3 Gundlach Collection, IESC). 1128; *Platydema virens*. (1 Gundlach Collection–IESC). CUBA: Oriente; Yateritas; 01 June 1959; M. W. Sanderson. (5 WIBF). CUBA, 30.5.1985; Pico Turquino; S. Bilý leg. (1 NMPC). 285/ Cuba; Poey Coll./ *Neomida*; *viridula*; M. B.; Diaperiales. (1 ANSP).

Notes. This list of examined specimens may represent a complex of species as variation is extremely difficult to understand. If a specimen from Cuba does not fit nicely in *N. cubanense*, *N. dentatum*, or *N. garridoi*, it is placed in *N. virens*. The two specimens examined from the Gundlach Collection, 182 and 656, were listed from Cardenas in Gundlach's record book.

Diagnosis. This species is extremely variable, but can be distinguished by the combination of weakly to strongly convex elytral interstriae (Fig. 239), hypomeral bead weakly to strongly impressed (Fig. 27), and males with a small ventral apical tooth on the metatibia (Fig. 71).

Redescription (modified from LaPorte and Brullé 1831, Zayas 1988, and Garrido 2003) (male). 4.0–4.5 mm long, 2.5–3.0 mm wide. Small, short, broad, slightly convex (Figs. 239, 240). Shining greenish blue; antennae, mouthparts and tarsi yellow-brown to ferrugineous. Head densely punctate; punctures variable, largest punctures larger than a single eye facet and deeply impressed. Antenna clavate; antennomeres 7–10 weakly transverse, forming a loose club; apical antennomere subcircular; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12); ventral portion of eye not reaching subgenal sulcus (Fig. 8); postgena with distinct punctures (Fig. 12). Dorsal surface of pronotum punctate; punctures separated by 0.5–1.0 diameters. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin lacking marginal bead; anterior angles of pronotum obtuse, not produced and broadly rounded apically; lateral edge of pronotum evenly curved to base; pronotum evenly convex (Fig. 241). Hypomeral bead weakly to deeply impressed; hypomeron with distinct punctures (Fig. 27). Prosternal process with mediobasal portion of prosternal process raised, apically

rounded with marginal grooves opposite coxae joined apically (Fig. 242). Elytral striae lightly impressed, present as small discontinuous punctures with an impressed line through the middle, connecting the row of punctures; interstriae weakly to roundly convex; scutellary stria 4–8 punctures long; scutellum triangular, normal (Figs. 239, 241). Mesoventrite broad antero-posteriorly, deeply excavate, U-shaped, receiving prosternal process; metaventrite subequal to antero-postero length of mesocoxa (Fig. 242). Metathoracic wing fully developed. Legs short, stout, punctate, short golden setae emerging from each puncture; apical 1/4 of femur reaching beyond edge of elytron; tibiae with dorsal longitudinal groove (Fig. 37); metatibia apically slightly curved ventrally, ventral apical tooth vestigial (Fig. 71). Abdominal depressions on 4th and 5th ventrites reduced to slightly impressed slits (Fig. 74); intercoxal process of first ventrite with apical nipple; ventral surface densely punctate, punctures weakly to strongly impressed (Fig. 242).

Female. Identical to male, except metatibia straight without apical ventral tooth.

Biology. Unknown.

Distribution. Blackwelder (1945) synonymized *Hoplocephala flavicornis* Chevrolat with *P. virens* and states its distribution as Puerto Rico. However, Chevrolat (1877) reports *H. flavicornis* only from Cuba, never mentioning Puerto Rico. Thus, this species is endemic to Cuba. It has been collected primarily on Pico Turquino in the Sierra Maestra of Oriente Province. It has also been taken in Soledad, Cayamas, Loma del Gato, Coralillo, Yateritas, and Topes de Collantes (Figs. 259, 263).

Nesocyrtosoma cubanense (Kulzer), New Combination
(Figs. 27, 30, 72, 243–246, 266, 303)

Apsida cubanensis Kulzer 1961: 217; Triplehorn 1970: 568. [Here designated correct as First Revisers]

Apsida cubaensis Kulzer 1961: 219; Marcuzzi 1984: 90; Ferrer and Ødegaard 2005: 640 [Here designated *lapsus calami* as First Revisers].

Type Material Examined. HOLOTYPE: Playa Marianao; bei Habana; 2. 6. 1932./ A. Bierig leg; Eing.Nr.129,1933./ *Hapsida*; n. sp.; H. Gebein det. 1934/ ♂/ on white square label with red outline HOLOTYPUS; *Apsida*; *cubaensis* mihi; det. H.Kulzer 1961. (NHMB). ALLOTYPE: Playa Marianao; bei Habana; 2. 6. 1932./ A. Bierig leg; Eing.Nr.129,1933./ ♀/ ALLOTYPUS; *Apsida*; *cubaensis* mihi; det. H.Kulzer 1961. (1 NHMB). PARATYPES: Playa Marianao; bei Habana; 2. 6. 1932./ A. Bierig leg; Eing.Nr.129,1933./ PARATYPUS; *Apsida*; *cubaensis* mihi; det. H.Kulzer 1961. (1 NHMB). Cuba,; Prov. Pinar d. Rio; Sierra d. Rosario; Rangel XII.1932/ A. Bierig leg; Eing.Nr.129,1933./ PARATYPUS; *Apsida*; *cubaensis* mihi; det. H.Kulzer 1961. (1 NHMB).

Notes. After examination of the paratype from Pinar del Rio, it was determined that this specimen is a female of *N. dentatum*. However, it is not given paratype status of *N. dentatum* because it is a female. Kulzer (1961) used two spellings for this species, *Apsida cubanensis* as the first (p. 217) and second (p. 218) usage with *Apsida cubaensis* used in the key on p. 219. Triplehorn (1970) followed the first of these, while Marcuzzi (1984) and Ferrer and Ødegaard (2005) used the second. Under ICZN Article 32.2.1, the First Reviser [see also Art. 24.2.3] is empowered to choose between these two spellings, but in order to satisfy that provision, both names must be cited and one chosen. None of the users have satisfied this

condition, so it falls to us as First Revisors to follow Triplehorn (1970) and choose *Apsida cubanensis* as the correct name.

Other Material Examined. Pto. Manati; Tunas- Ote 1981; L. R. Hern y; L. de Armas. (1 OHGC). Playo Giron; C. de Zapata; VI 1962; Zayas. (1 OHGC). P. Gorda; C. de Zapata; VI 1962; Zayas. (1 OHGC). CUBA: Matanzas Prov.,; Cienaga Zapata, at; Playa Larga; 11 and 12 Feb. 1981; P. Spangler, A. Vega/ Collected in; malaise trap. (1 NMNH, 1WIBF).

Notes. Triplehorn (1970) published a synopsis of the genus *Apsida* Lacordaire and wrote a new key to the species, but did not include *A. cubanensis* because he had not seen specimens of this species and was therefore unable to place it in his key. However, this species does not belong in *Apsida* as it does not have the clypeal membrane exposed and the metatibia does not bear a fine, crenulate, longitudinal ridge on the external (dorsal) surface. The second paratype listed from Pinar del Rio is likely a female of *N. dentatum*, and is placed there, but not designated as a paratype as it is a female. There is an additional paratype in the series, but it was not examined.

Finally, the female specimens in the ''Other Material Examined'' section may represent a complex of species as only male specimens can be identified with certainty.

Diagnosis. Both males and females of this species can be distinguished from most other members of the *Serrania* species-group by the small, broad body (Fig. 243), flat interstriae (Fig. 243), strong hypomeral bead (Fig. 27), and prosternal process raised in the mediobasal portion (Fig. 246). The males of this species can be distinguished from all other species except *N. dentatum* by the combination of a femoral tooth on the hind margin distad the trochanter and the strongly curved metatibia with a small tooth on the apical ventral surface that flows into the apex of the metatibia (Fig. 72), whereas *N. dentatum* males have a larger ventral apical metatibial tooth proximad apex (Fig. 73).

Redescription (modified from Kulzer 1961) (male). 4.0–4.5 mm long, 2.5–3.0 mm wide. Small, body short, broad, moderately convex (Figs. 243, 244). Shining greenish blue; antennae, mouthparts, and tarsi yellow-brown to ferrugineous. Head densely variably punctate; largest punctures larger than a single eye facet, weakly to moderately impressed; extremely short golden seta emerging from each puncture. Antenna clavate; antennomeres 7–10 short, apically widened forming a loose club; apical antennomere subcircular; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12); ventral portion of eye not reaching subgenal sulcus (Fig. 8); postgena with distinct punctures (Fig. 12). Dorsal surface of pronotum punctate; punctures separated by 0.5–1.0 diameters Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin lacking marginal bead; anterior angles of pronotum right, weakly produced and broadly rounded apically; lateral edge of pronotum evenly curved to base; pronotum evenly convex (Fig. 245). Hypomeral bead deeply impressed; hypomeron with distinct punctures (Fig. 27). Mediobasal portion of prosternal process raised; prosternal process apically rounded, with distinct marginal grooves opposite coxae joined apically (Fig. 246). Elytral striae lightly impressed, present as small discontinuous punctures with a lightly impressed line through the middle, connecting the row of punctures; interstriae flat; scutellary striae 4 punctures long; scutellum triangular, normal (Figs. 243, 245). Mesoventrite broad antero-posteriorly, excavate, U-shaped, receiving prosternal process; metaventrite subequal to antero-postero length of mesocoxa (Fig. 246). Metathoracic wing

fully developed. Legs short, stout, punctate; pro- and metafemora reaching beyond edge of elytron, mesofemur not reaching past edge of elytron; metafemur with tooth distad trochanter (Fig. 72); tibiae with dorsal longitudinal groove (Fig. 37); metatibia strongly curved ventrally, with small ventral apical tooth with posterior edge sloped into apex of the tibia (Fig. 72). Abdominal depressions on 4th and 5th ventrites reduced to indistinct impressed slits (Fig. 74); intercoxal process of first ventrite with apical nipple; ventral surface densely punctate, punctures strongly impressed (Fig. 246).

Female. Identical to male, except metafemur lacking tooth distad trochanter and metatibia straight and lacking ventral apical tooth.

Biology. The only available biological data available for this species are that it has been collected in a Malaise trap.

Distribution. This species is endemic to Cuba. It seems to be widespread throughout Cuba, occurring in La Habana, Playa Giron, Playa Gorda and Playa Larga in Ciénaga de Zapata located in Matanzas Province, Manti in Las Tunas Province, and Pico Turquino in Oriente Province (Figs. 258, 259, 266).

Nesocyrtosoma dentatum Hopp and Ivie, New Species
(Figs. 73, 247–250, 262, 304)

Apsida cubanensis Kulzer 1961: 217–218; Triplehorn 1970: 568 [in part, one paratype].

Type Material. HOLOTYPE: Male. PinaresOri-; enteCuba'18; W M Mann. (NMNH). PARATYPES (5 specimens): CUBA: Pinar del Rio; Aspiro-Rangel; 16 June 1959; M. W. Sanderson. (2 WIBF). Pinar del Rio; 7-12-1960/ Tenebrionidae; Ident. OHG 316; *Hapsida*; *cubanensis*; Kulzer, 1961. (1 OHGC). Soledad, Cuba; (Cienfuegos); May, 1936; Darlington. (1 OSUC). CUBA: Camaguey; Monte Imias; nr. California; 07 JUN 1959; M. W. Sanderson. (1 WIBF).

Other Material Examined. Cuba,; Prov. Pinar d. Rio; Sierra d. Rosario; Rangel XII.1932/ A. Bierig leg; Eing.Nr.129,1933./ PARATYPUS; *Apsida*; *cubaensis* mihi; det. H.Kulzer 1961. (NHNB). PinaresOri-; enteCuba'18; W M Mann. (NMNH).

Notes. The paratype of *A. cubanensis* from Pinar del Rio does not belong to that species as it is more elongate and slender and has a weakly impressed hypomeral bead. However, it is a female, so its placement here is tentative. The four recognized Cuban species of the *Serrania* species-group are quite variable, and even though there are some characters to use to place females within the correct species, those characters are variable and thus make it difficult to identify a female with certainty. Therefore, the female paratype of *A. cubanensis* from Pinar del Rio is not made a paratype of *N. dentatum*. The second specimen under Other Material Examined is a male and can be distinguished by the metatibia, however, the pronotum and head are missing so it is not given paratype status.

Diagnosis. Both males and females of this species can be distinguished by the elongate body form (Fig. 247), weakly to roundly convex interstriae (Fig. 247), weak hypomeral bead, and prosternal process not greatly raised in the mediobasal portion (Fig. 250). The males of this species can be distinguished from all other species, except *N. cubanense*, by the combination of a tooth on the metafemur distad the trochanter, strongly curved metatibia and sharp tooth on the ventral surface proximad apex (Fig. 73). It can be distinguished from *N. cubanense* by the males of *N. dentatum* having a larger ventral apical metatibial tooth proximad

apex (Fig. 73), whereas *N. cubanense* males have a small tooth on the apical ventral surface of the metatibia that flows into the apex of the metatibia (Fig. 72).

Description (male). 3.5–4.5 mm long, 2.0–2.5 mm wide. Small, body elongate, slender, slightly convex (Figs. 247, 248). Shining greenish blue to purple; antennae, mouthparts, and tarsi yellow-brown. Head densely punctate; largest punctures subequal to a single eye facet, punctures moderately impressed; extremely short golden seta emerging from each puncture. Antenna clavate; antennomeres 7–10 transverse, apically widened forming a loose club; apical antennomere subcircular; antennomeres 7–11 with stellate sensoria. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12); ventral portion of eye not reaching subgenal sulcus (Fig. 8); postgena with distinct punctures (Fig. 12). Dorsal surface of pronotum punctate; punctures separated by 0.5–1.0 diameters. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin lacking marginal bead; anterior angles of pronotum obtuse, weakly produced and broadly rounded apically; lateral edge of pronotum evenly curved to base; pronotum evenly convex (Fig. 249). Hypomeral bead weakly to deeply impressed; hypomeron with distinct punctures (Fig. 27). Prosternal process apically rounded with marginal grooves opposite coxae joined apically (Fig. 250). Elytral striae impressed, present as small discontinuous punctures with a weakly to moderately impressed line connecting the rows of punctures; interstriae weakly convex to flat; scutellary striae 4–6 punctures long; scutellum triangular, normal (Figs. 247, 249). Mesoventrite thin antero-posteriorly, deeply excavate, U-shaped, receiving prosternal process; metaventrite subequal to antero-postero length of mesocoxa (Fig. 250). Metathoracic wing fully developed. Legs long, slender, punctate, short golden seta emerging from each puncture; apical 1/4 of femur reaching beyond edge of elytron; metafemur with tooth distad trochanter; tibiae with distinct dorsal longitudinal groove (Fig. 37); metatibia strongly apically curved ventrally; metatibial tooth proximad apex of metatibia, sharp with posterior edge straight (Fig. 73). Abdominal depressions on 4th and 5th ventrites reduced to slightly impressed slits (Fig. 74); intercoxal process of the first ventrite with apical nipple; ventral surface densely punctate, punctures weakly to strongly impressed (Fig. 250).

Female. Identical to male, except metafemur without tooth distad trochanter and metatibia straight without ventral apical tooth.

Biology. This species has been collected at night, but no other biological data are available.

Distribution. This species is endemic to Cuba and has been collected in Aspiro-Rangel and Pinares in Pinar del Rio Province. It has also been collected on Monte Imias in Camaguey Province, and at Ciénaga de Zapata and Topes de Collantes in Las Villas Province (Figs. 258, 259, 268).

Etymology. This species epithet comes from the Latin word *dentatus* meaning toothed. This species has a large tooth on the metafemur distad the trochanter, and a sharp tooth on the ventral surface proximad apex of the metatibia (Fig. 73).

Serrania Species-Group — Fossil Species

Three species are redescribed (two are not redescribed due to either poor preservation or the type was not seen) and one new species from Dominican amber is described for the first time. These species were not included in the phylogenetic analysis and are listed in alphabetical order. The fossil species described by Doyen and Poinar (1994) originated from mines located between Santiago and Puerto Plata in the Cordillera Septentrional of the Dominican

Republic. Biological data is scarce for these species, however, it is known that amber from the Dominican Republic was formed by extinct tree species in the legume genus *Hymenaea*. Today, this genus comprises canopy species throughout lowland rain to deciduous dry forests in the Neotropics (Grimaldi 1996, 2004; Lewis *et al.* 2005). These types of habitats are consistent with habitats in which *Nesocyrtosoma* is currently found, and it is likely these beetles were living on or near the *Hymenaea* trees and were thus preserved in amber. Finally, there is some discrepancy regarding the age of Dominican amber, however, the currently accepted age is between 17 and 30 million years old (Grimaldi 1994, 1996, 2004).

†*Nesocyrtosoma antiquum* (Kaszab and Schawaller)

†*Hesiodobates antiquus* Kaszab and Schawaller 1984: 1–6, Figs. 1–7; Poinar 1992: 154.
†*Nesocyrtosoma antiquum*; Doyen and Poinar 1994: 45; Perez-Gelabert 2008: 115.
†*Nesocyrtosoma antiquus*; Arillo and Ortuño 2005: 22.
†*Nesocyrtoma antiquum* Perez-Gelabert 1999: 31 [*lapsus calami*].

Type Material. Not seen. Holotype from Dominican amber; deposited in SMNS; Inv. No. Do-3240-M-1.

Diagnosis. This fossil species can be distinguished from all other fossil species by the combination of its larger size (5.0 mm) and the completely unmargined posterior margin of the pronotum. This species most closely resembles †*N. minisculum*, but can be distinguished from it by its larger size and having the apical six anntenomeres enlarged, forming a loose, elongate club. The description does not provide any other characters that make this species unique from the others, and without studying the holotype, no other diagnostic characters can be provided at this time.

Redescription (based on Kaszab and Schawaller 1984) (sex unknown). 5.0 mm long. Small, elongate. Shining green; legs dark brown with lighter tarsi. Head densely punctate; punctures smaller than a single eye facet. Antenna weakly clavate, nearly filiform; antennomeres 6–11 weakly widened apically, forming a loose, elongate club; apical antennomere longitudinally ovate. Pronotal marginal bead complete laterally, anterior and posterior margins with marginal bead absent, anterior angles of pronotum obtuse, weakly produced and broadly rounded apically; lateral edge of pronotum evenly curved to base; pronotum evenly convex. Prosternal process apically rounded. Elytral striae present as small discontinuous punctures with a deeply impressed line connecting the rows of punctures; interstriae roundly convex, impunctate; scutellary striae 4 punctures long; scutellum triangular, normal. Legs long, slender; apical portion of femora reaching beyond edge of elytra; apical tarsomere longer than preceding tarsomeres combined.

†*Nesocyrtosoma celadonum* Doyen and Poinar
(Figs. 251–253)

†*Nesocyrtosoma celadonum* Doyen and Poinar 1994: 46–47, Fig. 27; Arillo and Ortuño 2005: 22; Perez-Gelabert 2008: 115.
†*Nesocyrtoma celadonum* Perez-Gelabert 1999: 31 [*lapsus calami*].

Type Material Examined. HOLOTYPE: *Nesocyrtosoma*; *celadona*; Doyen and Poinar; HOLOTYPE. (GOPC).

Diagnosis. This species can be distinguished from all other species in the *Serrania* species-group by the crenulate lateral edges of the pronotum. This species shares crenulate lateral edges of the pronotum with *N. crenulatum*, but can be

distinguished from that by the smaller size, green rather than purple tinge to the elytra and slightly crenulate lateral edges of the elytra.

Redescription (modified from Doyen and Poinar 1994) (sex unknown). 4.5 mm long, 2.6 mm wide. Small, body elongate, ovate, slightly convex (Figs. 251, 252). Shining green; antennae, mouthparts and tarsi ferrugineous. Head densely punctate; punctures subequal to a single eye facet and moderately impressed. Antenna clavate; antennomeres 7–10 transverse forming a loose club; apical antennomere subcircular. Mentum with acute median keel raised anteriorly to a point (Figs. 10, 12); ventral portion of eye not reaching subgenal sulcus (Fig. 8). Pronotal marginal bead complete laterally, anterior and posterior margins with marginal bead effaced medially, anterior angles of pronotum right, weakly produced and broadly rounded apically; lateral edge of pronotum crenulate; pronotum evenly convex. Prosternal process apically rounded to a point with faint marginal grooves opposite coxae not joined apically (Fig. 253). Elytral striae impressed, present as small discontinuous punctures with a deeply impressed line connecting the rows of punctures; interstriae roundly convex, impunctate, shagreened; scutellary striae 8–10 punctures long; scutellum triangular, normal (Fig. 251). Lateral edge of elytra finely crenulate. Mesoventrite thin antero-posteriorly, deeply excavate, V-shaped, receiving prosternal process; metaventrite subequal to antero-postero length of mesocoxa (Fig. 253). Metathoracic wing fully developed. Legs long, slender; apical 1/4 of femora reaching beyond edge of elytra; protibia straight; meso- and metatibia bowed; apical tarsomere longer than preceding tarsomeres combined (Fig. 253). Intercoxal process of first ventrite broadly triangular apically (Fig. 253).

†*Nesocyrtosoma hadratum* Doyen and Poinar

†*Nesocyrtosoma hadratum* Doyen and Poinar 1994: 46–47; Arillo and Ortuño 2005: 22; Perez-Gelabert 2008: 115.
†*Nesocyrtoma hadratum* Perez-Gelabert 1999: 31 [*lapsus calami*].

Type Material Examined. HOLOTYPE: *Nesocyrtosoma*; *hadratum*; Doyen and Poinar; HOLOTYPE. (GOPC).

Diagnosis. This species can be distinguished from all other fossil species by its stouter, more convex body, and the pronotum continuously and strongly narrowed from base to apex.

Description. See Doyen and Poinar (1994).

Notes. This species is not redescribed because the fossil specimen is intersected by a fracture which opened during study and was repaired. The head is bent forward and nearly impossible to see; the pigment of the cuticle of the fossil is divided into irregular polygonal fragments obscuring surface detail, and the venter, including mouthparts, is obscured by a reflective layer of air and by clouded regions in the amber, thus making the specimen impossible to describe in any further detail than already described by Doyen and Poinar (1994).

†*Nesocyrtosoma impensum* Doyen and Poinar

†*Nesocyrtosoma impensum* Doyen and Poinar 1994: 47–48; Arillo and Ortuño 2005: 23; Perez-Gelabert 2008: 115.
†*Nesocyrtoma impensum* Perez-Gelabert 1999: 31 [*lapsus calami*].

Type Material. Not seen. The amber piece which contains the holotype of †*N. impensum* was not available as it also includes a partial lizard which was under study at the time of this study.

Diagnosis. This species can be distinguished from all other fossil species by its larger size (9.0 mm). The description does not provide any other characters that make this species distinct from extant species, and without studying the holotype, it is impossible to provide further diagnostic characters for this species.

Description. See Doyen and Poinar (1994).

Notes. Without studying the holotype, it is impossible to redescribe this species.

†*Nesocyrtosoma minisculum* Hopp and Ivie, New Species
(Figs. 254–256)

Type Material. HOLOTYPE (sex unknown): HOLOTYPE; *Nesocyrtosoma*; *minisculum*; Hopp and Ivie 2009 (from WIBF, deposited NMNH).

Diagnosis. This species can be distinguished from all other fossil species by its smaller size (3.5 mm), bronze to ferrugineous color, and the anterior and posterior edges of the pronotum entirely unmargined. It most closely resembles *N. productum* and †*N. antiquum*. It can be distinguished from *N. productum* by the weakly produced anterior angles and roundly convex and weakly punctate interstriae and from †*N. antiquum* by its smaller size and having the apical five antennomeres enlarged, forming a loose, elongate club.

Description (sex unknown). 3.5 mm long, 2.0 mm wide. Small, short, ovate moderately convex (Figs. 254, 255). Shining bronze; antennae, mouthparts, and tarsi tending to be the same color as the legs. Head densely punctate dorsally; punctures subequal to a single eye facet, moderately impressed. Antenna clavate, antennomeres 7–10 transverse, forming a loose club; apical antennomere subcircular; antennomeres 7–11 with stellate sensoria. Mentum not visible. Ventral portion of eye not reaching subgenal sulcus (Fig. 9); postgena without distinct punctures. Dorsal surface of pronotum moderately punctate; punctures separated by 0.5–1.0 diameters. Pronotal marginal bead complete laterally, anterior and posterior edges completely lacking marginal bead; anterior angles of pronotum nearly right, weakly produced and widely rounded apically; lateral edge of pronotum evenly curved to base; pronotum evenly convex (Fig. 254). Prosternal process and mesoventrite obscured by legs (Fig. 256). Elytral striae deeply impressed, present as rows of small punctures with a deeply impressed line through the middle of the punctures, connecting the row of punctures; elytral interstriae roundly convex and scarcely punctate; scutellary striae 3 punctures long; scutellum triangular, normal (Fig. 254). Metathoracic wing fully developed. Legs short, all but mesofemora reaching beyond edge of elytron; metatibia straight. Abdominal depressions on 4th and 5th ventrites reduced to indistinct slits (Fig. 74); intercoxal process of first ventrite rounded with apical nipple (Figs. 76, 256); ventral surface densely punctate (Fig. 256).

Notes. This specimen is likely a male as it has the hind tibia slightly curved at the apex, but this conclusion is not definitive as the genitalia cannot be seen.

Etymology. The species epithet comes from the Latin word *minisculus*, meaning rather small as this is the smallest known member of *Nesocyrtosoma* from Dominican amber.

†*Nesocyrtosoma phthanatum* Doyen and Poinar
(Fig. 257)

†*Nesocyrtosoma phthanatum* Doyen and Poinar 1994: 46, 48, Fig. 28; Arillo and Ortuño 2005: 23; Perez-Gelabert 2008: 115.

†*Nesocyrtoma phthanatum* Perez-Gelabert 1999: 31 [*lapsus calami*].

Type Material Examined. HOLOTYPE: *Nesocyrtosoma*; *phthanata*; Doyen and Poinar; HOLOTYPE. (GOPC).

Diagnosis. This species can be distinguished from all other fossil species by the uniform width of the pronotum and elytra until the apical 1/4 of the elytra tapered weakly to become more slender, the anterior angles of the pronotum very broadly rounded, weakly produced, and the lateral edges of the pronotum entirely straight to the apex.

Redescription (modified from Doyen and Poinar 1994) (sex unknown). 6.7 mm long, 3.1 mm wide. Small, elongate oval, moderately convex (Fig. 257). Elytra shining green. Head densely punctate dorsally; largest punctures larger than a single eye facet, deeply impressed. Dorsal surface of pronotum densely punctate; punctures separated by 0.5–1.0 diameters. Pronotal marginal bead complete laterally, anterior margin with marginal bead effaced medially, posterior margin lacking marginal bead; anterior angles of pronotum nearly obtuse, weakly produced and widely rounded apically; lateral edge of pronotum straight to base; pronotum evenly convex (Fig. 257). Elytral striae deeply impressed, present as rows of small punctures with a deeply impressed line through the middle of the punctures; elytral interstriae roundly convex; scutellum triangular, normal (Fig. 257). All femora reaching past edge of elytra. Venter completely obscured by thick layer of amber.

Checklist of *Nesocyrtosoma* Marcuzzi

[† indicates Dominican amber fossil species]

The species of *Nesocyrtosoma* are phylogenetically ordered by species-group with fossil species listed in alphabetical order at the end of the *Serrania* species-group.

Nesocyrtosoma s. s. Species-group

N. bestiola Hopp and Ivie, 2008, **New Species** ..... Hispaniola
N. ferruginea (Garrido and Gutiérrez, 1996), **New Combination** ..... Cuba
N. gebieni (Marcuzzi, 1976), **New Combination** ..... Cuba
    Cnodalon punctatum Zayas, 1988
N. tumefactum (Marcuzzi, 1976) ..... Cuba
    Cnodalon tumefactum Zayas, 1988
    Cnodalon inflatum Zayas, 1988, **New Synonymy**
    Cyrtosoma zayasi Marcuzzi, 1998
    Cyrtosoma gundlachi Marcuzzi, 1998
N. turquinense (Zayas, 1988), **New Combination** ..... Cuba
N. hispaniolae (Marcuzzi, 1976), **New Combination** ..... Hispaniola
N. neibaense Hopp and Ivie, 2008, **New Species** ..... Hispaniola
N. inflatum (Marcuzzi, 1976) ..... Cuba
    Cnodalon trinitatis Zayas, 1988, **New Synonymy**
    Cyrtosoma iviei Marcuzzi, 1998
N. merkli (Marcuzzi, 1999), **New Combination** ..... Hispaniola
N. scabrosum Hopp and Ivie, 2008, **New Species** ..... Hispaniola
N. lacrima Hopp and Ivie, 2008, **New Species** ..... Montserrat
N. simplex Hopp and Ivie, 2008, **New Species** ..... Hispaniola

Purple Species-group

N. altagracia Hopp and Ivie, 2008, **New Species** ..... Hispaniola
N. basilense Hopp and Ivie, 2008, **New Species** ..... Hispaniola
N. dolosum Hopp and Ivie, 2008, **New Species** ..... Hispaniola
N. purpureum Hopp and Ivie, 2008, **New Species** ..... Hispaniola
N. crenulatum Hopp and Ivie, 2008, **New Species** ..... Hispaniola
N. otus Hopp and Ivie, 2008, **New Species** ..... Hispaniola
N. darlingtoni Hopp and Ivie, 2008, **New Species** ..... Hispaniola
N. mutabile Hopp and Ivie, 2008, **New Species** ..... Hispaniola
N. larseni Hopp and Ivie, 2008, **New Species** ..... Cuba, Hispaniola
N. parallelum (Zayas, 1988) ..... Cuba
N. cristalense (Zayas, 1988) ..... Cuba
N. cuprosum (Zayas, 1988), **New Combination** ..... Cuba
N. elongatum (Zayas, 1988), **New Combination** ..... Cuba

Serrania Species-group

N. bankense Hopp and Ivie, 2008, **New Species** ..... Puerto Rico, St. John, St. Thomas
N. fernandoi Hopp and Ivie, 2008, **New Species** ..... Cuba
N. garridoi Hopp and Ivie, 2008, **New Species** ..... Cuba
N. puertoricense Hopp and Ivie, 2008, **New Species** ..... Puerto Rico
N. serratum Hopp and Ivie, 2008, **New Species** ..... Hispaniola
N. skelleyi Hopp and Ivie, 2008, **New Species** ..... Hispaniola
N. nearnsi Hopp and Ivie, 2008, **New Species** ..... Hispaniola
N. productum Hopp and Ivie, 2008, **New Species** ..... Hispaniola
N. teresitae Hopp and Ivie, 2008, **New Species** ..... Cuba
N. curvum Hopp and Ivie, 2008, **New Species** ..... Puerto Rico
N. guerreroi Hopp and Ivie, 2008, **New Species** ..... Hispaniola
N. virens (LaPorte and Brullé, 1831), **New Combination** ..... Cuba
    Platydema virens LaPorte and Brullé, 1831
    Diaperis viridula Zayas, 1988
    Serrania viridula Garrido, 2003, **New Synonymy**
N. cubanense (Kulzer, 1961), **New Combination** ..... Cuba
    Apsida cubanensis Kulzer, 1961
N. dentatum Hopp and Ivie, 2008, **New Species** ..... Cuba
†*N. antiquum* (Kaszab and Schawaller, 1984) ..... Hispaniola
†*N. celadonum* Doyen and Poinar, 1994 ..... Hispaniola
†*N. hadratum* Doyen and Poinar, 1994 ..... Hispaniola
†*N. impensum* Doyen and Poinar, 1994 ..... Hispaniola
†*N. minisculum* Hopp and Ivie, 2008, **New Species** ..... Hispaniola
†*N. phthanatum* Doyen and Poinar, 1994 ..... Hispaniola

Biogeography

The geological history of the West Indian islands is highly complex and controversial (Liebherr 1988; Crother and Guyer 1996; Hedges 2001, 2006; Chakrabarty 2006). There is no consensus, and several competing biogeograph-

ical reconstruction hypotheses have been proposed, as to when and how the islands attained their present-day configuration (Hedges 1996*a*, 1996*b*, 2001; Iturralde-Vinent and MacPhee 1999; Graham 2003*a*, 2003*b*; Iturralde-Vinent 2006; Santiago-Valentin and Olmstead 2004). This being the case, a comprehensive review is not given here. Although the geological history of the West Indies is not fully understood, there are some distinct geological boundaries. We define the biogeographical West Indies as those islands of the Caribbean Sea and Gulf of Mexico that are off the continental shelf (Bond 1993; Ivie 1998). These are oceanic islands in the sense that they are not attached to a continent, and were not joined to one during a Pleistocene eustatic event (Ivie 1998). Thus, the West Indian biogeographic province includes the Bahamas Islands, the Turks and Caicos Islands, the Greater Antilles (Cuba to the Virgin Islands), the Lesser Antilles (Sombrero to Grenada), and a few islands in the mid-Caribbean, such as Aves Island, San Andrés, Providencia, Swan, etc. (Ivie 1998). This definition excludes the Florida Keys, Trinidad and Tobago, the Dutch Leeward Islands of Aruba, Bonaire and Curaçao, and those continental countries often included in the political West Indies, such as Belize, Guyana, Surinam, and French Guiana (Ivie 1998).

The results of this revision reveal a historically confused and under-described genus that exhibits a Greater Antillean distribution with a single species known from the Lesser Antillean island of Montserrat. *Nesocyrtosoma* boasts subradiations of endemic species on Cuba (15 species), Hispaniola (25 species), and the Puerto Rican Bank (3 species), which indicate intra-island speciation has occurred. However, the presence of a single species on the Lesser Antillean island of Montserrat begs several questions regarding vicariant vs. over-water distribution patterns.

The absence of *Nesocyrtosoma* species on the Greater Antillean islands of Jamaica and St. Croix, as well as the lack of known species from the nearby Bahamas and Turks and Caicos Islands, suggests that this group has low over-water vagility and does not readily colonize islands via dispersal. First, the absence of species on Jamaica supports the taxon originated by vicariance with the Proto-Antilles (Buskirk 1985), as many such groups show extensive radiation in the core, old Greater Antilles, but do not occur on Jamaica because of its independent emergence in the late Miocene (10 mya), 20–30 million years later than the emergence of the other Greater Antillean islands (Buskirk 1985). Secondly, *Nesocyrtosoma* is absent from the Virgin Island of St. Croix, but is known from the Puerto Rican Bank islands of Puerto Rico, St. John, and St. Thomas. This is expected because the Puerto Rican Bank was a single island until 8,000–10,000 years ago (Heatwole *et al.* 1981), while St. Croix has had no emergent connection to Puerto Rico since the Early Oligocene (33–35 mya), if ever (Iturralde-Vinent and MacPhee 1999). Lastly, the absence of *Nesocyrtosoma* on the Bahamas and Turks and Caicos Islands also suggests its low over-water vagility. Wind and water currents as well as hurricanes flow east-to-west in the Caribbean region and often carry organisms over water from Cuba and Hispaniola into the Bahamas and Turks and Caicos Islands; however, this has not occurred with *Nesocyrtosoma*. The west-to-east straights of the Florida currents, especially during the Pliestocene, would provide even more opportunites for over-water colonization.

Based on the absence of *Nesocyrtosoma* from these various islands, it can be hypothesized that *Nesocyrtosoma* has low over-water vagility. However, the discovery of a Lesser Antillean species endemic to Montserrat provides an

interesting outlier. The existence of this single species of *Nesocyrtosoma* on the relatively young volcanic island (Pliocene, ~4.4 Ma) begs several questions regarding vicarant vs. over-water distribution patterns. This distribution pattern is not unique to *Nesocyrtosoma*. There are several biogeographical engimas with Greater Antillean distributions with significant evolutionary outliers in the Lesser Antilles limited to Montserrat, or Montserrat and a few neighboring islands (Ivie *et al.* 2008). This includes the Montserrat galliwasp, *Diploglossus montisserrati* Underwood, a lizard that is the only member of its family (Anguidae) to occur in the Lesser Antilles (Young *et al.* 2008). Other Antillean *Diploglossus* Wiegmann galliwasps are restricted to the Greater Antillean islands of Cuba, Hispaniola, Jamaica, and Puerto Rico. There are also other examples of similar distributions among beetles, including two very distinct sister-species of the genus *Thonalmus* Burgeois (Lycidae) that are Montserrat endemics representing the only Lesser Antillean members of this otherwise Greater Antillean and Bahamian radiation (Ivie *et al.* 2008). Another example is the radiation of the anobiid *Trichodesma* LeConte with five undescribed species on the island of Montserrat (Ivie *et al.* 2008). This genus is not known from any other Lesser Antillean island. The closest island known to have *Trichodesma* is in the Greater Antillean Virgin Islands (Ivie *et al.* 2008). This Greater Antilles and Montserrat distribution (or only on nearby islands) remains a biogeographical enigma, as there are no current hypotheses to explain this distribution pattern. Given the distances between the Greater Antillean populations and the Montserrat population, it is highly improbable that vicariance was the means by which these species reached the Lesser Antilles, yet dispersal by normal ocean currents is also unlikely given the lack of representatives on intervering islands and the prevalent east-to-west movement of the sea currents in the eastern Caribbean.

Looking beyond the physical distribution of *Nesocyrtosoma*, this Greater Antillean/Montserrat distribution cannot be explained by our phylogenetic analysis, nor does the phylogenetic analysis support a vicarance origin of most *Nesocyrtosoma* lineages. If speciation was driven by vicariance, the clades of *Nesocyrtosoma* would correspond more closely with geography than morphology, but the strict consensus tree resolves to three monophyletic morphological groups instead of geographical groups (Figs. 84A and 84B). Within these morphological species-groups, the *Nesocyrtosoma s. s.* species-group is represented by five species from Cuba, six from Hispaniola, and one from Montserrat; the Purple species-group is represented by four species from Cuba, eight from Hispaniola, and one species on both Cuba and Hispaniola; and the *Serrania* species-group is represented by six species from Cuba, five from Hispaniola, two from Puerto Rico, and one on Puerto Rico and the Virgin Islands of St. John and St. Thomas. Thus, the phylogenetic analysis suggests there were three ancestral species on Cuba and Hispaniola that evolved separately with the putatively ancestral state (*Serrania* species-group) on the Puerto Rican Bank and a more derived state (*Nesocyrtosoma s. s.* species-group) on Montserrat. Given our present phylogenetic hypothesis, there is no support for a single vicariance scenario explaining all *Nesocyrtosoma* diversity.

If we consider some alternative phylogenetic resolutions, some interesting biogeographical possibilities emerge. There is potential for exciting future research using *Nesocyrtosoma* as a model taxon for examining an interesting model of island speciation. The three species-groups supported in this phylogenetic study correspond well with morphological evolution predicted by Darlington's (1943) observation of consistent evolutionary trends in island-

inhabiting groups. Darlington's (1943) model predicts small, winged species in the lowlands that give rise to a series of montane species exhibiting gigantism and flightlessness. The *Nesocyrtosoma* species-groups correspond exactly with Darlington's prediction. The *Serrania*-species-group are small, winged species found primarily in the lowlands; the Purple species-group are large, winged species residing at both higher and lower elevations, and the *Nesocyrtosoma s. s.* species-group are high elevation wingless species. In the phylogenetic analysis of this study, support for the morphological clades is based on suspected convergent characters (reduced scutellum and short metaventrite with the reduction of metathoracic wings). Thus, as species of *Nesocyrtosoma* express the patterns predicted by Darlington, we would hypothesize that the *Nesocyrtosoma* species-groups would be intermixed phylogenetically instead of morphologically based on Darlington's theory.

This study has produced a unique starting point to test Darlington's theory with a demonstrably monophyletic and speciose group limited to islands, but a molecular study is needed to more fully resolve species relationships and test the model. The molecular study should be structured to test the hypothesis of the evolution of multiple lineages from a basal-most *Serrania*-type to multiply-derived, convergent gigantic Purple and the flightless *Nesocyrtosoma s. s.*-types. Such a study may provide insight into the Greater Antillean/Montserrat distribution and would be the first study of its kind to test Darlington's (1943) theory. Ultimately, the distribution of *Nesocyrtosoma* in the West Indies poses many biogeographical puzzles, though most are shared with other taxa. A clearer understanding of the relationships of *Nesocyrtosoma* species may help explain more general biogeographic patterns throughout the region.

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Literature Cited

Arillo, A., and V. M. Ortuño. 2005. Catalogue of fossil insect species described from Dominican amber (Miocene). Stuttgarter Beiträge zur Naturkunde (B) 352: 1–68.

Blackwelder, R. E. 1945. Checklist of the Coleopterous Insects of Mexico, Central America, The West Indies, and South America: Part 3. Smithsonian Institution United States National Museum 185: 1–1492.

Bond, J. 1993. The Birds of the West Indies. 5th ed. Houghton Mifflin, Boston. 256 pp.

Bouchard, P., J. F. Lawrence, A. E. Davies, and A. F. Newton. 2005. Synoptic classification of the world Tenebrionidae (Insecta: Coleoptera) with a review of family group names. Annales Zoologici (Warszawa) 55(4): 449–530.

Bouchard, P., and D. K. Yeates. 2001. Phylogenetic relationships of the Australian Coelometopini (Coleoptera: Tenebrionidae); a quantitative cladistic analysis with a review of biology. Organisms Diversity and Evolution 1: 17–43.

Buskirk, R. E. 1985. Zoogeographic patterns and tectonic history of Jamaica and the northern Caribbean. Journal of Biogeography 12: 445–461.

Chakrabarty, P. 2006. Systematics and historical biogeography of Greater Antillean Cichlidae. Molecular Phylogenetics and Evolution 39: 619–627.

Chevrolat, L. A. A. 1877. Diagnoses de diapérides nouveaux. Petites Nouvelles Entomologiques, vol. 2, pp. 170, 173, 177–178.

Crother, B. I., and C. Guyer. 1996. Caribbean historical biogeography: was the dispersal-vicariance debate eliminated by an extraterrestrial bolide? Herpetologica 52(3): 440–465.

Darlington, P. J., Jr. 1943. Carabidae of mountains and islands: data on the evolution of isolated faunas, and on atrophy of wings. Ecological Monographs 13(1): 37–61.

Doyen, J. T. 1966. The skeletal anatomy of *Tenebrio molitor* (Coleoptera: Tenebrionidae). Miscellaneous Publications of the Entomological Society of America 5: 103–150.

Doyen, J. T. 1989. Reconstitution of Coelometopini, Tenebrionini and related tribes of America north of Colombia (Coleoptera: Tenebrionidae). Journal of New York Entomological Society 97(3): 77–304.

Doyen, J. T., and G. O. Poinar, Jr. 1994. Tenebrionidae from Dominican amber (Coleoptera). Entomologica Scandinavica 25: 27–51.

Evenhuis, N. 2008. The insect and spider collection of the world website. Available from: http://hbs.bishopmuseum.org/codens/codens-inst.html (Accessed 15 August 2008).

Ferrer, J., and F. Ødegaard. 2005. New species of darkling beetles from Central America with systematic notes (Coleoptera: Tenebrionidae). Annales Zoologici (Warszawa) 55(4): 633–661.

Garrido, O. H. 2003. *Diaperis viridula* (Coleoptera: Tenebrionidae) es un táxon válido que representa un género Nuevo para Cuba. Solenodon 3: 49–52.

Garrido, O. H., and E. Gutiérrez. 1996. Consideraciones sobre el género *Cyrtosoma* (Coleoptera: Tenebrionidae: Cnodalonini) in Cuba con la descripción de nueva especie. Insecta Mundi 10: 281–284.

Gebien, H. 1937. Katalog der Tenebrioniden (Col. Heteromera). Teil I. Publicazioni del Museo Entomologico "Pietro Rossi" 2: 505–883.

Gebien, H. 1938–1942a. Katalog der Tenebrioniden. Teil II. Mitteilungen der Münchener Entomologischen Gesellschaft 28(1938): 283–428 [370–465]; 29 (1939): 443–474, 739–770 [466–529]; 30 (1940): 405–436, 755–786, 1061–1092 [530–625]; 31 (1941): 331–362, 803–834, 1137–1146 [626–705]; 32 (1942a): 308–346 [706–744].

Gebien, H. 1942b–1948. Katalog der Tenebrioniden. Teil III. Mitteilungen der Münchener Entomologischen Gesellschaft 32(1942b): 729–760 [746–777]; 33 (1943): 339–430, 895–926 [778–841]; 34 (1948): 497–555 [842–899].

Graham, A. 2003a. Geohistory models and Cenozoic paleoenvironments of the Caribbean region. Systematic Biology 28: 378–386.

Graham, A. 2003b. Historical phylogeography of the Greater Antilles. Brittonia 55: 357–383.

Grimaldi, D. A. 1994. The age of Dominican amber [pp. 203–217]. *In:* Amber, Resinite, and Fossil Resins (K. B. Anderson and J. C. Crelling, editors). American Chemical Society, Washington, D.C. 297 pp.

Grimaldi, D. A. 1996. Amber: Window to the Past. Abrams/American Museum of Natural History New York, NY. 216 pp.

Grimaldi, D. A., and M. S. Engel. 2004. Evolution of the Insects. New York, New York. 755 pp.

Heatwole, H., R. Levins, and M. D. Byer. 1981. Biogeography of the Puerto Rican Bank. Atoll Research Bulletin 251: 1–62.

Hedges, S. B. 1996a. Historical biogeography of the West Indian vertebrates. Annual Review of Ecology and Systematics 27: 163–196.

Hedges, S. B. 1996b. More on Caribbean zoogeography. Herpetologia 52: 622–624.

Hedges, S. B. 2001. Caribbean biogeography: an overview. *In:* Biogeography of the West Indies: Patterns and Perspectives (C. A. Woods and F. E. Sergile, editors). CRC Press, Boca Raton, FL. 582 pp.

Hedges, S. B. 2006. Paleogeography of the Antilles and origin of West Indian terrestrial vertebrates. Annals of the Missouri Botanical Garden 93: 231–244.

Hopp, K. J., M. A. Ivie, P. Bouchard, W. E. Steiner, Jr., and R. Aalbu. submitted. Case 3477. *Nesocyrtosoma nomen nudum* (Insecta, Coleoptera): proposed conservation of usage by designation of *Cyrtosoma inflatum* Marcuzzi, 1976 as the type species, and Marcuzzi 1976 as author and date of availabily. Bulletin of Zoological Nomenclature.

ICZN. 1999. International Code of Zoological Nomenclature, 4th Edition International Trust for Zoological Nomenclature. 126 pp.

Iturralde-Vinent, M. A. 2006. Meso-Cenozoic Caribbean paleogeography: implications for the historical biogeography of the region. International Geology Review 48: 791–827.

Iturralde-Vinent, M. A., and R. D. E. MacPhee. 1999. Paleogeography of the Caribbean region: implications for Cenozoic biogeography. Bulletin of the American Museum of Natural History 238: 1–95.

Ivie, M. A. 1985. Nomenclatoral notes on West Indian Elaphidiini (Coleoptera: Cerambycidae). Pan-Pacific Entomologist 61(4): 303–314.

Ivie, M. A. 1991. Taxonomic notes on a little known publication: Zayas, 1988, Entomofauna Cubana. Orden Coleoptera. The Coleopterists Bulletin 45(4): 399–401.

Ivie, M. A. 1998. West Indian beetle fauna project. Available from: http://virgin.msu.montana.edu/WestIndies/Index.html (Accessed 15 January 2009).

Ivie, M. A. 2002. Key to families of beetles in America north of Mexico [pp. 816–835]. *In:* American Beetles. Polyphaga: Scarabaeoidea through Curculionoidea, Vol. 2 (R. H. Arnett, M. C. Thomas, P. E. Skelley, and J. H. Howard, editors). CRC Press, Boca Raton, FL. 861 pp.

Ivie, M. A., K. A. Marske, I. A. Foley, K. A. Guerrero, and L. L. Ivie. 2008. Invertebrates of the Centre Hills and Montserrat, with an emphasis on beetles. *In:* A biodiversity assessment of the Centre Hills, Montserrat. Durrell Conservation Monograph No. 1 (R. P. Young, editor). Durrell Wildlife Conservation Trust, Jersey, Channel Islands.

Kaszab, Z., and W. Schawaller. 1984. Eine neue Schwartzkäfer-Gattung und –Art aus Dominikanischem Bernstein (Coleoptera: Tenebrionidae). Stuttgarter Beiträge zur Naturkunde (B) 109: 1–6.

Kulzer, H. 1961. Neue Tenebrioniden aus Südamerika (Col.). 21. Beitrag zur Kenntnis der Tenebrioniden. Entomologische Arbeiten aus dem Museum G. Frey 12: 205–235.

LaPorte, F. L., and G. A. Brullé. 1831. Monographie du genre *Diaperis*. Annales des sciences naturelles 23: 325–410.

Leng, C. W., and A. J. Mutchler. 1914. A preliminary list of the Coleoptera of the West Indies as recorded to Jan. 1, 1914. Bulletin of the American Museum of Natural History 33: 391–493.

Lewis, G., B. Schrire, B. Mackinder, and M. Lock. 2005. Legumes of the World. Royal Botanic Gardens Kew, Richmond, Surrey, UK. 592 pp.

Liebherr, J. K. 1988. Zoogeography of Caribbean Insects. Cornell University Press, Ithaca, NY. 285 pp.

Lucas, R. 1920. Catalogus alphabeticus generum et subgenerum Coleopterorum orbis terrarum totius (famil., trib., subtr., sect. incl.). Pars I. R. Stricker, Berlin, Germany. 696 pp.

Marcuzzi, G. 1976. New species of Neotropical Tenebrionidae (Coleoptera). Annales Historico-Naturales Musei Nationalis Hungarici 68: 117–140.

Marcuzzi, G. 1984. A catalogue of tenebrionid beetles (Coleoptera: Heteromera) of the West Indies. Folia Entomologica Hungarica XLV. I, 69–108.

Marcuzzi, G. 1991. New species of *Cyrtosoma* Perty (Coleoptera: Tenebrionidae) from the Neotropical region. Elytron 5: 235–252.

Marcuzzi, G. 1998. Supplement to the catalogue of Tenebrionidae (Coleoptera) of the West Indies. Annales Historico- Naturales Musei Nationalis Hungarici 90: 151–162.

Marcuzzi, G. 1999. Five new species and a new subgenus of *Cyrtosoma* Perty from the West Indies (Coleoptera: Tenebrionidae). Annales Historico- Naturales Musei Nationalis Hungarici 91: 81–86.

Nixon, K. C. 1999. Winclada (Beta) ver. 0.9.9. Published by author, Ithaca, NY.

Peck, S. B. 2005. Arthropods of Florida and Neighboring Land Areas, vol. 18: A checklist of the beetles of Cuba with data on distributions and bionomics (Insecta: Coleoptera). Florida Deptartment of Agriculture and Consumer Services, Division of Plant Industry, Gainesville, FL. 241 pp.

Perez-Gelabert, D. E. 1999. Catálogo sistemático y bibliografía de la biota fósil en amber de la República Dominicana. Hispaniolana Nueva Serie 1: 1–65.

Perez-Gelabert, D. E. 2008. Arthropods of Hispaniola (Dominican Republic and Haiti): a checklist and bibliography. Zootaxa 1831: 1–530.

Poinar, G. O. 1992. Life in Amber. Stanford University Press, Stanford, CA. 350 pp.

Santiago-Valentin, E., and R. G. Olmstead. 2004. Historical biogeography of Caribbean plants: introduction to current knowledge and possibilities from a phylogenetic perspective. Taxon 53: 299–319.

Smith, M. L., S. B. Hedges, W. Buck, A. Hemphill, S. Inchaustegui, M. A. Ivie, D. Martina, M. Maunder, and J. F. Ortega. 2005. Caribbean Islands [pp. 112–118]. *In:* Hotspots Revisited: Earth's Biologically Richest and Most Endangered Terrestrial Ecoregions (R. A. Mittermeier, P. R. Gil, J. Pilgrim, T. Brooks, C. G. Mittermeier, G. A. B. da Fonseca, H. Ford, and P. A. Seligmann-Smith, editors). Conservation International, Washington, D.C. 392 pp.

Triplehorn, C. A. 1965. Revision of Diaperini of America North of Mexico with notes on extralimital species (Coleoptera: Tenebrionidae). Proceedings of the United States National Museum 117: 349–458.

Triplehorn, C. A. 1970. A synopsis of the genus *Apsida* with descriptions of a new species (Coletopera: Tenebrionidae). Annals of the Entomological Society of America 63(2): 567–572.

Tschinkel, W. R., and J. T. Doyen. 1980. Comparative anatomy of the defensive glands, ovipositors and female genital tubes of tenebrionid beetles (Coleoptera). International Journal of Insect Morphology and Embryology 9: 321–368.

Vitali, F. 2008. A new species of *Tyrtaeus* Champion, 1913 from Dominican amber (Coleoptera Tenebrionidae). Entomapeiron 3(1): 11–16.

Wheeler, Q. D., and N. I. Platnick. 2000. The phylogenetic species concept. *In:* Species Concepts and Phylogenetic Theory: A Debate (Q. D. Wheeler and R. Meier, editors). Columbia University Press, New York, NY. 230 pp.

Young, R. P., G. M. Hilton, and L. Martin. 2008. Biodiversity of the Centre Hills: importance, key features, conservation priorities and recommended actions. *In:* A biodiversity assessment of the Centre Hills, Montserrat. Durrell Conservation Monograph No. 1 (R. P. Young, editor). Durrell Wildlife Conservation Trust, Jersey, Channel Islands. 319 pp.

Zayas, F. 1988. Entomofauna Cubana. Orden Coleoptera. Separata. Descripción de nuevas especies. 211 pp.

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Appendix 1
Morphological Character Matrix
Polymorphic coding: K = 0/1/2, L = 1/2, *P* = 0/2, *r* = 0/4, S = 2/4.

Taxon/Character	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Tenebrio molitor	1	1	1	0	1	0	1	0	0	0	2	1	1	2
Strongylium atrum	1	0	1	0	1	3	4	1	1	0	0	0	2	2
Apsida chrysomelina	0	0	1	0	0	0	2	3	1	0	0	1	1	0
Cnodalon viride	1	1	1	0	1	0	1	2	1	0	2	1	1	1
Cyrtosoma picea	1	0	1	0	1	1	2	3	1	0	2	1	1	1
Hesiodus longitarsus	0	1	1	0	0	1	0	5	1	0	2	1	0	1
N. bestiola	0	1	1	0	0	0	2	3	1	0	1	1	1	1
N. neibaense	0	1	1	0	0	2	2	3	1	0	1	1	1	0
N. ferruginea	0	1	0	0	0	2	2	3	1	0	2	1	1	1
N. gebieni	1	1	0	0	0	2	2	3	1	0	1	1	1	1
N. hispaniolae	0	1	0	0	0	2	2	3	1	0	2	1	1	1
N. inflatum	0	1	0	0	0	2	1	2	1	0	1	1	1	1
N. lacrima	0	1	0	0	0	2	2	3	1	0	1	1	0	0
N. merkli	0	1	0	0	0	2	2	3	1	0	1	1	1	1
N. scabrosum	0	1	0	0	0	2	2	3	1	0	1	1	1	1
N. simplex	0	1	0	0	0	0	2	3	1	0	1	1	1	0
N. tumefactum	0	1	0	0	0	2	2	3	1	0	1	1	1	1
N. turquinense	0	1	0	0	0	2	2	3	1	0	1	1	1	1
†*N. antiquum*	0	1	?	?	?	2	1	?	?	?	?	1	0	0
†*N. celadonum*	1	1	0	?	?	0	2	?	1	0	1	1	1	1
N. bankense	1	1	0	1	0	0	2	3	1	0	1	1	1	0
N. cubanense	1	1	0	0	1	0	2	3	1	0	1	1	1	0
N. curvum	1	1	0	1	0	0	1	2	1	0	1	1	1	0
N. dentatum	1	1	0	0	1	0	2	3	1	0	1	1	1	0
N. fernandoi	1	1	0	1	?	0	2	3	1	0	1	1	1	0
N. garridoi	1	1	0	1	0	0	1	2	1	0	1	1	1	0
N. guerreroi	1	1	0	1	1	0	1	2	1	0	1	1	1	0
†*N. hadratum*	0	?	?	?	?	?	?	?	?	?	?	1	?	?
†*N. impensum*	0	?	?	?	?	?	?	?	1	?	?	1	1	1
†*N. minisculum*	1	1	0	0	0	0	2	3	1	0	?	1	0	0
N. nearnsi	0	1	1	0	0	0	2	3	1	0	1	1	1	0
†*N. phthanatum*	1	1	?	?	?	?	?	?	?	?	?	1	1	0
N. productum	0	1	1	0	0	0	2	3	1	0	1	1	1	0
N. puertoricense	1	1	0	1	0	0	2	3	1	0	1	1	1	0
N. serratum	1	1	0	0	1	0	2	3	1	0	1	1	1	0
N. skelleyi	1	1	0	0	1	0	2	3	1	0	1	1	1	0
N. teresitae	1	1	0	1	1	0	1	2	1	0	1	1	1	0
N. virens	1	1	0	0	1	0	2	3	1	0	1	1	1	0
N. altagracia	0	1	1	0	0	2	2	3	1	0	1	1	1	0
N. basilense	0	1	1	0	0	2	2	3	1	0	1	1	1	0
N. crenulatum	1	1	1	0	1	2	1	2	1	0	2	1	1	1
N. cristalense	1	1	1	0	0	2	2	3	1	0	1	1	1	1
N. cuprosum	1	1	1	0	0	2	2	3	1	0	1	1	1	1
N. darlingtoni	1	1	1	0	1	2	2	3	1	0	1	1	1	0
N. dolosum	0	1	1	0	0	2	1	2	1	0	2	1	1	0
N. elongatum	1	1	1	0	0	2	2	3	1	0	2	1	1	1
N. larseni	1	1	1	0	0	0	2	3	1	0	1	1	1	1
N. mutabile	1	1	1	0	0	2	2	3	1	0	2	1	1	1
N. otus	0	1	1	0	0	2	1	2	1	0	2	1	1	1
N. parallelum	1	1	1	0	1	2	2	3	1	0	1	1	1	1
N. purpureum	0	1	1	0	0	2	1	2	1	0	1	1	1	0

Appendix 1 Continued.

Taxon/Character	15	16	17	18	19	20	21	22	23	24	25	26
Tenebrio molitor	2	1	1	1	2	0	0	0	1	1	4	2
Strongylium atrum	1	0	0	1	0	1	0	0	0	1	0	2
Apsida chrysomelina	2	1	0	0	0	0	0	0	0	1	P	1
Cnodalon viride	1	0	0	2	0	0	0	2	0	1	3	1
Cyrtosoma picea	1	0	0	1	0	0	0	2	2	0	0	2
Hesiodus longitarsus	2	1	0	1	0	0	0	0	1	1	R	1
N. bestiola	0	1	1	0	0	0	0	0	1	0	0	1
N. neibaense	0	1	1	1	0	0	0	0	2	1	0	1
N. ferruginea	0	1	1	1	0	0	0	0	2	1	0	1
N. gebieni	0	1	1	1	0	0	0	0	2	1	0	2
N. hispaniolae	0	1	1	1	0	0	0	0	2	1	0	1
N. inflatum	0	1	1	1	0	0	0	1	2	1	R	1
N. lacrima	2	1	0	1	0	0	0	0	2	0	S	2
N. merkli	0	1	1	1	0	0	0	0	2	0	R	1
N. scabrosum	2	1	0	1	0	0	0	0	2	0	0	3
N. simplex	1	0	0	0	0	0	0	0	2	0	R	1
N. tumefactum	1	1	0	1	0	0	0	0	2	1	R	1
N. turquinense	1	1	0	1	0	0	0	2	2	1	R	1
†*N. antiquum*	1	0	0	0	?	0	?	0	?	?	3	2
†*N. celadonum*	1	0	0	2	0	0	1	2	1	1	3	2
N. bankense	2	0	0	0	0	0	0	0	2	0	R	2
N. cubanense	2	0	0	0	0	1	1	0	2	0	3	2
N. curvum	0	1	1	0	0	0	0	0	1	1	2	1
N. dentatum	2	0	0	0	0	1	1	0	2	0	3	2
N. fernandoi	0	0	1	0	0	0	0	0	1	?	3	1
N. garridoi	2	0	0	0	0	0	0	2	1	1	3	2
N. guerreroi	2	0	0	0	0	0	0	0	1	1	1	1
†*N. hadratum*	1	0	0	0	0	?	?	0	?	?	2	2
†*N. impensum*	1	0	0	0	0	?	?	2	?	?	0	2
†*N. minisculum*	2	0	0	0	0	?	?	?	?	?	2	2
N. nearnsi	2	0	0	0	0	0	0	0	1	0	R	2
†*N. phthanatum*	1	0	0	0	0	?	?	?	?	?	3	2
N. productum	0	2	1	0	0	0	0	0	1	0	4	2
N. puertoricense	2	0	0	0	0	0	0	0	2	0	2	2
N. serratum	1	0	0	0	0	1	1	0	2	0	3	2
N. skelleyi	2	0	0	0	0	0	0	0	2	0	3	2
N. teresitae	0	0	1	0	0	0	0	0	1	1	0	1
N. virens	1	0	0	0	0	1	1	0	2	0	3	2
N. altagracia	0	1	1	1	0	0	0	0	1	0	1	1
N. basilense	0	1	1	1	0	0	0	2	1	1	4	1
N. crenulatum	0	1	1	2	0	0	0	0	2	1	1	2
N. cristalense	1	1	0	1	0	1	0	0	2	0	1	1
N. cuprosum	1	1	0	1	0	1	0	2	2	1	2	1
N. darlingtoni	0	1	1	1	0	1	0	0	1	1	1	1
N. dolosum	0	1	1	1	0	0	0	0	1	1	1	1
N. elongatum	1	1	0	1	0	1	0	0	2	0	0	1
N. larseni	0	1	1	1	1	1	0	0	2	1	0	1
N. mutabile	2	1	1	1	0	1	0	0	1	1	1	1
N. otus	0	2	1	1	2	0	0	0	2	1	1	1
N. parallelum	0	1	1	1	0	1	0	2	2	0	1	1
N. purpureum	0	1	1	1	0	0	0	0	2	0	1	1

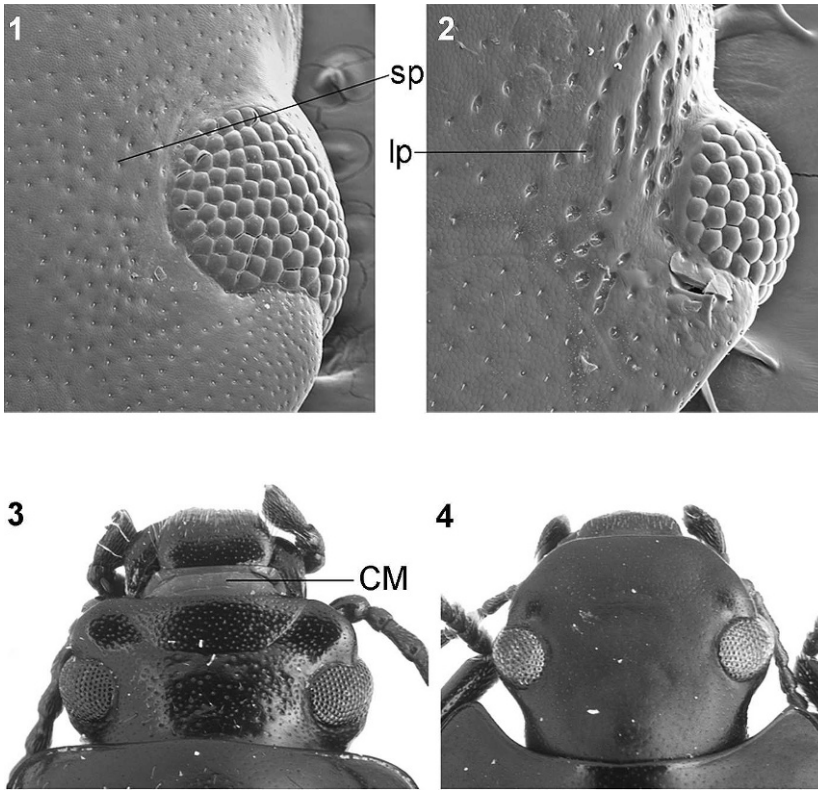
Appendix 1 Continued.

Taxon/Character	27	28	29	30	31	32	33	34	35	36	37	38
Tenebrio molitor	1	0	0	0	1	1	0	0	1	0	0	1
Strongylium atrum	2	0	0	0	1	1	0	0	1	0	0	1
Apsida chrysomelina	2	2	2	0	0	1	1	0	0	0	1	1
Cnodalon viride	1	1	2	0	1	0	1	0	1	0	0	1
Cyrtosoma picea	0	2	1	1	1	0	1	1	0	1	1	0
Hesiodus longitarsus	2	2	2	0	0	0	1	0	0	0	1	0
N. bestiola	2	2	0	1	0	0	1	1	0	1	1	0
N. neibaense	1	0	1	1	0	0	1	1	0	1	1	0
N. ferruginea	2	2	1	1	0	0	1	1	0	1	1	0
N. gebieni	0	1	1	1	0	0	1	1	0	1	1	0
N. hispaniolae	2	2	1	1	0	0	1	1	0	1	1	0
N. inflatum	2	0	1	1	0	0	0	1	0	1	1	0
N. lacrima	0	1	1	1	0	0	1	1	0	1	1	0
N. merkli	2	2	1	1	0	0	1	1	0	1	1	0
N. scabrosum	3	2	1	1	0	0	1	1	0	1	1	0
N. simplex	2	1	1	1	0	1	1	1	0	1	1	0
N. tumefactum	2	1	1	1	0	0	1	1	0	1	1	0
N. turquinense	2	0	1	1	0	0	1	1	0	1	1	0
†*N. antiquum*	0	2	2	0	?	?	?	?	0	?	?	?
†*N. celadonum*	0	2	2	0	0	0	1	0	0	0	1	?
N. bankense	0	1	2	0	0	1	1	0	0	0	1	0
N. cubanense	2	0	2	0	0	1	1	0	0	0	1	0
N. curvum	0	1	1	0	0	1	1	0	0	0	1	0
N. dentatum	1	0	2	0	0	0	1	0	0	0	1	0
N. fernandoi	2	2	2	0	0	1	1	0	0	0	1	0
N. garridoi	0	0	2	0	0	0	1	0	0	0	1	0
N. guerreroi	2	1	1	0	0	1	1	0	0	0	1	0
†*N. hadratum*	?	?	?	0	0	?	?	?	0	?	?	?
†*N. impensum*	1	?	?	?	?	0	1	?	?	?	?	?
†*N. minisculum*	0	1	1	0	0	?	?	0	0	0	1	?
N. nearnsi	2	1	2	0	0	1	1	0	0	0	1	0
†*N. phthanatum*	0	?	2	0	0	?	?	?	0	?	?	?
N. productum	2	0	2	0	0	1	1	0	0	0	1	0
N. puertoricense	0	1	2	0	0	1	1	0	0	0	1	0
N. serratum	0	1	2	0	0	1	1	0	0	0	1	0
N. skelleyi	0	1	2	0	0	0	1	0	0	0	1	0
N. teresitae	1	1	1	0	0	1	1	0	0	0	1	0
N. virens	K	1	2	0	0	1	1	0	0	0	1	0
N. altagracia	2	2	2	0	0	0	1	0	0	0	1	0
N. basilense	2	0	2	0	0	1	1	0	0	0	1	0
N. crenulatum	L	0	2	0	0	0	0	0	0	0	1	0
N. cristalense	2	0	2	0	0	0	1	0	0	0	1	0
N. cuprosum	2	0	2	0	0	0	1	0	0	0	1	0
N. darlingtoni	2	0	2	0	0	0	1	0	0	0	1	0
N. dolosum	2	0	2	0	0	0	1	0	0	0	1	0
N. elongatum	2	0	2	0	0	0	1	0	0	0	1	0
N. larseni	1	0	2	0	0	0	1	0	0	0	1	0
N. mutabile	2	1	2	0	0	0	1	0	0	0	1	0
N. otus	2	0	2	0	0	0	0	0	0	0	1	0
N. parallelum	2	0	2	0	0	0	1	0	0	0	1	0
N. purpureum	2	0	2	0	0	0	1	0	0	0	1	0

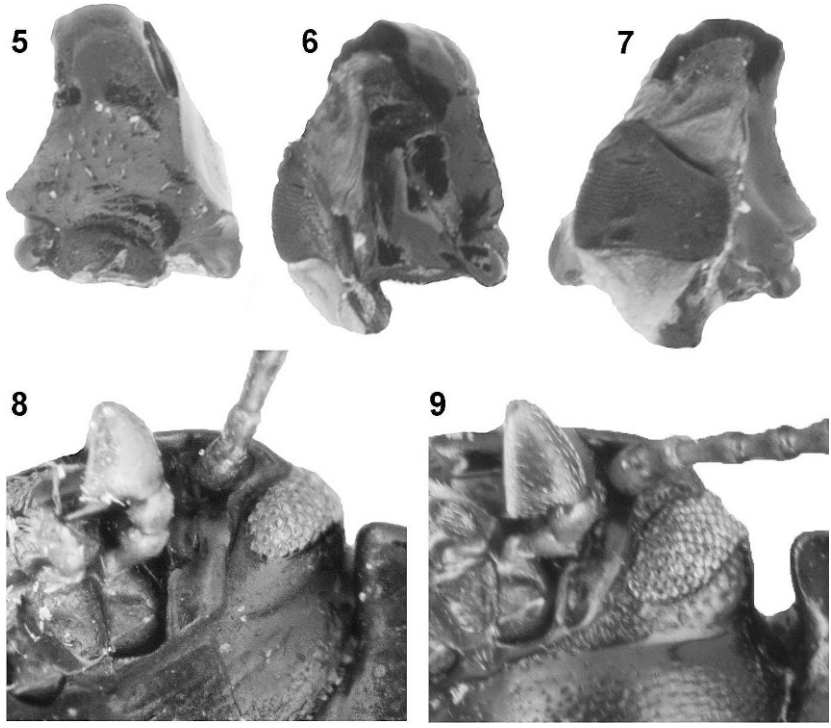
Appendix 1 Continued.

Taxon/Character	39	40	41	42	43	44	45	46	47	48	49	50
Tenebrio molitor	1	0	0	0	0	0	0	0	2	0	1	0
Strongylium atrum	1	0	0	0	0	0	0	0	2	0	1	0
Apsida chrysomelina	1	0	0	0	0	0	0	0	2	0	1	0
Cnodalon viride	1	0	0	0	0	0	0	0	0	0	1	0
Cyrtosoma picea	1	0	0	0	0	0	0	0	0	0	1	0
Hesiodus longitarsus	0	0	0	1	1	0	0	0	0	0	1	0
N. bestiola	0	0	0	0	2	0	0	0	0	0	1	1
N. neibaense	0	0	0	1	1	0	0	0	0	0	1	1
N. ferruginea	0	0	0	0	2	0	0	0	0	0	1	1
N. gebieni	0	0	0	?	?	0	0	0	0	0	1	1
N. hispaniolae	0	0	0	1	1	0	0	0	0	0	1	1
N. inflatum	0	0	0	1	1	0	0	0	0	0	1	1
N. lacrima	0	0	0	0	1	0	0	0	0	0	0	1
N. merkli	0	0	0	1	1	0	0	0	0	0	1	1
N. scabrosum	0	0	0	1	1	0	0	0	0	0	1	1
N. simplex	0	0	0	1	1	0	0	0	0	1	1	1
N. tumefactum	0	0	0	0	2	0	0	0	0	0	1	1
N. turquinense	0	0	0	0	2	0	0	0	0	0	1	1
†*N. antiquum*	0	?	?	?	?	?	?	?	?	?	1	?
†*N. celadonum*	0	?	?	?	?	?	?	?	0	0	1	?
N. bankense	0	0	0	0	1	0	0	0	0	1	1	1
N. cubanense	0	0	1	0	1	1	1	1	0	1	1	1
N. curvum	0	0	0	0	3	1	1	1	0	0	1	?
N. dentatum	0	0	1	0	1	1	1	1	0	1	1	1
N. fernandoi	0	0	0	?	?	?	?	?	0	0	1	1
N. garridoi	0	0	0	0	0	0	0	0	0	0	1	1
N. guerreroi	0	0	0	0	0	1	1	1	0	0	1	1
†*N. hadratum*	0	?	?	?	?	?	?	?	?	?	?	?
†*N. impensum*	0	?	?	?	?	?	?	?	?	?	?	?
†*N. minisculum*	0	?	?	?	?	?	?	?	0	1	0	?
N. nearnsi	0	0	0	0	1	1	1	1	0	0	1	1
†*N. phthanatum*	0	?	?	?	?	?	?	?	?	?	?	?
N. productum	0	0	0	?	?	1	1	1	0	1	1	1
N. puertoricense	0	0	0	0	1	1	1	1	0	1	1	1
N. serratum	0	0	0	0	1	0	0	0	0	1	1	1
N. skelleyi	0	0	0	0	1	0	0	0	0	1	1	1
N. teresitae	0	0	0	0	0	0	0	0	0	0	1	1
N. virens	0	0	0	0	1	1	1	1	0	1	1	1
N. altagracia	0	0	0	?	?	0	0	0	0	0	1	1
N. basilense	0	0	0	1	1	0	0	0	0	0	1	?
N. crenulatum	0	0	0	1	1	0	0	0	1	0	1	1
N. cristalense	0	0	0	1	1	0	0	0	1	0	1	?
N. cuprosum	0	0	0	1	1	0	0	0	1	0	1	1
N. darlingtoni	0	0	0	1	1	0	0	0	1	0	1	1
N. dolosum	0	1	0	1	1	0	0	0	1	0	1	1
N. elongatum	0	0	0	1	1	0	0	0	1	0	1	1
N. larseni	0	0	0	0	1	0	0	0	1	0	1	1
N. mutabile	0	0	0	1	1	0	0	0	1	0	1	1
N. otus	0	0	0	1	1	0	0	0	1	0	1	1
N. parallelum	0	0	0	1	1	0	0	0	0	0	1	1
N. purpureum	0	1	0	1	1	0	0	0	1	0	1	1

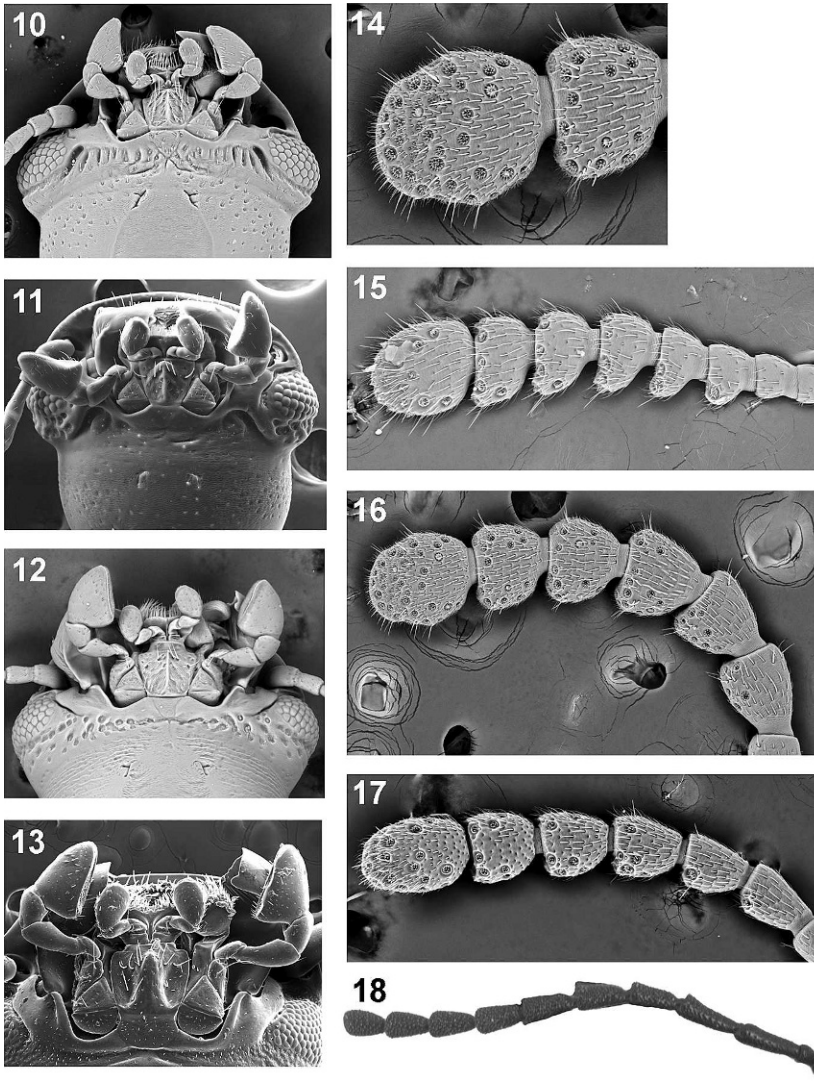
Appendix 2
Figures



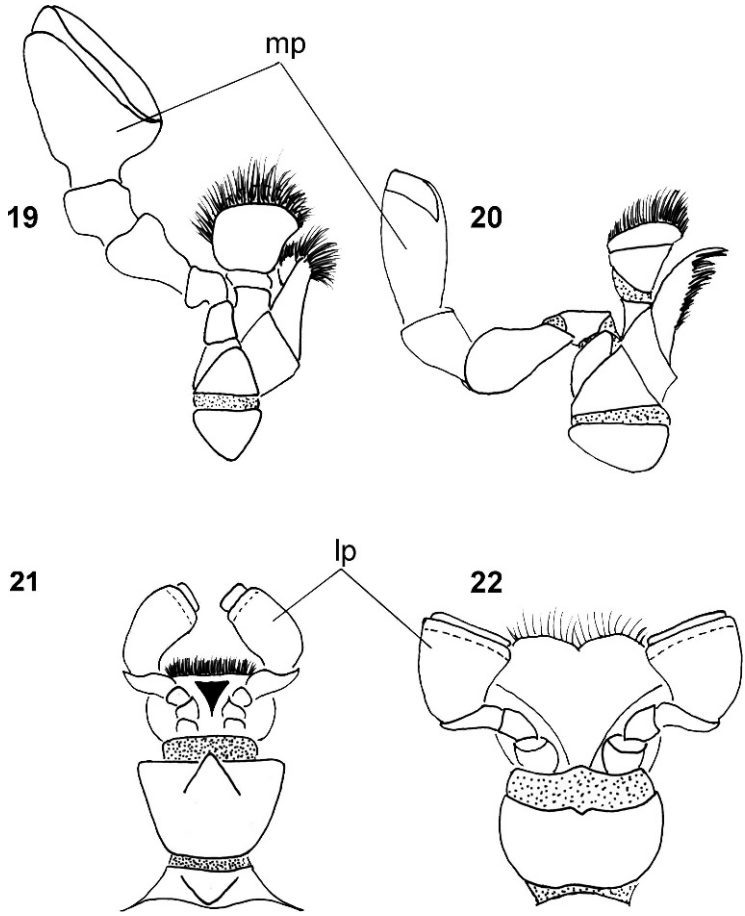
Figs. 1–4. Dorsal view of head. **1)** *Nesocyrtosoma otus* with punctures on the dorsal surface of head smaller than a single eye facet (sp = small puncture); **2)** *Nesocyrtosoma bankense* with dorsal punctures on the surface of the head subequal or larger than a single eye facet (lp = large puncture; **3)** *Cyrtosoma picea* with clypeal membrane exposed (CM = clypeal membrane); **4)** *Nesocyrtosoma inflatum* with clypeal membrane concealed.



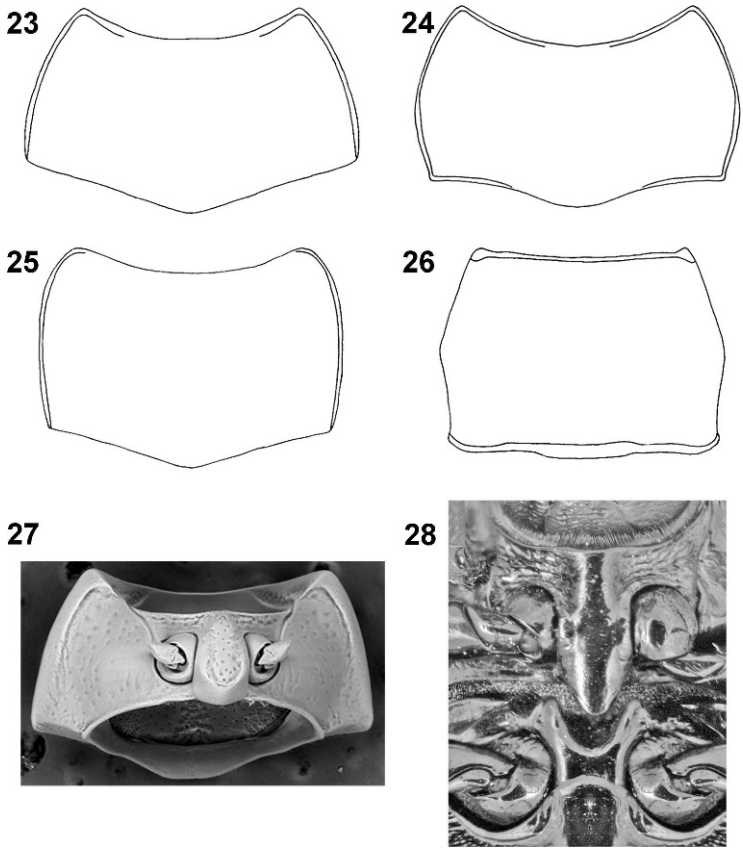
Figs. 5–9. 5–7: Mandible of *Nesocyrtosoma hispaniolae*. **5)** View from back; **6)** View from side; **7)** View from front. 8–9: Ventral portion of eye. **8)** *Nesocyrtosoma lacrima* with ventral portion of eye not reaching the subgenal sulcus; **9)** *Nesocyrtosoma darlingtoni* with ventral portion of eye reaching the subgenal sulcus.



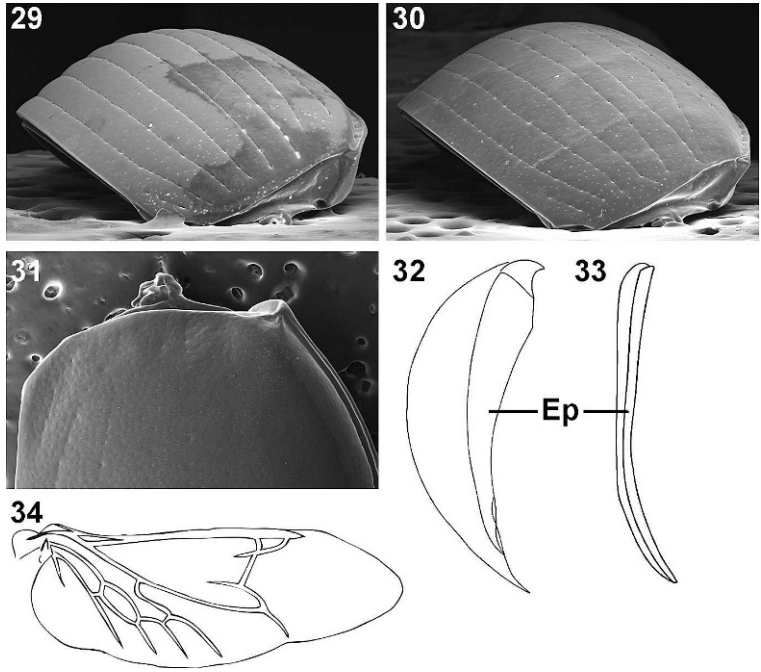
Figs. 10–18. 10–13: Ventral portion of head. **10)** *Nesocyrtosoma guerreroi* ocular depression; **11)** *Nesocyrtosoma bankense* ocular depression; **12)** *Nesocyrtosoma virens* distinct postgenal punctures; **13)** *Nesocyrtosoma otus* median keel of mentum broad. 14–18: Antenna. **14)** *Nesocyrtosoma crenulatum* with antennomeres 10 and 11 with stellate sensoria; **15)** *Nesocyrtosoma guerreroi* with antenna clavate, apical six antennomeres enlarged to form club; **16)** *Nesocyrtosoma crenulatum* with antenna moderately clavate, apical six antennomeres enlarged to form club; **17)** *Nesocyrtosoma inflatum* with antenna weakly clavate, nearly filiform, apical six antennomeres enlarged to form club; **18)** *Strongylium atrum* with filiform antenna.



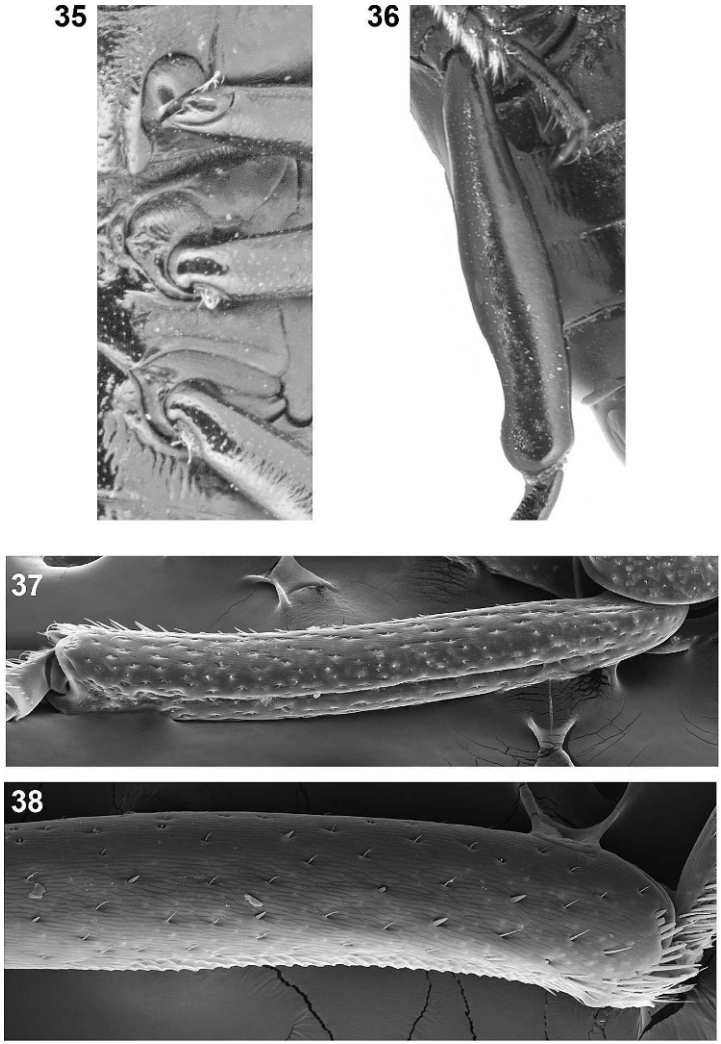
Figs. 19–22. 19–20: Left maxilla; mp = maxillary palp. **19)** *Nesocyrtosoma hispaniolae* with apical maxillary palpi securiform; **20)** *Tenebrio molitor* (redrawn from Doyen 1966) with apical maxillary palpi rectangular. 21–22: Labium; lp = labial palp. **21)** *Nesocyrtosoma hispaniolae* with apical labial palpi rectangular; **22)** *Strongylium atrum* with apical labial palpi triangular.



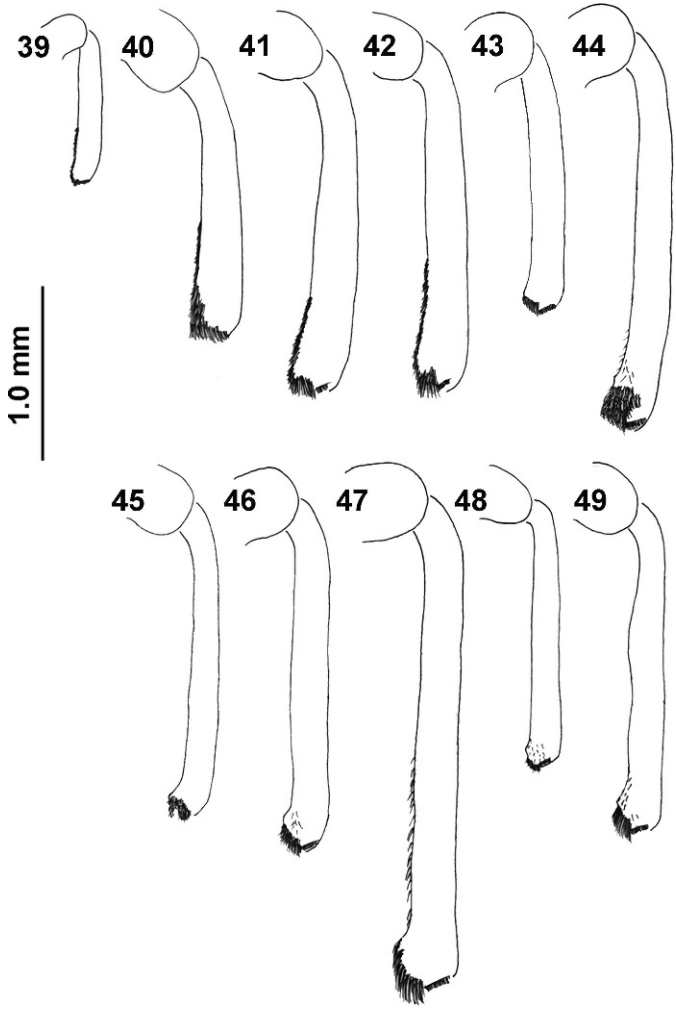
Figs. 23–28. Characters of the pronotum, hypomeron and prosternal process. **23)** *Nesocyrtosoma bestiola* pronotum with anterior marginal bead effaced, lateral marginal bead complete, and posterior margin absent; **24)** *Nesocyrtosoma inflatum* pronotum with anterior and posterior marginal beads effaced medially and lateral marginal bead complete; **25)** *Nesocyrtosoma lacrima* pronotum with anterior marginal bead absent, lateral marginal bead complete, and posterior marginal bead absent; **26)** *Strongylium atrum* pronotum with anterior and posterior marginal bead complete and lateral marginal bead absent; **27)** *Nesocyrtosoma cubanense* hypomeron with marginal bead and distinct punctures; **28)** *Cnodalon viride* prosternal process apically narrowly rounded, nearly to a point.



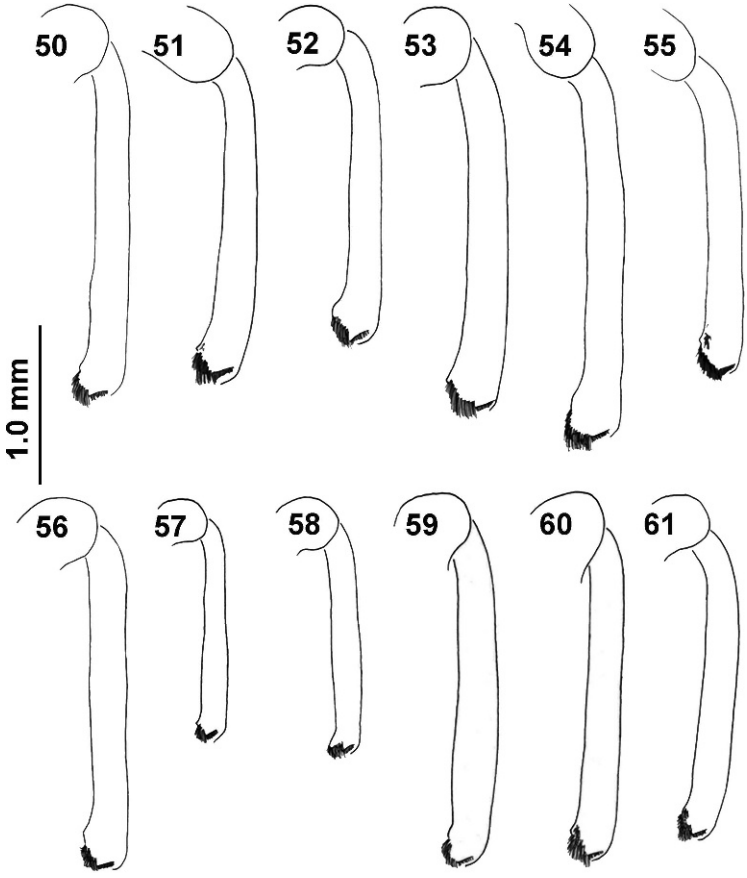
Figs. 29–34. Characters of the elytra and metathoracic wing. **29)** *Nesocyrtosoma skelleyi* with elytral interstriae roundly convex; **30)** *Nesocyrtosoma cubanense* with elytral interstriae flat; **31)** *Nesocyrtosoma otus* with anterodorsal corners of elytron with a notch to receive prothorax; **32)** *Nesocyrtosoma hispaniolae* with epipleuron terminating at base of 5th abdominal ventrite; **33)** *Strongylium* sp. with epipleuron continuing to apex of 5th abdominal ventrite. **34)** *Nesocyrtosoma otus* metathoracic wing.



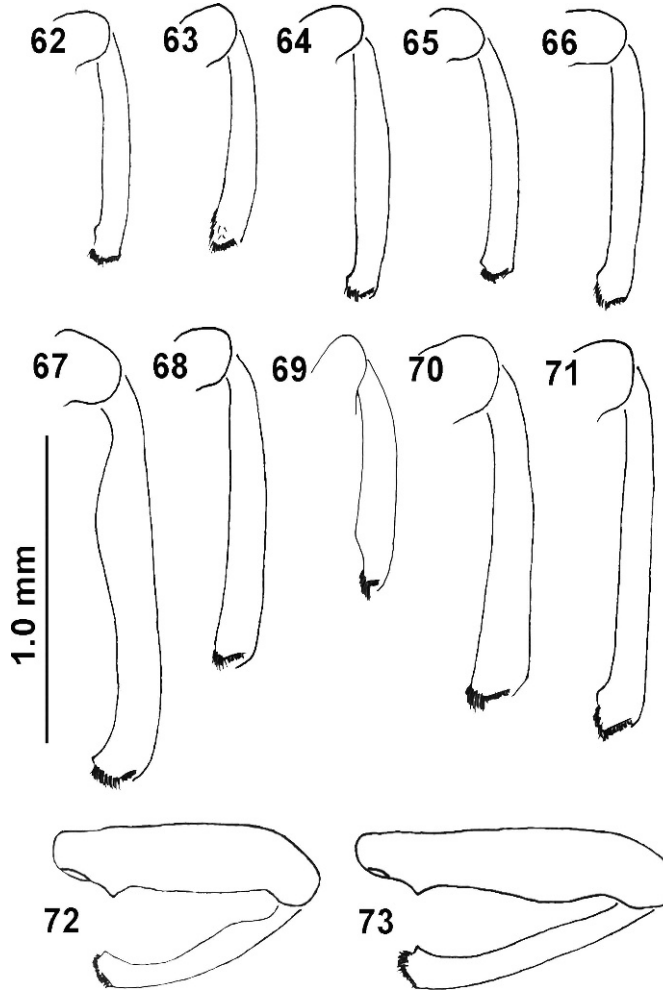
Figs. 35–38. Characters of the legs. **35)** *Nesocyrtosoma inflatum* with trochanters reduced and setose; **36)** *Nesocyrtosoma otus* with metafemur emarginate at apex; **37)** *Nesocyrtosoma virens* with protibia with dorsal longitudinal groove; **38)** *Nesocyrtosoma serratum* with ventral metatibial serrations.



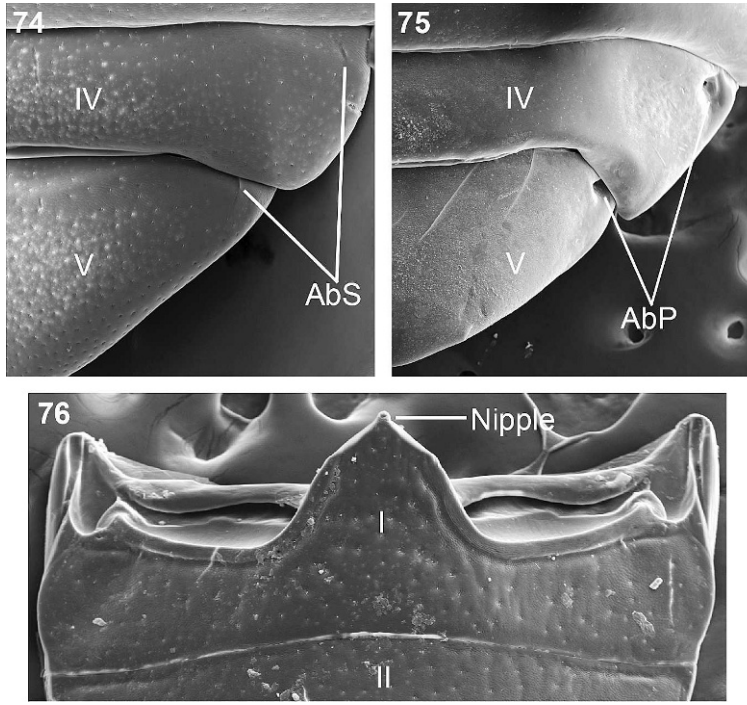
Figs. 39–49. Male metatibia of the *Nesocyrtosoma s. s.* species-group species. **39)** *Nesocyrtosoma bestiola*; **40)** *N. ferruginea*; **41)** *N. tumefactum*; **42)** *N. turquinense*; **43)** *N. hispaniolae*; **44)** *N. neibaense*; **45)** *N. inflatum*; **46)** *N. merkli*; **47)** *N. scabrosum*; **48)** *N. lacrima*; **49)** *N. simplex*.



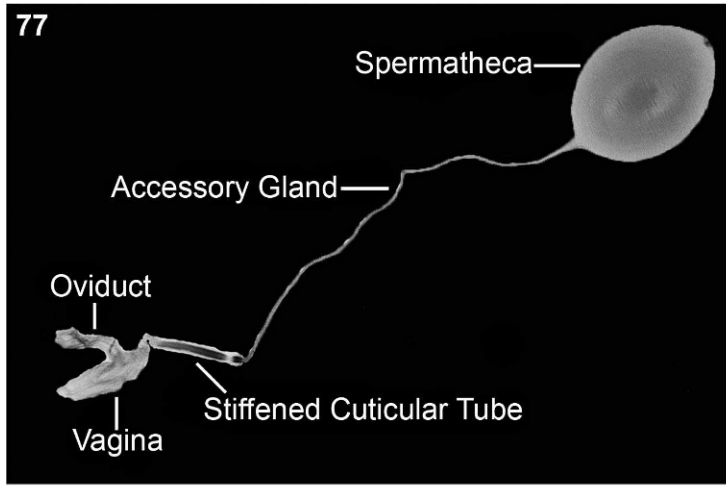
Figs. 50–61. Male metatibia of the Purple species-group species. **50)** *Nesocyrtosoma basilense*; **51)** *N. dolosum*; **52)** *N. purpureum*; **53)** *N. crenulatum*; **54)** *N. otus*; **55)** *N. darlingtoni*; **56)** *N. mutabile*; **57)** *N. larseni*; **58)** *N. parallelum*; **59)** *N. cristalense*; **60)** *N. cuprosum*; **61)** *N. elongatum*.

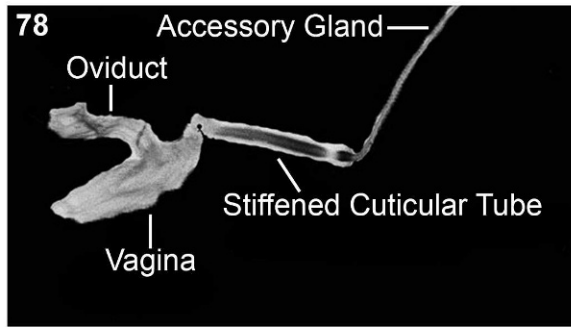


Figs. 62–73. Male metatibia of the *Serrania* species-group species. **62)** *N. bankense*; **63)** *N. garridoi*; **64)** *N. puertoricense*; **65.** *N. serratum*; **66)** *N. skelleyi*; **67)** *N. nearnsi*; **68)** *N. teresitae*; **69)** *N. curvum*; **70)** *N. guerreroi*; **71)** *N. virens*; **72)** *N. cubanense*; **73)** *N. dentatum*.

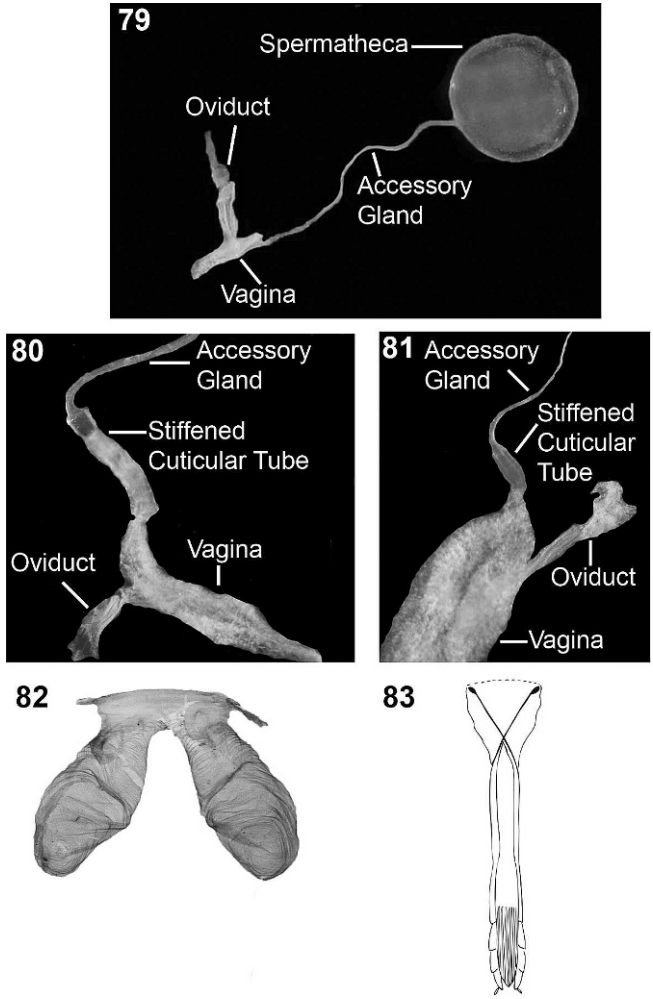


Figs. 74–76. Abdominal characters. **74)** *Nesocyrtosoma inflatum* with abdominal depressions on 4th and 5th ventrites reduced to indistinct slits (AbS = abdominal slits); **75)** *Nesocyrtosoma otus* with abdominal depressions on 4th and 5th ventrites present as impressed pits (AbP = abdominal pits); **76)** *Nesocyrtosoma skelleyi* with first visible abdominal ventrite with a nipple at the apex.





Figs. 77–78. Female genitalia characters. **77)** *Nesocyrtosoma cuprosum* female genital tract with *Nesocyrtosoma*-stiffened cuticular tube (NSCT); **78)** *N. cuprosum*, closeup view of the NSCT.



Figs. 79–83. Female genitalia characters. **79)** *Cnodalon viride* female genital tract lacking stiffened cuticular tube; **80)** *Nesocyrtosoma virens* female genital tract with NSCT; **81)** *Hesiodus longitarsus* female genitalia with a stiffened cuticular tube not consistent with NSCT; **82)** *N. virens* defensive glands (stained with acid fuschsin); **83)** *Nesocyrtosoma cuprosum* ovipositor.

Fig. 84A. Strict consensus tree of 63 shortest trees (L = 238, CI = 0.31, RI = 0.67). Black circles indicate nonhomoplasious changes (synapomorphies or autapomorphies) and white circles indicate homoplasious changes.

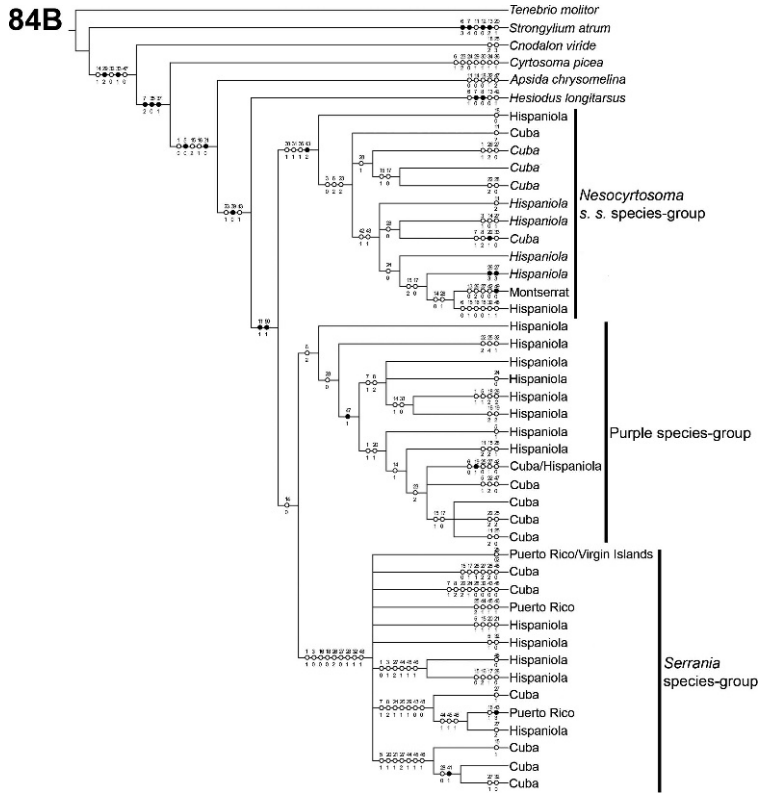
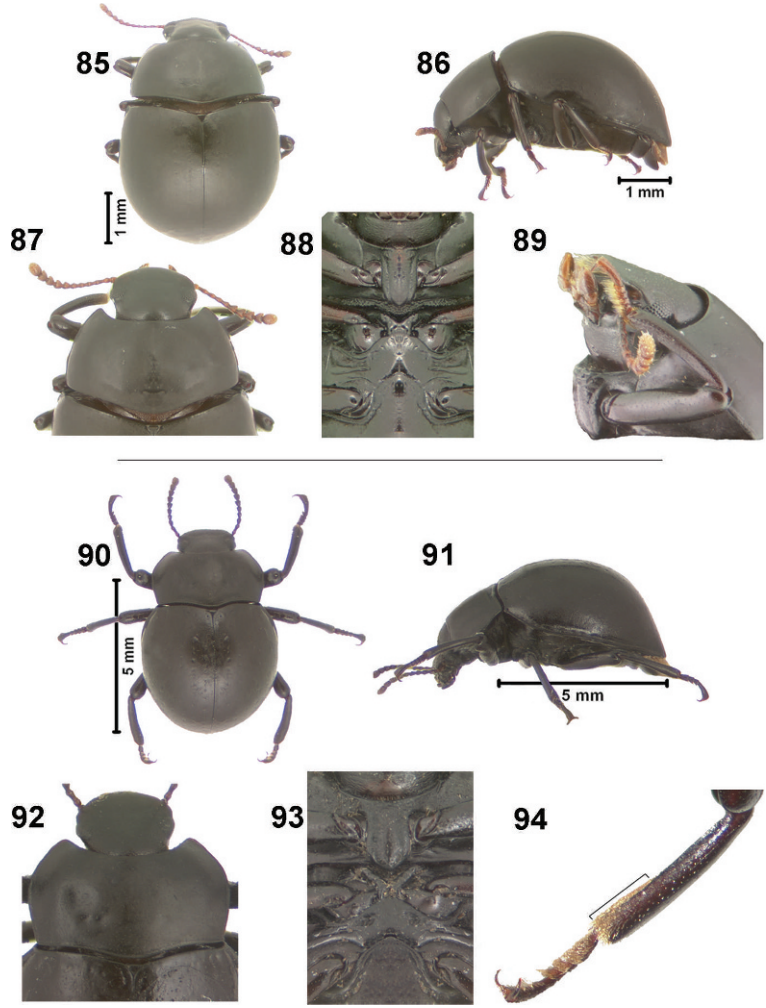
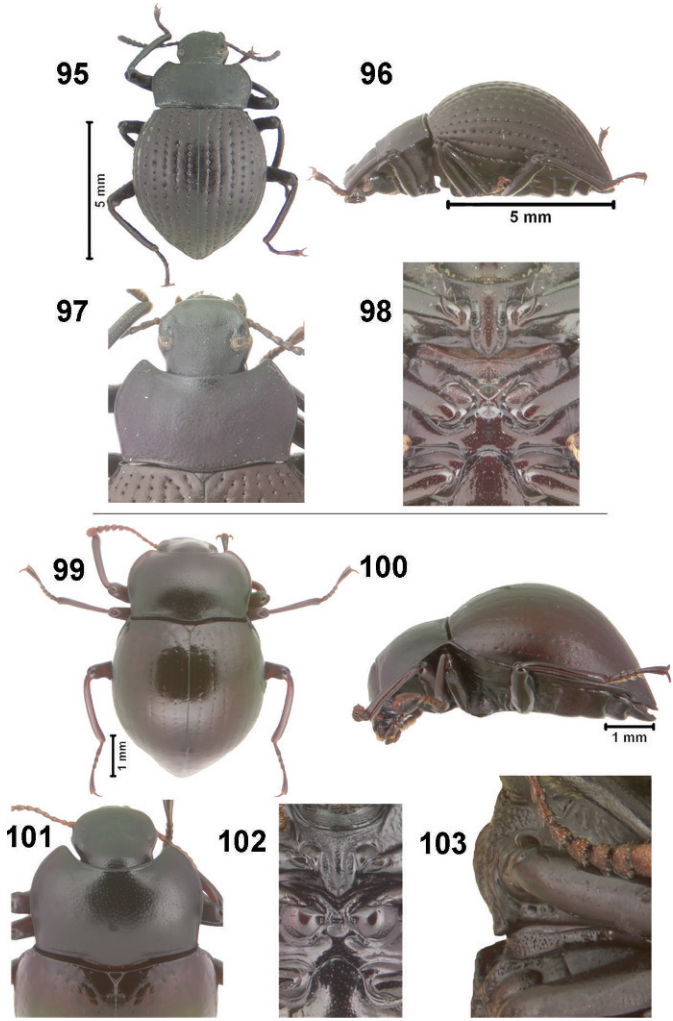


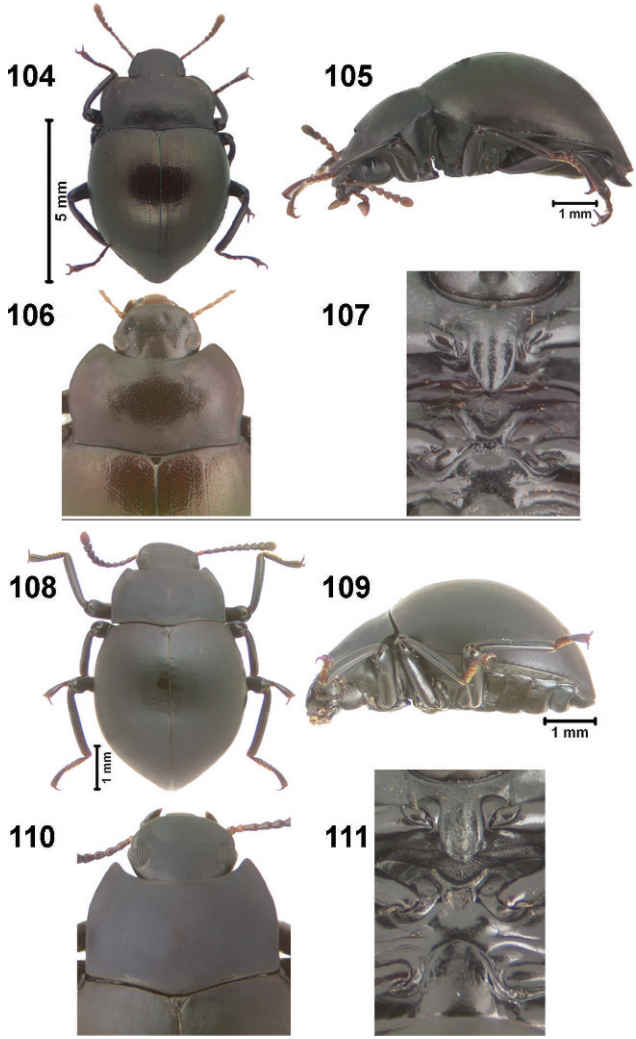
Fig. 84B. Strict consensus tree of 63 shortest trees (L = 238, CI = 0.31, RI = 0.67) with island distribution replacing species name at terminals. Black circles indicate nonhomoplasious changes (synapomorphies or autapomorphies) and white circles indicate homoplasious changes.



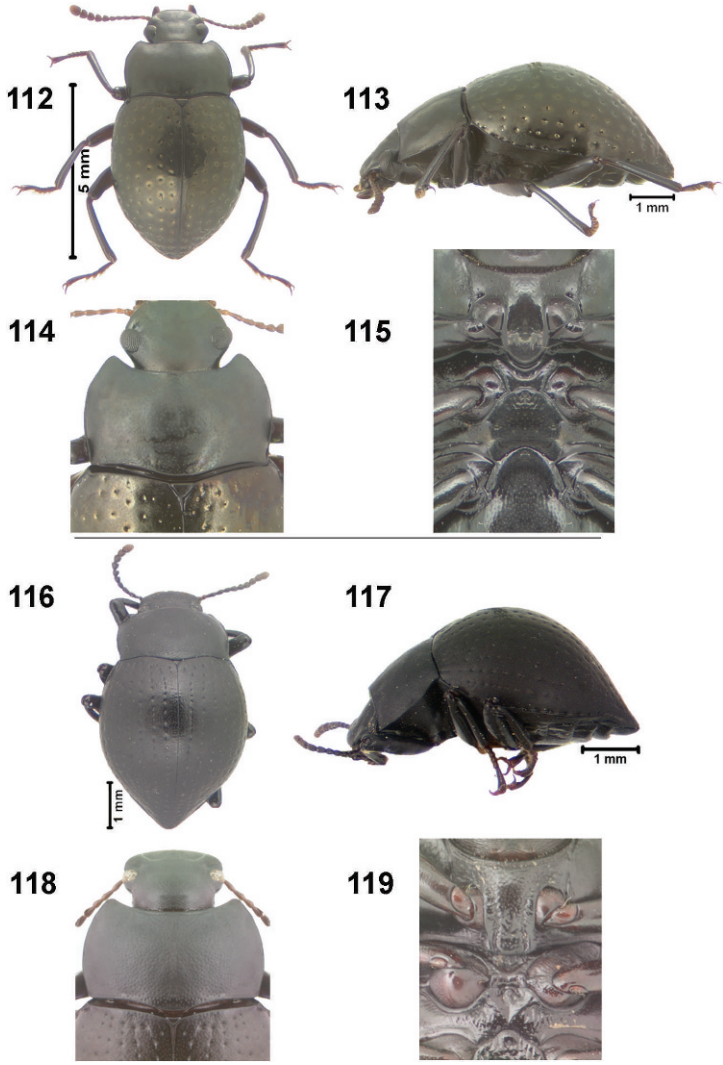
Figs. 85–94. 85–89: *Nesocyrtosoma bestiola*. **85)** Habitus, dorsal; **86)** Habitus, lateral; **87)** Pronotum; **88)** Thoracic sterna; **89)** Prosternal process forming shelf at base. 90–94: *Nesocyrtosoma ferruginea*. **90)** Habitus, dorsal; **91)** Habitus, lateral; **92)** Pronotum; **93)** Thoracic sterna; **94)** Male metatibia.



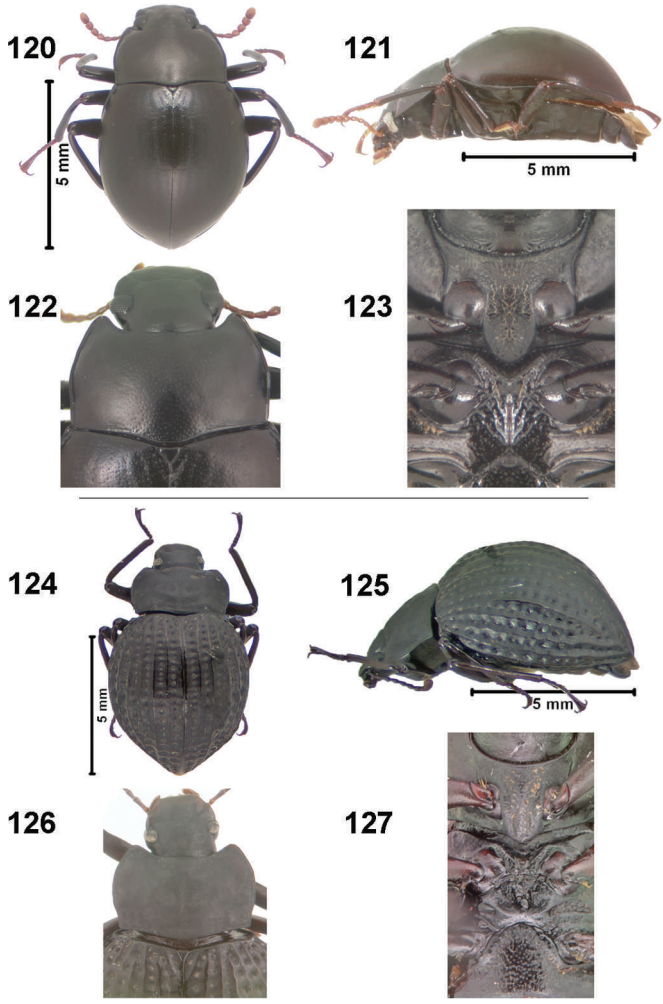
Figs. 95–103. 95–98: *Nesocyrtosoma gebieni*. **95)** Habitus, dorsal; **96)** Habitus, lateral. **97)** Pronotum; **98)** Thoracic sterna. 99–103: *Nesocyrtosoma tumefactum*. **99)** Habitus, dorsal; **100)** Habitus, lateral; **101)** Pronotum; **102)** Thoracic sterna; **103)** Lateral view of prosternal process showing apical, medial bump.



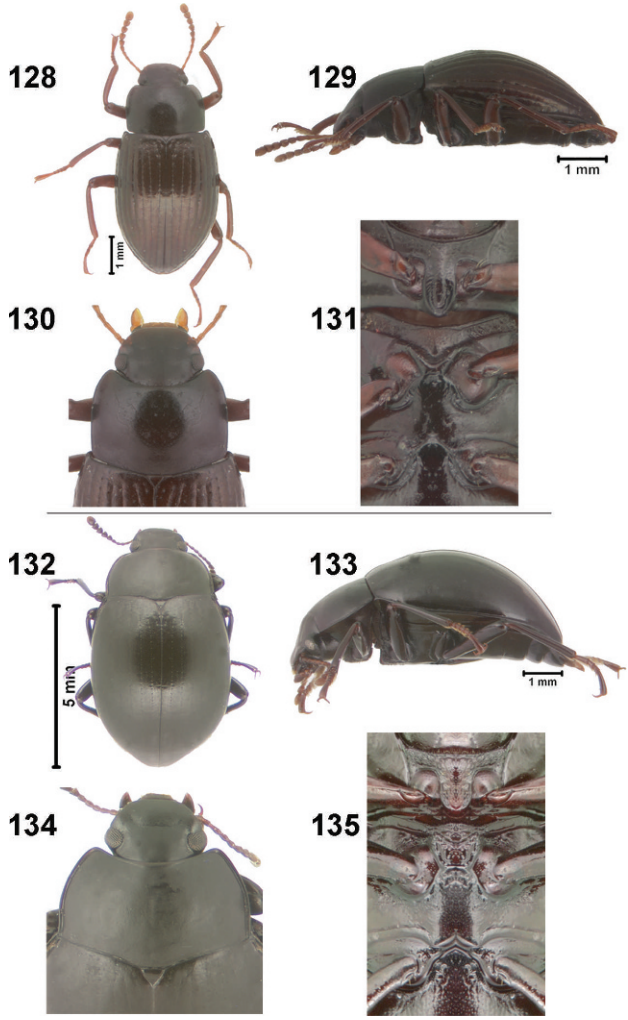
Figs. 104–111. 104–107: *Nesocyrtosoma turquinense*. **104)** Habitus, dorsal; **105)** Habitus, lateral; **106)** Pronotum; **107)** Thoracic sterna. 108–111: *Nesocyrtosoma hispaniolae*. **108)** Habitus, dorsal; **109)** Habitus, lateral; **110)** Pronotum; **111)** Thoracic sterna.



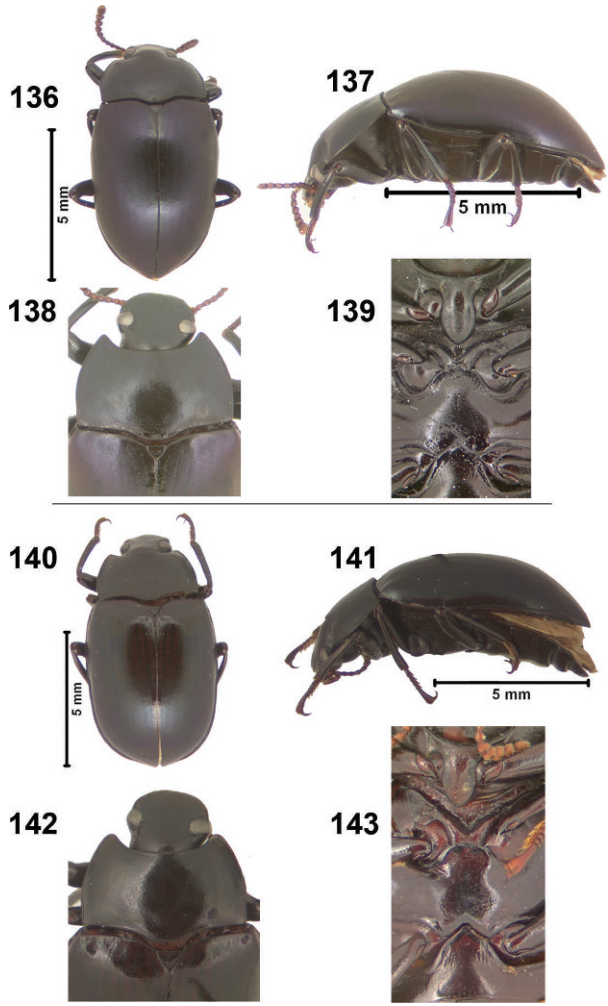
Figs. 112–119. 112–115: *Nesocyrtosoma neibaense*. **112)** Habitus, dorsal; **113)** Habitus, lateral; **114)** Pronotum; **115)** Thoracic sterna. 116–119: *Nesocyrtosoma inflatum*. **116)** Habitus, dorsal; **117)** Habitus, lateral; **118)** Pronotum; **119)** Thoracic sterna.



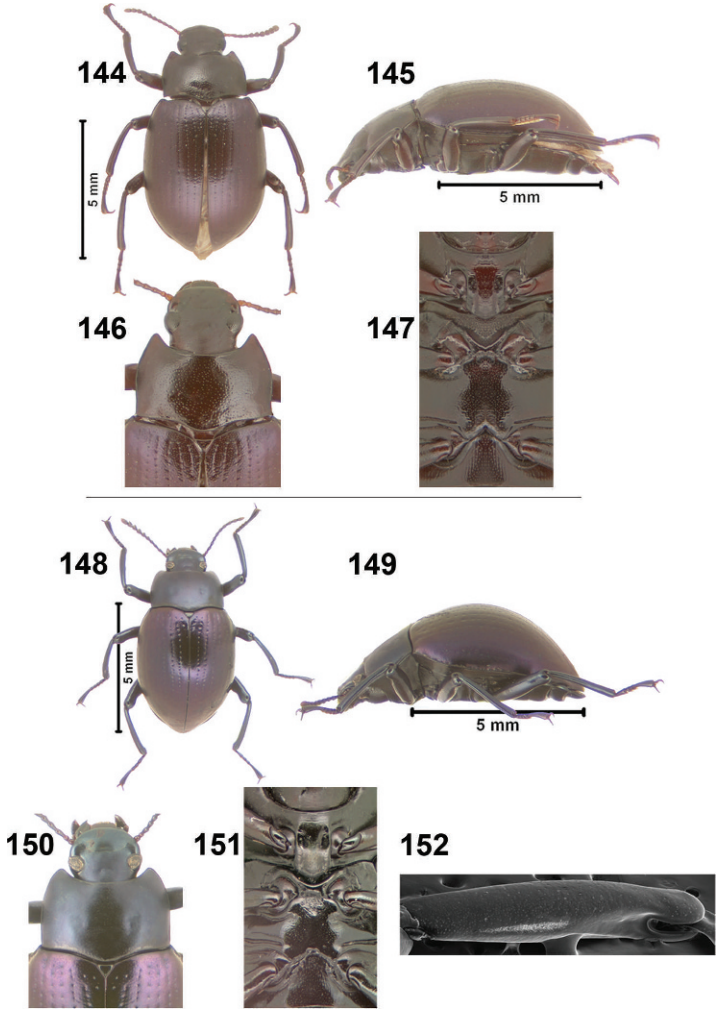
Figs. 120–127. 120–123: *Nesocyrtosoma merkli*. **120)** Habitus, dorsal; **121)** Habitus, lateral; **122)** Pronotum; **123)** Thoracic sterna. 124–127: *Nesocyrtosoma scabrosum*. **124)** Habitus, dorsal; **125)** Habitus, lateral; **126)** Pronotum; **127)** Thoracic sterna.



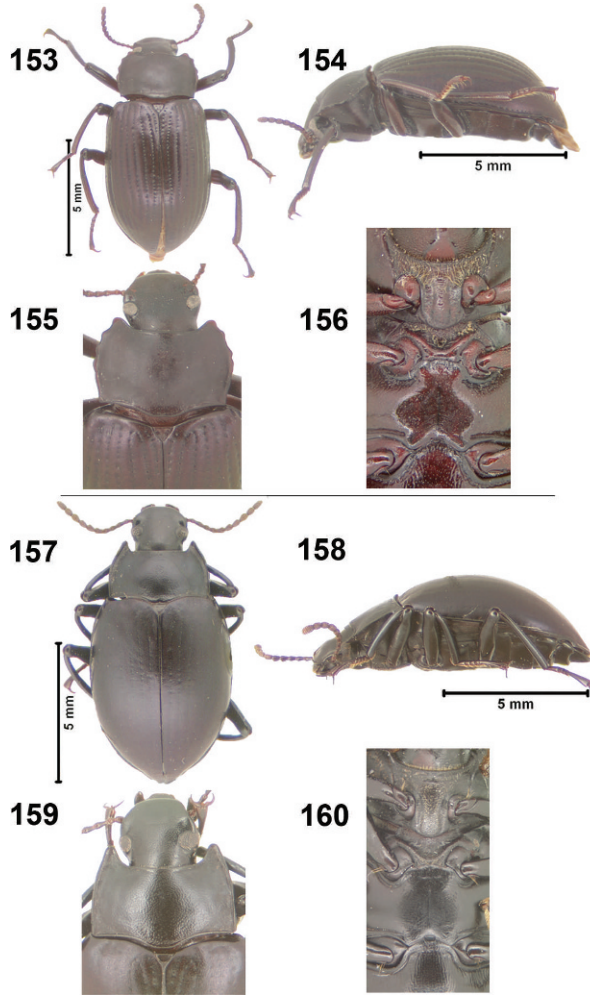
Figs. 128–135. 128–131: *Nesocyrtosoma lacrima*. **128)** Habitus, dorsal; **129)** Habitus, lateral; **130)** Pronotum; **131)** Thoracic sterna. 132–135: *Nesocyrtosoma simplex*. **132)** Habitus, dorsal; **133)** Habitus, lateral; **134)** Pronotum; **135)** Thoracic sterna.



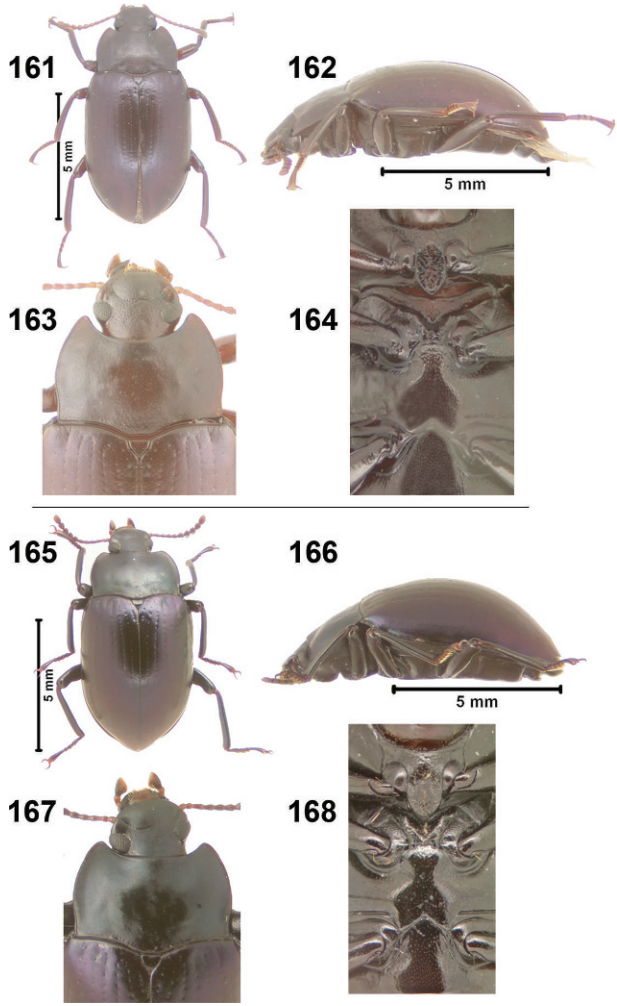
Figs. 136–143. 136–139: *Nesocyrtosoma altagracia*. **136)** Habitus, dorsal; **137)** Habitus, lateral; **138)** Pronotum; **139)** Thoracic sterna. 140–143: *Nesocyrtosoma basilense*. **140)** Habitus, dorsal; **141)** Habitus, lateral; **142)** Pronotum; **143)** Thoracic sterna.



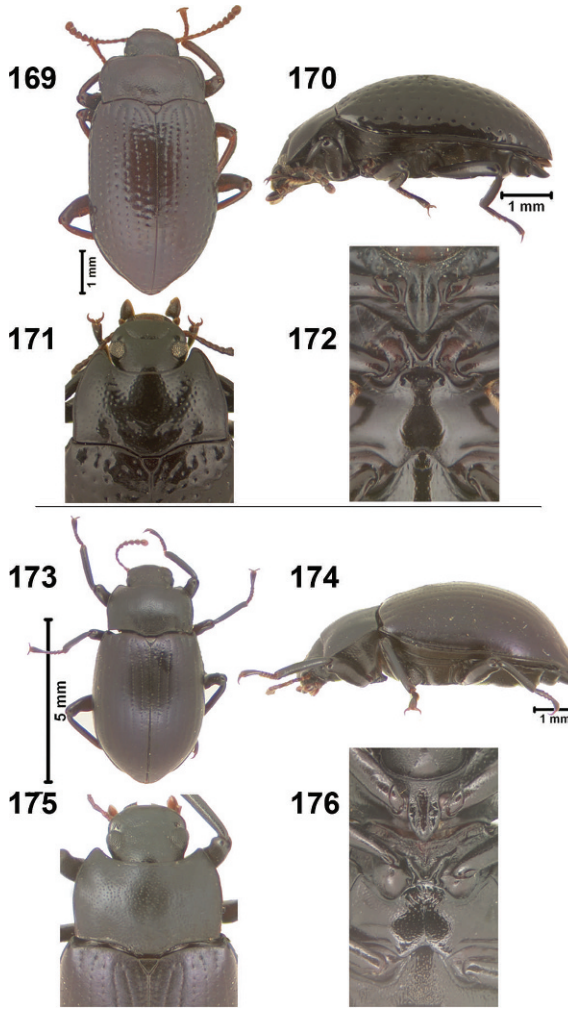
Figs. 144–152. 144–147: *Nesocyrtosoma dolosum*. **144)** Habitus, dorsal; **145)** Habitus, lateral; **146)** Pronotum; **147)** Thoracic sterna. 148–152: *Nesocyrtosoma purpureum*. **148)** Habitus, dorsal; **149)** Habitus, lateral; **150)** Pronotum; **151)** Thoracic sterna; **152)** Male mesofemur with longitudinal patch of setae.



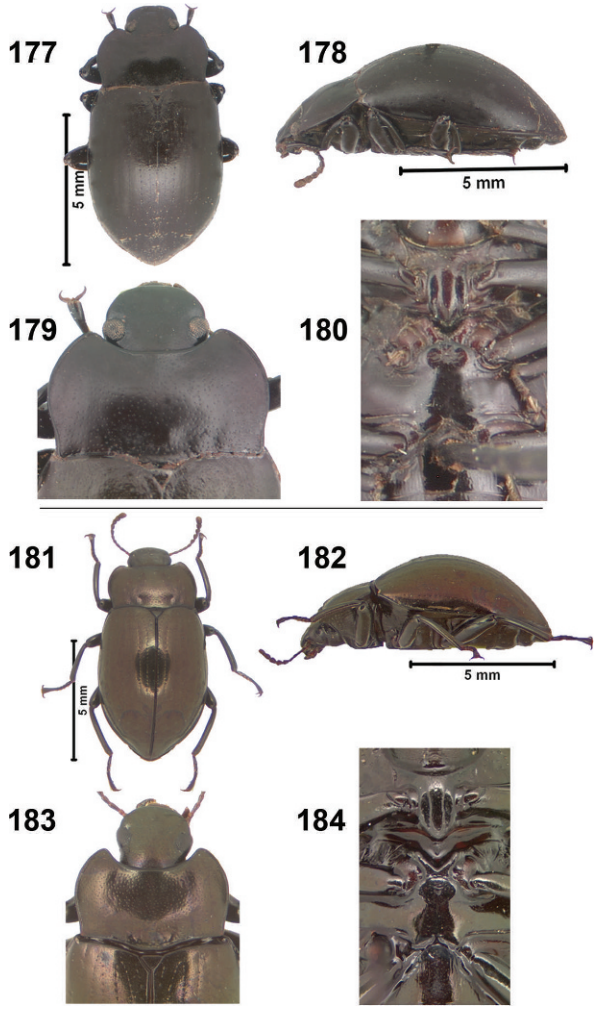
Figs. 153–160. 153–156: *Nesocyrtosoma crenulatum*. **153)** Habitus, dorsal; **154)** Habitus, lateral; **155)** Pronotum; **156)** Thoracic sterna. 157–160: *Nesocyrtosoma otus*. **157)** Habitus, dorsal; **158)** Habitus, lateral; **159** Pronotum; **160)** Thoracic sterna.



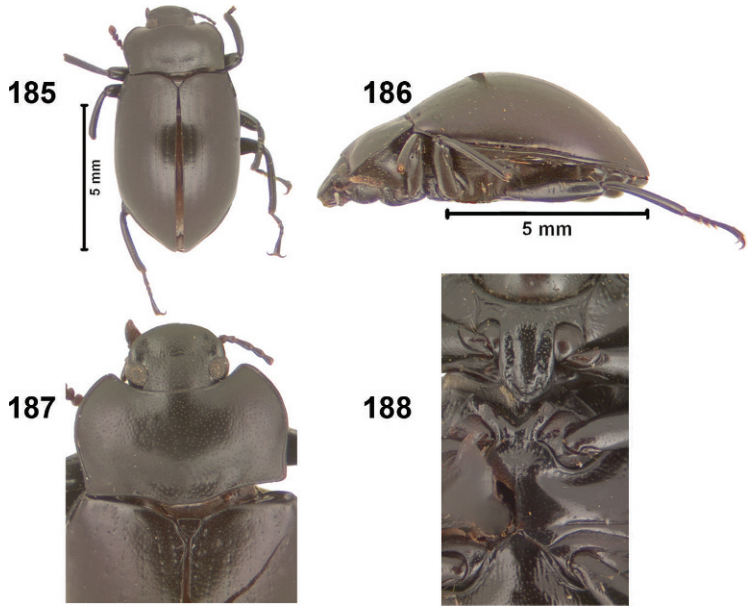
Figs. 161–168. 161–164: *Nesocyrtosoma darlingtoni*. **161)** Habitus, dorsal; **162)** Habitus, lateral; **163)** Pronotum; **164)** Thoracic sterna. 165–168: *Nesocyrtosoma mutabile*. **165)** Habitus, dorsal; **166)** Habitus, lateral; **167)** Pronotum; **168)** Thoracic sterna.



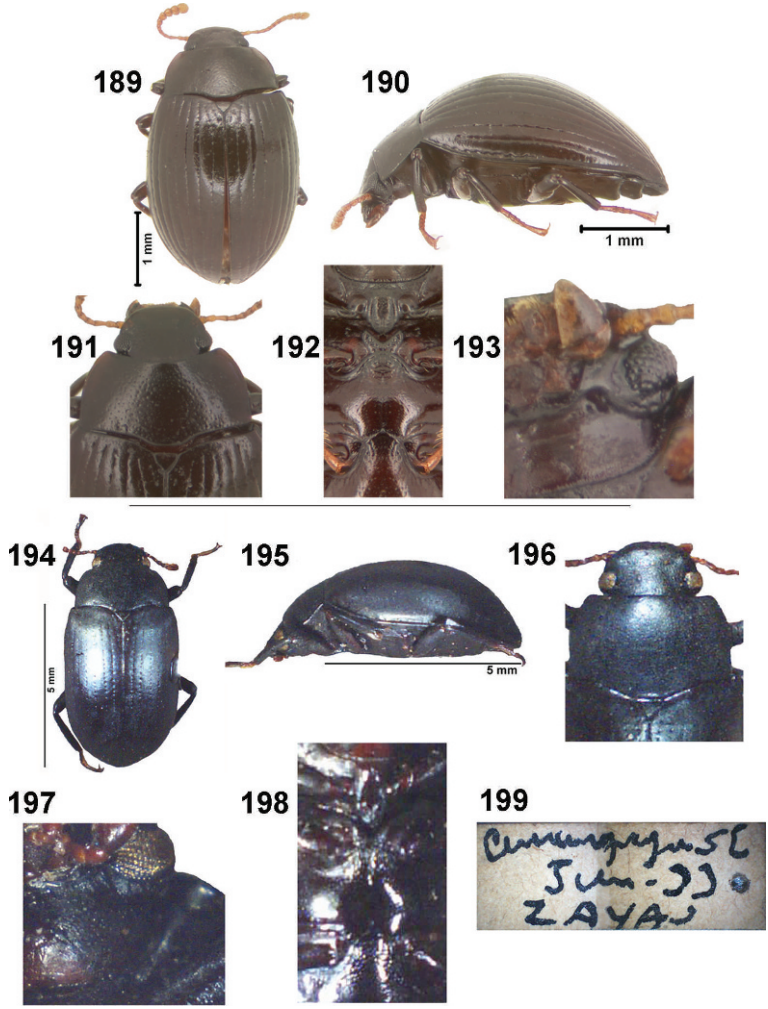
Figs. 169–176. 169–172: *Nesocyrtosoma larseni*. **169)** Habitus, dorsal; **170)** Habitus, lateral; **171)** Pronotum; **172)** Thoracic sterna. 173–176: *Nesocyrtosoma parallelum*. **173)** Habitus, dorsal; **174)** Habitus, lateral; **175)** Pronotum; **176)** Thoracic sterna.



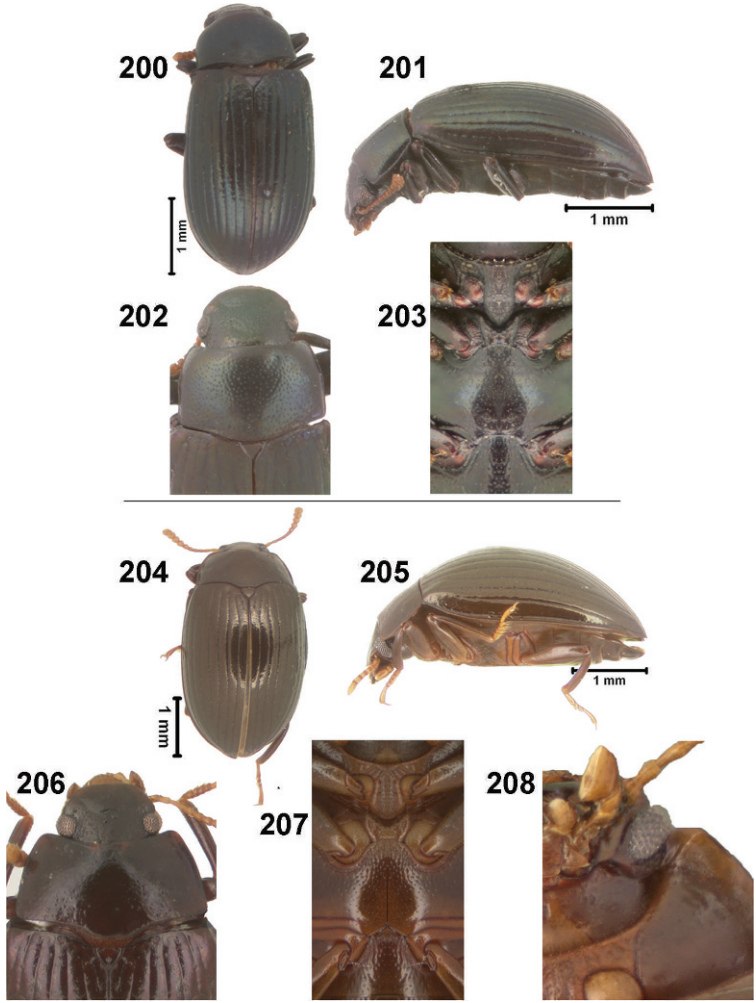
Figs. 177–184. 177–180: *Nesocyrtosoma cristalense*. **177)** Habitus, dorsal; **178)** Habitus, lateral; **179)** Pronotum; **180)** Thoracic sterna. 181–184: *Nesocyrtosoma cuprosum*. **181)** Habitus, dorsal; **182)** Habitus, lateral; **183)** Pronotum; **184)** Thoracic sterna.



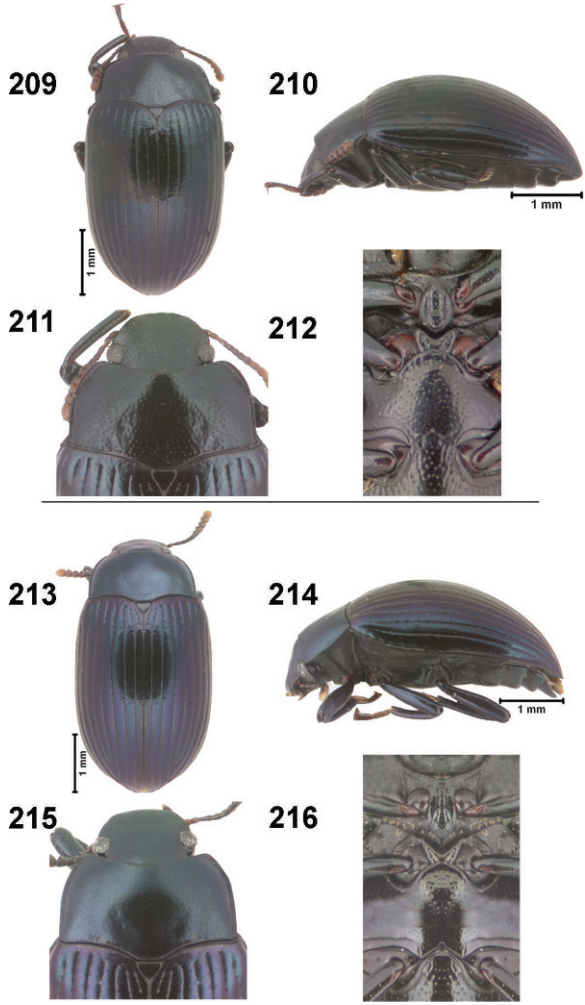
Figs. 185–188. *Nesocyrtosoma elongatum*. **185** Habitus, dorsal; **186)** Habitus, lateral; **187)** Pronotum; **188)** Thoracic sterna.



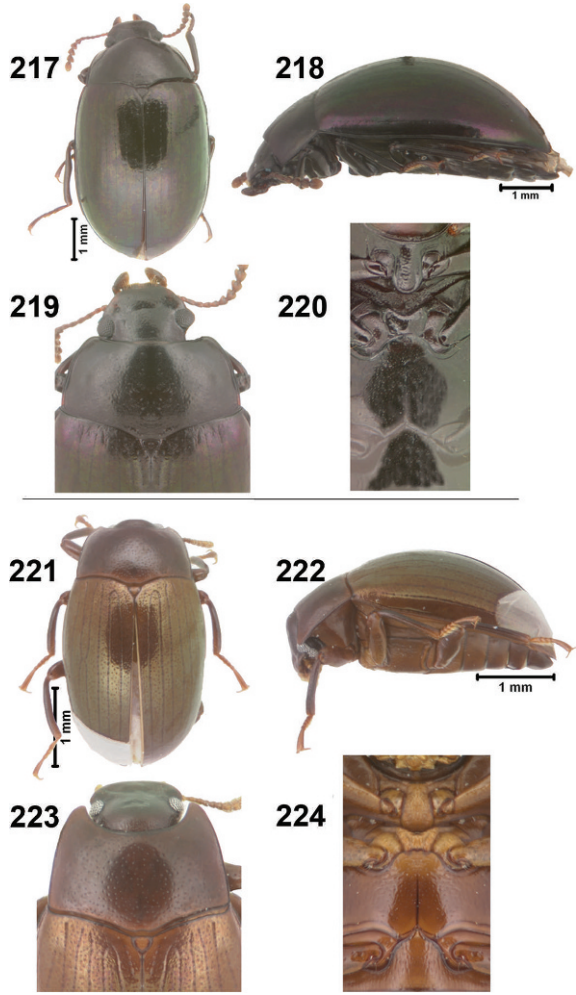
Figs. 189–199. 189–193: *Nesocyrtosoma bankense*. **189)** Habitus, dorsal; **190)** Habitus, lateral; **191)** Pronotum; **192)** Thoracic sterna; **193)** Ocular depression. 194–199: *Nesocyrtosoma fernandoi* (photos taken with MiScope® at FMZC). **194)** Habitus, dorsal; **195)** Habitus, lateral; **196)** Pronotum; **197)** Ocular depression; **198)** Thoracic sterna; **199)** Holotype locality label.



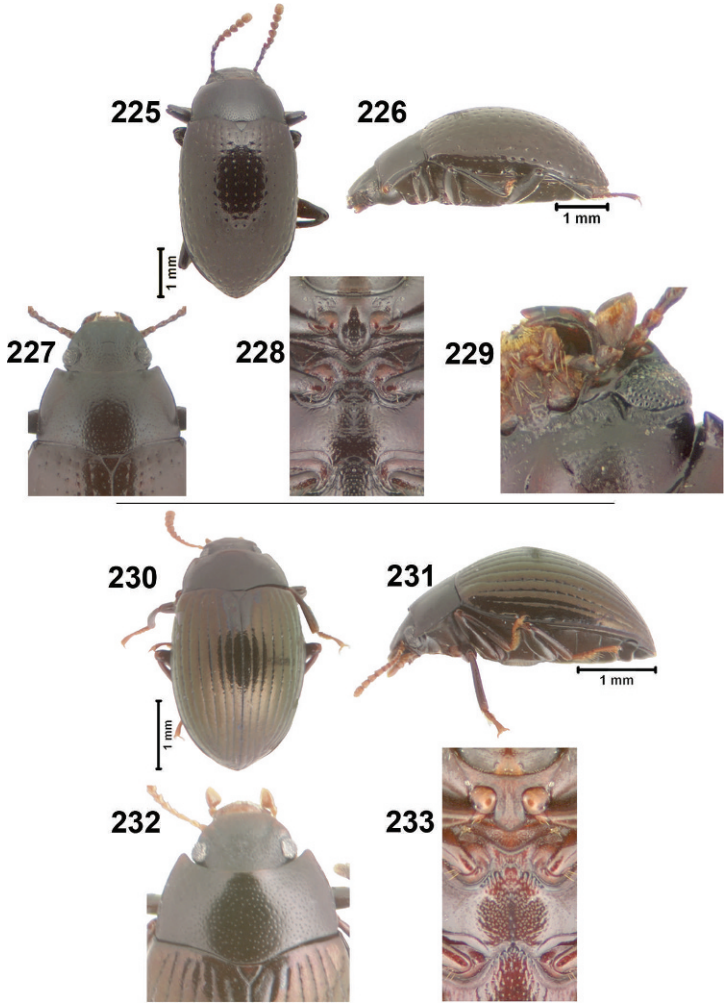
Figs. 200–208. 200–203: *Nesocyrtosoma garridoi*. **200)** Habitus, dorsal; **201)** Habitus, lateral; **202)** Pronotum; **203)** Thoracic sterna. 204–208: *Nesocyrtosoma puertoricense*. **204)** Habitus, dorsal; **205)** Habitus, lateral; **206)** Pronotum; **207)** Thoracic sterna; **208)** Ocular depression.



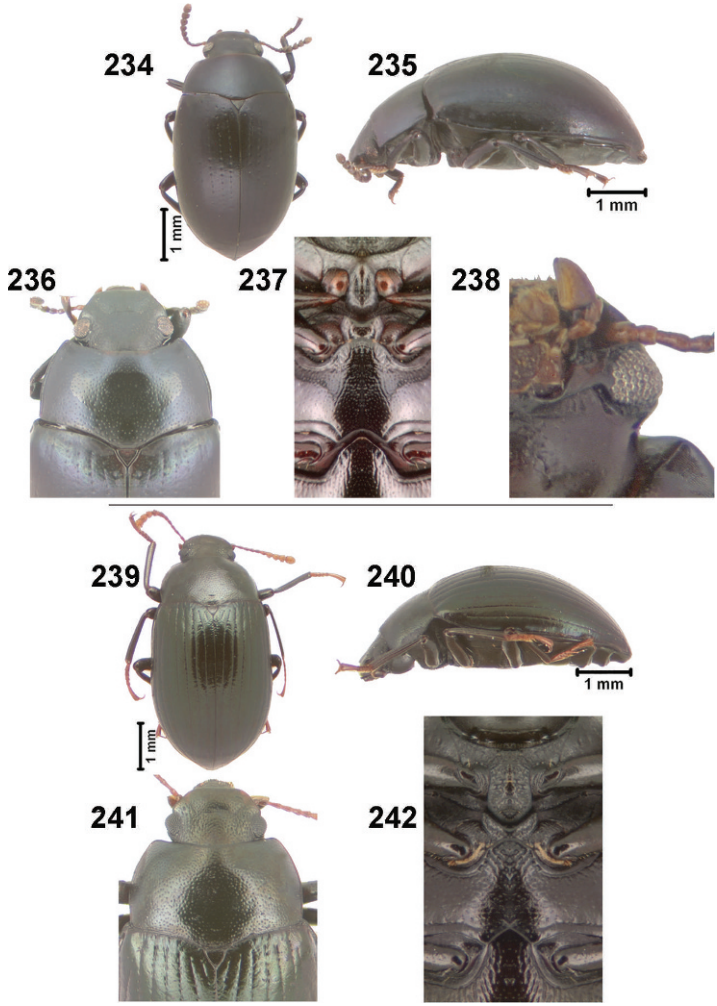
Figs. 209–216. 209–212: *Nesocyrtosoma serratum*. **209)** Habitus, dorsal; **210)** Habitus, lateral; **211)** Pronotum; **212)** Thoracic sterna. 213–216: *Nesocyrtosoma skelleyi*. **213)** Habitus, dorsal; **214)** Habitus, lateral; **215)** Pronotum; **216)** Thoracic sterna.



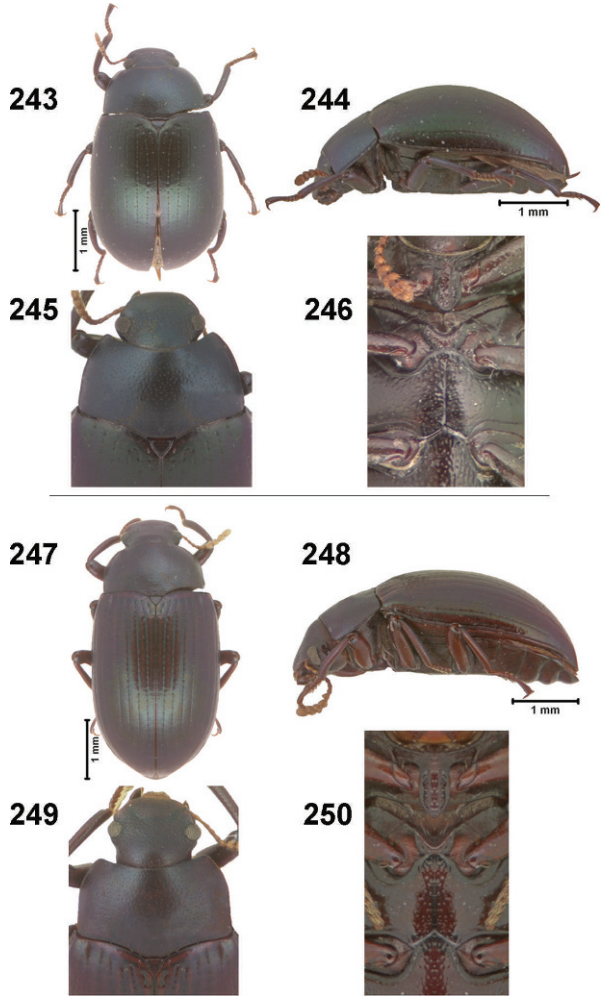
Figs. 217–224. 217–220: *Nesocyrtosoma nearnsi*. **217)** Habitus, dorsal; **218)** Habitus, lateral; **219)** Pronotum; **220)** Thoracic sterna. 221–224: *Nesocyrtosoma productum*. **221)** Habitus, dorsal; **222)** Habitus, lateral; **223)** Pronotum; **224)** Thoracic sterna.



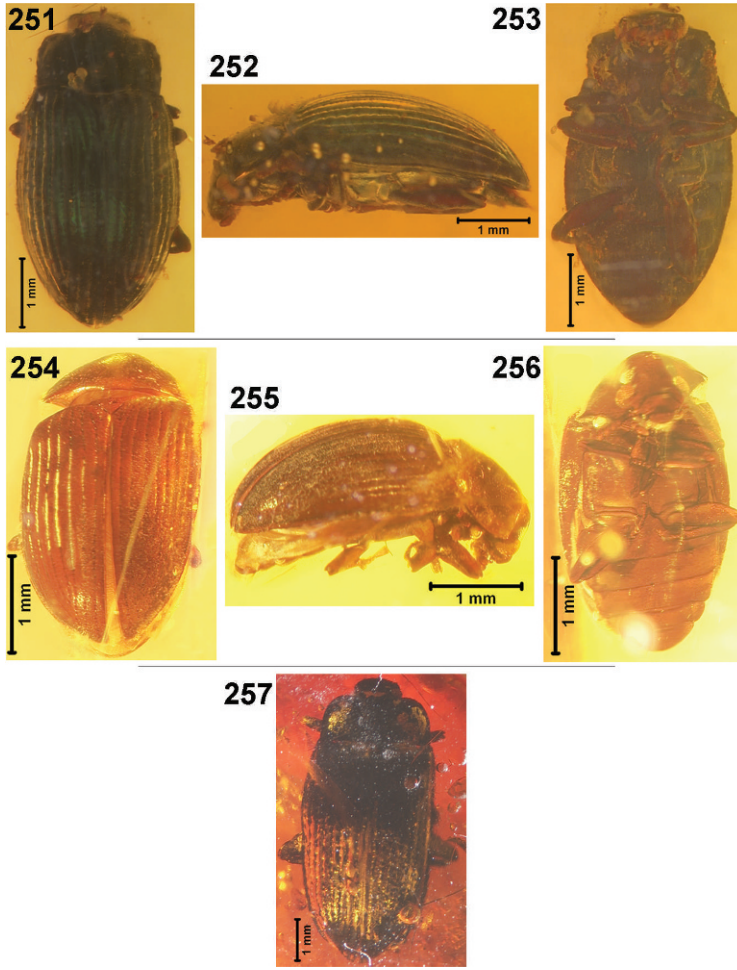
Figs. 225–233. 225–229: *Nesocyrtosoma teresitae*. **225)** Habitus, dorsal; **226)** Habitus, lateral; **227)** Pronotum; **228)** Thoracic sterna; **229)** Ocular depression. 230–233: *Nesocyrtosoma curvum*. **230)** Habitus, dorsal; **231)** Habitus, lateral; **232)** Pronotum; **233)** Thoracic sterna.



Figs. 234–242. 234–238: *Nesocyrtosoma guerreroi*. **234)** Habitus, dorsal; **235)** Habitus, lateral; **236)** Pronotum; **237)** Thoracic sterna; **238)** Ocular depression. 239–242: *Nesocyrtosoma virens*. **239)** Habitus, dorsal; **240)** Habitus, lateral; **241)** Pronotum; **242)** Thoracic sterna.

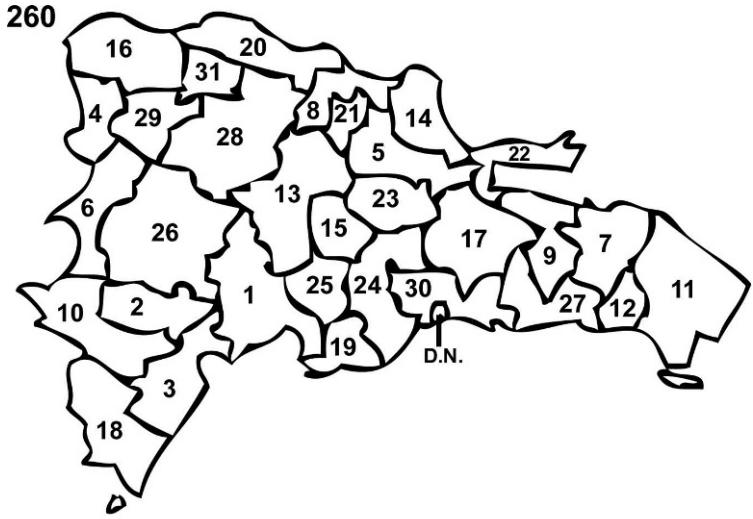


Figs. 243–250. 243–246: *Nesocyrtosoma cubanense*. **243)** Habitus, dorsal; **244)** Habitus, lateral; **245)** Pronotum; **246)** Thoracic sterna. 247–250: *Nesocyrtosoma dentatum*. **247)** Habitus, dorsal; **248)** Habitus, lateral; **249)** Pronotum; **250)** Thoracic sterna.



Figs. 251–257. 251–253: †*Nesocyrtosoma celadonum*. **251)** Habitus, dorsal; **252)** Habitus, lateral; **253)** Habitus, ventral. 254–256: †*Nesocyrtosoma minisculum*. **254)** Habitus, dorsal; **255)** Habitus, lateral; **256)** Habitus, ventral. **257)** †*Nesocyrtosoma phthanatum*, habitus, dorsal.

Figs. 258–259. Maps of provinces of Cuba. **258)** Provinces of Cuba from 1976 to present; **259)** Provinces of Cuba prior to 1976.



1	Ázua	**16**	Monseñor Nouel
2	Baoruco	**17**	Monte Cristi
3	Barahona	**18**	Monte Plata
4	Dajabón	**19**	Pedernales
D.N.	Distrito Nacional	**20**	Peravia
5	Duarte	**21**	Puerto Plata
6	Elías Piña	**22**	Samaná
7	El Seibo	**23**	Sánchez Ramírez
8	Espaillat	**24**	San Cristóbal
9	Hato Mayor	**25**	San José de Ocoa
10	Hermanas Mirabal	**26**	San Juan
11	Independencia	**27**	San Pedro de Macorís
12	La Altagracia	**28**	Santiago
13	La Romana	**29**	Santiago Rodríguez
14	La Vega	**30**	Santo Domingo
15	María Trinidad Sánchez	**31**	Valverde

Fig. 260. Map of the provinces of the Dominican Republic.

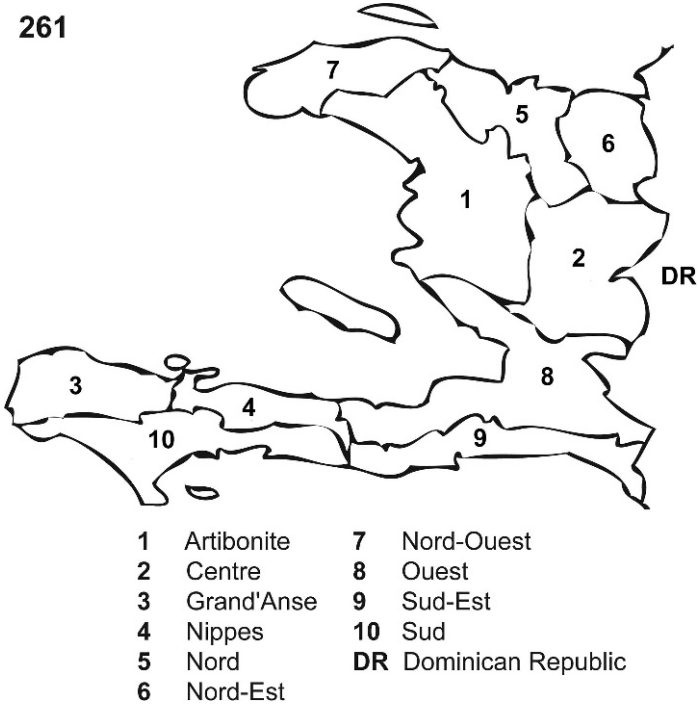
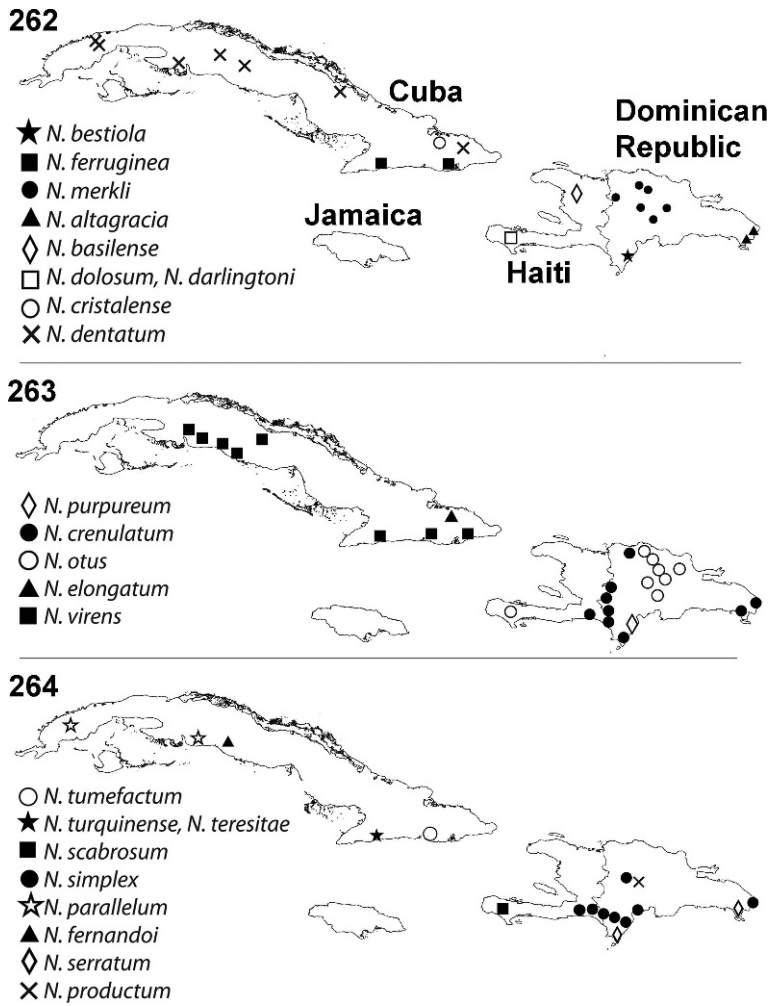
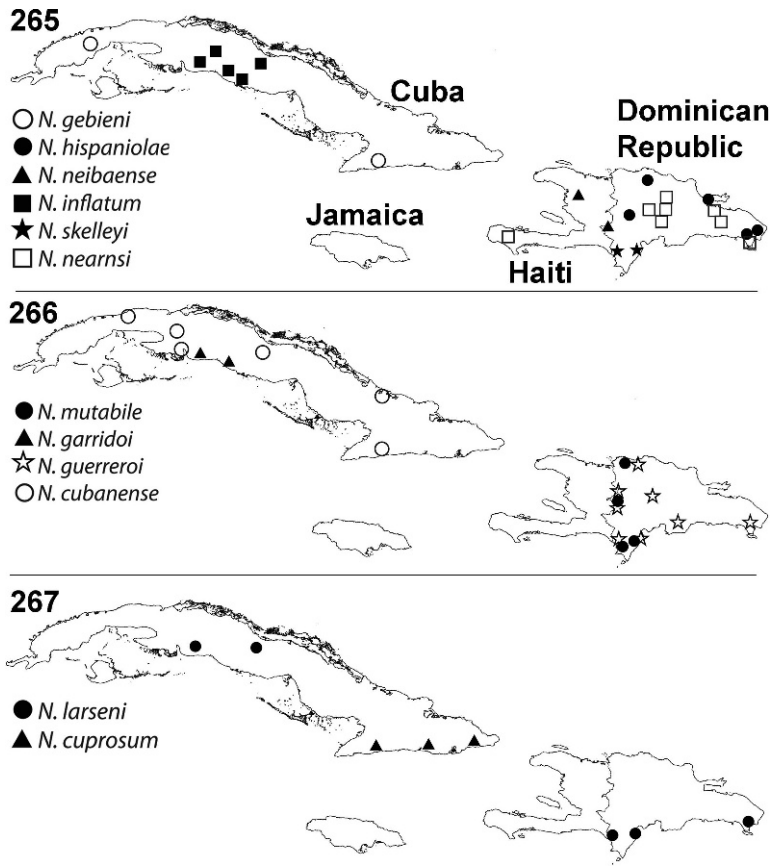


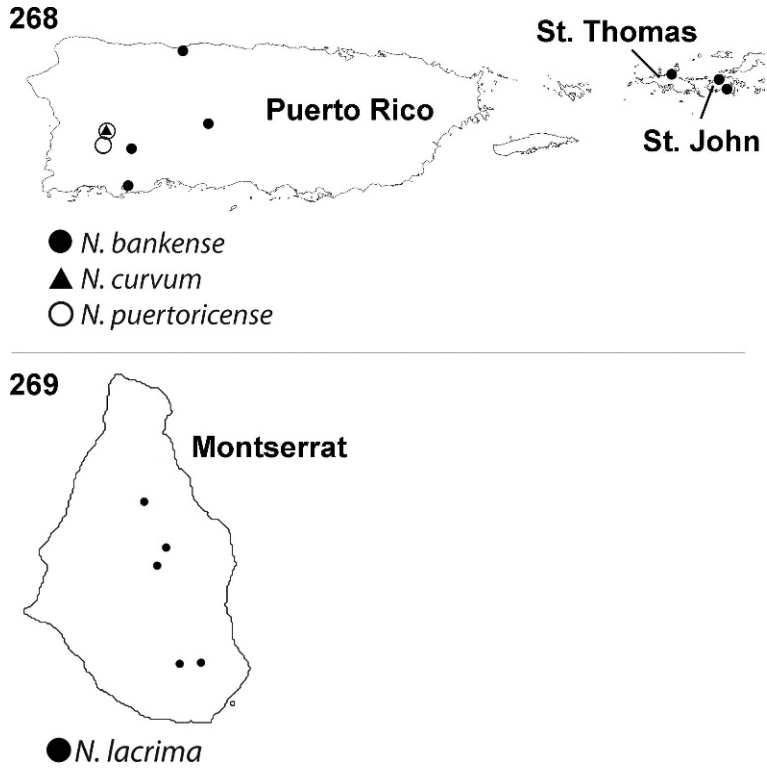
Fig. 261. Map of the departments of Haiti.



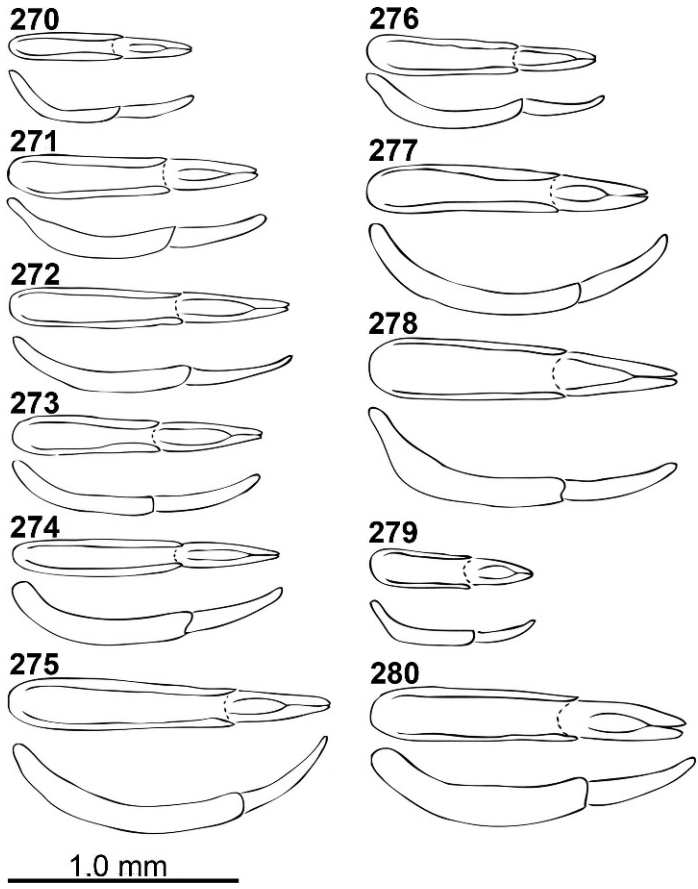
Figs. 262–264. *Nesocyrtosoma* species distribution maps. **262)** Distributions of *N. bestiola*, *N. ferruginea*, *N. merkli*, *N. altagracia*, *N. basilense*, *N. dolosum*, *N. darlingtoni*, *N. cristalense*, and *N. dentatum*; **263)** Distributions of *N. virens*, *N. purpureum*, *N. crenulatum*, *N. otus*, and *N. elongatum*; **264)** Distributions of *N. tumefactum*, *N. turquinense*, *N. scabrosum*, *N. simplex*, *N. parallelum*, *N. fernandoi*, *N. serratum*, *N. teresitae*, and *N. productum*.



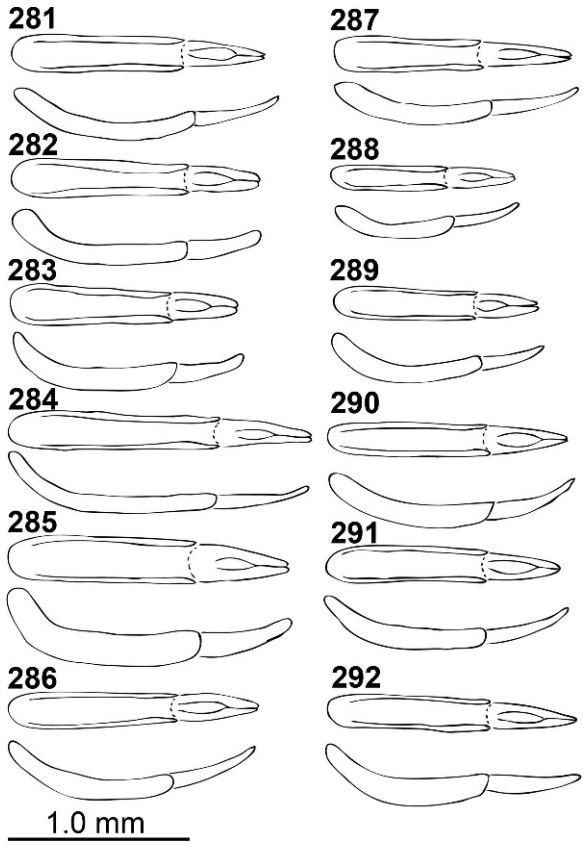
Figs. 265–267. *Nesocyrtosoma* species distribution maps. **265)** Distributions of *N. gebieni*, *N. hispaniolae*, *N. neibaense*, *N. inflatum*, *N. skelleyi*, and *N. nearnsi*; **266)** Distributions of *N. mutabile*, *N. garridoi*, *N. guerreroi*, and *N. cubanense*; **267)** Distributions of *N. larseni* and *N. cuprosum*.



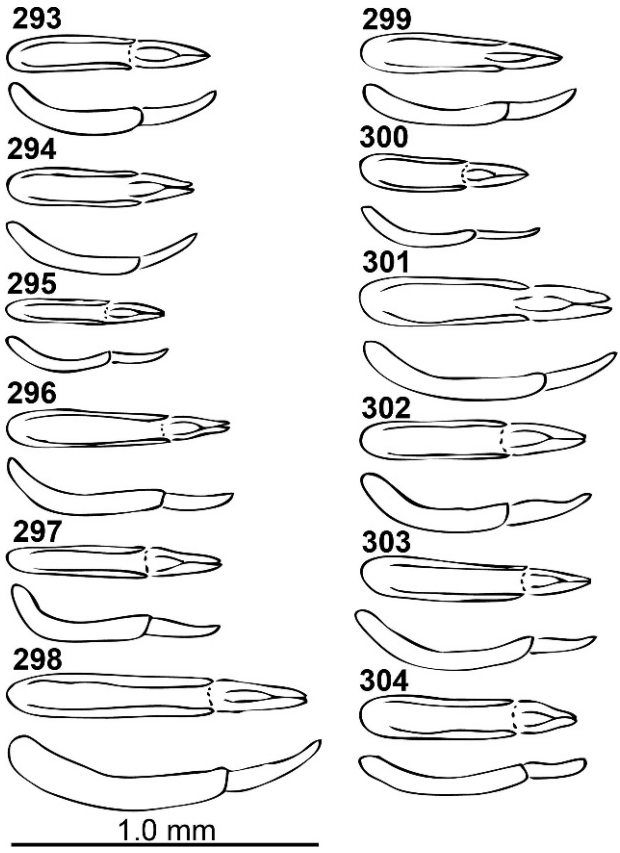
Figs. 268–269. *Nesocyrtosoma* species distribution maps. **268)** Distributions of *N. bankense*, *N. curvum*, and *N. puertoricense*; **269)** Distribution of *N. lacrima* on Montserrat.



Figs. 270–280. Illustrations of male genitalia in dorsal and lateral view of the *Nesocyrtosoma s.s.* species-group species. **270)** *Nesocyrtosoma bestiola*; **271)** *N. ferruginea*; **272)** *N. tumefactum*; **273)** *N. turquinense*; **274)** *N. hispaniolae*; **275)** *N. neibaense*; **276)** *N. inflatum*; **277)** *N. merkli*; **278)** *N. scabrosum*; **279)** *N. lacrima*; **280)** *N. simplex*.



Figs. 281–292. Illustrations of male genitalia in dorsal and lateral view of the Purple species-group species. **281)** *Nesocyrtosoma basilense*; **282)** *N. dolosum*; **283)** *N. purpureum*; **284)** *N. crenulatum*; **285)** *N. otus*; **286)** *N. darlingtoni*; **287)** *N. mutabile*; **288)** *N. larseni*; **289)** *N. parallelum*; **290)** *N. cristalense*; **291)** *N. cuprosum*; **292)** *N. elongatum*.



Figs. 293–304. Illustrations of male genitalia in dorsal and lateral view of the *Serrania* species-group species. **293)** *Nesocyrtosoma bankense*; **294)** *N. garridoi*; **295)** *N. puertoricense*; **296)** *N. serratum*; **297)** *N. skelleyi*; **298)** *N. nearnsi*; **299)** *N. teresitae*; **300)** *N. curvum*; **301)** *N. guerreroi*; **302)** *N. virens*; **303)** *N. cubanense*; **304)** *N. dentatum*.