

The first Antillean *Pachyschelus*, and a new *Leiopleura*, from Hispaniola (Coleoptera: Buprestidae)

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Abstract. *Pachyschelus valentinorum* sp. nov. and *Leiopleura iviei* sp. nov. are described from Hispaniola. The genitalia of *Leiopleura gibbipennis* (Fisher, 1940) and *L. darlingtoni* Fisher 1940 are figured for the first time. The total Hispaniolan fauna of Buprestidae is now known to include 48 species in 23 genera.

Taxonomy, new species, Coleoptera, Buprestidae, *Pachyschelus*, *Leiopleura*, checklist, Hispaniola

The buprestid fauna of the Antillean archipelago has been the focus of numerous works, e.g., Bellamy (2000), Descarpentries (1981), Fisher (1925), Hespenseide (1980, 1990, 1998); Paulian (1947), and Théry (1927) to list some of the more important or recent works. Until now, leaf-mining taxa from these islands have been restricted to the genera *Neotrachys* Obenberger, 1923 (five Antillean species – see Hespenseide 1980, 1990), *Brachys* Dejean, 1833 (one species from St. Thomas), *Taphrocerus* Solier, 1833 (eight species from the Greater Antilles and Guadeloupe – see Hespenseide 1998), and *Leiopleura* Deyrolle, 1865 (five species from Cuba, Hispaniola, and Dominica, of which *L. otero* Fisher, 1935 was also recorded from the Florida Keys by Nelson et al. 1981).

The large genus *Pachyschelus* Solier, 1833 currently includes 260 named species distributed from the United States south to Argentina and an additional 15 species known from the Indo-Oriental region from India through southeast Asia and Indonesia. Collections from Hispaniola by Barry Valentine and Michael Ivie have yielded the first specimens of *Pachyschelus* from the Antilles as well as a previously unknown *Leiopleura*. These are described here and we report other records to bring the knowledge of the Hispaniolan buprestid fauna up to date.

The digital photographs (Figs 1-3) were taken with a Spot Insight color video camera connected through a Nikon SMZ1500 dissecting microscope and manipulated using Adobe Photoshop 7.0.

Abbreviations for collections used herein are:

- CHAH H. A. Hespenheide research collection, Los Angeles, California, U.S.A.;
CLBC C. L. Bellamy research collection, Sacramento, California, U.S.A.;
CMNA Canadian Museum of Nature, Ottawa, Canada;
USNM United States National Museum of Natural History, Smithsonian Institution,
Washington, D.C., U.S.A.;
WIBF West Indian Beetle Fauna collection, Montana State University, Bozeman, Montana, U.S.A.

***Pachyschelus valentinorum* sp. nov.**

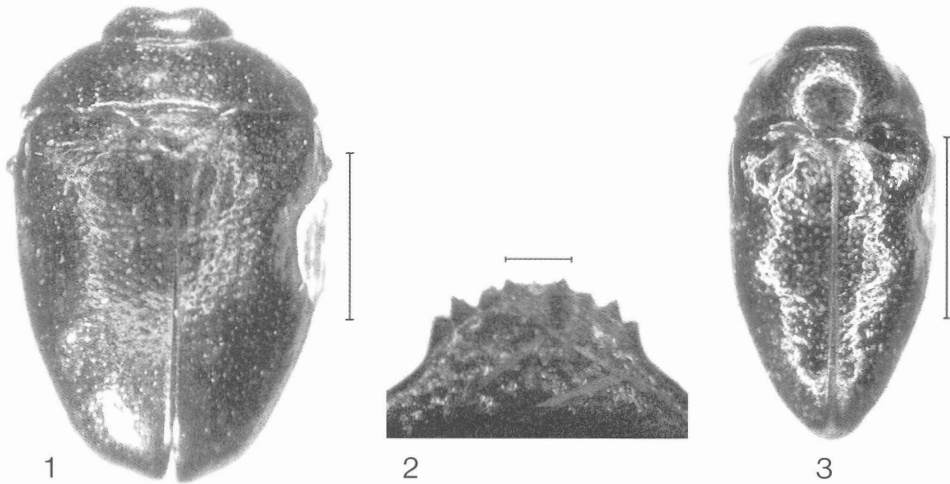
(Figs 1, 2)

Type locality. Haiti, Morne Guimby, 22 km SE of Fond Verrettes, 6500 feet.

Type specimens. Holotype ♂ (ex CLBC, deposited in USNM): "Haiti: Morne Guimby, 22 km SE Fond Verrettes, 6500', 18.VII.1956, B. & B. Valentine, Forêt des Pins, Hardwood cloud forest, beating". Paratype (1 ♂ ex CLBC, deposited in USNM): same data as holotype.

Description of the holotype. Broadly ovate, slightly narrower behind than in front, glabrous and strongly shining; head and pronotum golden green, more greenish on head and at margins of pronotum, more golden and even copper at middle of pronotal disc, scutellum black, elytra dark blue becoming violaceous at lateral margins, slightly bluish green behind scutellum and along suture; beneath black with dark bluish reflections except on legs; length 3.70 mm, width 2.45 mm (Fig. 1).

Head rounded-trapezoidal with slight medial depression from above, eyes slightly convex, front with very shallow medial depression, linear from top to middle of eyes, ending in slight transverse depression above strong transverse ridge; surface sparsely, finely point punctate, faintly shagreened; below transverse ridge very small pore above each antennal insertion joined by very fine groove, epistoma nearly linear between antennal insertions, slightly wider beneath; mouth visible, not covered by anterior prosternal margin. Pronotum moderately convex, 5 times as wide as long at middle, apex $\frac{1}{2}$ as wide as base; sides slightly, regularly rounded to apical angles; anterior margin very shallowly emarginate; base nearly transverse; posterior angles acute and slightly projecting beyond humeral angles of elytra; surface regularly depressed toward sides anterior to elytral humeri; disk glabrous, strongly shining, sparsely, finely point punctate. Scutellum triangular, $\frac{1}{2}$ wider than long. Elytra at base slightly narrower than pronotum, widest just behind humeri; sides shallowly arcuately rounded to near apices where slightly angulate and then conjointly rounded; each elytron with very slight depression at base interior to humerus, and somewhat deeper depression behind humerus along lateral margin from humeral angle to before middle; surface otherwise regularly convex, irregularly, somewhat faintly coarsely punctate, punctures becoming nearly obsolete on apical $\frac{1}{2}$. Prosternum smooth, faintly ocellate punctate, slightly emarginate in front; prosternal process very broad, sides slightly wider behind coxal cavities, then angulately narrowing and transversely undulate at apex. Abdomen beneath faintly reticulately shagreened; apex of terminal abdominal ventrite produced with semicircle of two sets of four teeth separated by shallow U-shaped notch inner-



Figs 1-3. 1-2: *Pachyschelus valentinorum* sp. nov. 1 – habitus (scale bar = 1 mm); 2 – apex of terminal abdominal ventrite (scale bar = 0.1 mm). 3 – *Leiopleura iviei* sp. nov., habitus (scale bar = 1 mm).

most teeth small and broadly triangular, middle two longer and acute, outermost acute and much smaller (Fig. 2).

Variation. The paratype is 3.60 mm long.

Biology. Host and habitat preferences unknown.

Etymology. This species is named in honor of one of its collectors, Barry Valentine, who has provided us with specimens and also encouraged one of us (HAH) in his early interest in entomology.

Discussion. In his monograph of the genera *Hylaeogena* Obenberger, 1923 and *Pachyschelus*, Obenberger (1925) gave the position of the jaws as a major difference between the two genera: visible in *Hylaeogena* and hidden beneath the anterior margin of the prosternum in *Pachyschelus*. In *Pachyschelus valentinorum* sp. nov. and a few undescribed Central American *Pachyschelus*, the jaws are not hidden, but the species clearly belong in *Pachyschelus* based on all other characters, and especially on the structure of the epistomal region and the apex of the terminal ventrite. The host of *P. valentinorum* sp. nov. is unknown, but the larval hosts of two undescribed Central American species with a strong transverse ridge between the eyes and visible jaws (one species) are both members of the Cecropiaceae (*Cecropia*, *Coussapoa*).

Leiopleura iviei sp. nov.

(Figs 3, 4)

Type locality. Dominican Republic, La Altagracia prov., Boca de Yuma, entrance to “Parque Nacional del Este”, 18°21.904'N 68°37.094'W, 12 m.

Type specimens. **Holotype** ♂ (ex WIBF, deposited in USNM): "Dominican Republic: Prov. La Altagracia, Boca de Yuma, entr. to Par. Nac. del Este, 18° 21.904' N 68° 37.094' W, 12 m, 06 Aug 1999, M. A. Ivie, beating at night". **Paratypes**. 1 ♂ (ex WIBF, deposited in USNM): same data as holotype; 1 ♀ (USNM): same data as holotype, but "Macao, Higuey, 10.IV.1982, Col. H. Dominguez".

Description of the holotype. Narrowly ovate, narrower behind than in front, glabrous and moderately shining; black, except head and anterior and posterior angles of pronotum reddish-coppery; length 2.30 mm, width 1.10 mm (Fig. 3).

Head rounded-trapezoidal with slight medial depression from above, eyes rounded, front with medial depression, finely incised from top to below middle of eyes, ending above strong transverse depression above epistoma; surface sparsely, minutely point punctate, faintly shagreened; fine transverse grooves in transverse depression above each antennal insertion between small pores at inner margins of eye and either side of midline, epistoma linear between antennal insertions, antennae serrate from sixth segment.

Pronotum moderately convex, twice as wide as long at middle, apex slightly more than $\frac{1}{2}$ as wide as base; sides regularly rounded to apical angles; anterior margin nearly truncate; base nearly undulate, somewhat produced and slightly emarginate before scutellum; surface depressed along basal margin, more strongly so toward lateral margins anterior to elytral humeri; short, fine, oblique carina from just interior to posterior angles toward disk, disk sparsely, finely point punctate. Scutellum triangular, as wide as long.

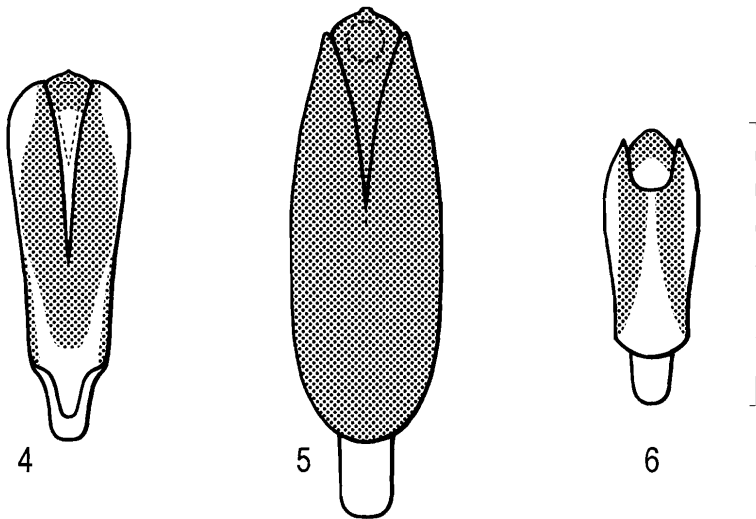
Elytra at base slightly wider than pronotum, widest at humeri; sides nearly linear to behind middle, then shallowly arcuately rounded to conjointly rounded apices; each elytron with short transverse depression at base interior to humerus, and broader, shallower depression behind humerus along lateral margin from humeral angle to before middle, second very shallow depression at margin beyond middle; weak linear callosities along suture at apical $\frac{1}{4}$; irregularly, indistinctly punctate, punctures weaker on apical $\frac{1}{2}$.

Prosternum smooth, except densely ocellate punctate on posterior process, transverse in front; prosternal process very broad, sides parallel, then rounded behind coxal cavities at apex. Abdomen beneath faintly reticulately shagreened; apex of terminal abdominal ventrite with three pores, middle one wider. Genitalia widening slightly to apex, aedeagus apiculate (Fig. 4).

Variation. Both paratypes are the same size as the holotype.

Etymology. This species is named in honor of its collector who has made extensive contributions to the knowledge of Antillean Coleoptera.

Discussion. *Leiopleura iviei* sp. nov. is the third species of the genus known from Hispaniola and is distinctive in being essentially entirely black and inconspicuously sculptured. *L. darlingtoni* Fisher, 1939 is slightly smaller and is gaudily variegated green, blue, red and black; *L. gibbipennis* (Fisher, 1939) is slightly larger, golden-coppery in color, and has strongly sculptured elytra. *L. iviei* sp. nov. is apparently related to a group of small oval and black Central American species that includes *L. aeneifrons* Waterhouse, 1889 and a number of undescribed forms.



Figs 4-6. Genitalia of *Leioleura* species. 4 – *L. iviei* sp. nov.; 5 – *L. gibbipennis* (Fisher); 6 – *L. darlingtoni* Fisher. Scale bar = 0.5 mm.

Leioleura gibbipennis (Fisher, 1940)

(Fig. 5)

Enbrachys gibbipennis Fisher, 1940: 160.

Embrachys[sic!] *gibbipennis*, Cobos 1978: 62 (*lapsus*).

Leioleura gibbipennis, Cobos 1978: 61.

Specimens examined. “Dominican Republic: Prov. Hato Mayor, W Sabana de la Mar Par. Nac., Los Haitisis, bosque humido, 15 m, 16.0-01.07.1992, M. A. Ivic, Lindgren funnel” (WIBF); “Prov. La Altagracia, Punta Cana, Higüey, 3.IV.1980, Col. Dominguez” (USNM).

Discussion. The genitalia (Fig. 5) of this species have not been figured previously. This species was also reported by Hespeneheide (1990).

Leioleura darlingtoni Fisher, 1940

(Fig. 6)

Leioleura darlingtoni Fisher, 1940: 162.

Specimens examined. “Dominican Republic: Barahona, 7 km NW Paraiso, 200 m, rainforest remnant, 27.11-04.12.1991, Masner & Peck, intercept tp., 91-341” (CMNA, CHAH); “La Vega Prov., PN A. Bermudez, Cienega, 1000 m, 19.07-02.08.1995, S+J Peck, trop. evgrm. for., FIT” (CMNA, CHAH).

Discussion. The genitalia (Fig. 6) of this species have also not been figured previously; it was also reported by Hespeneheide (1990).

Buprestidae of Hispaniola

A recent list of the Buprestidae of Hispaniola (Hespenheide 1990) listed 39 species in 20 genera, which updated the taxa listed by Blackwelder (1944). That list overlooked *Isophaenus klapperichorum* Nelson, 1978 and the species described by Cobos (1990) and Théry (1927) respectively and included below. In addition, *Polycesta (Jamaicquesia) cyanipes* (Fabricius, 1775) has recently been reported from the Dominican Republic (MacRae and Nelson 2003). These and the two species described here bring the total Hispaniolan fauna of Buprestidae to 48 species in 23 genera. Haack et al. (1989) reported five species of buprestids previously known from Hispaniola collected at sticky traps baited with scolytid pheromones: *Actenodes bellulus* Mannerheim 1837, *Buprestis hispaniolae* Fisher 1940, *Chrysobothris chlorostica* Thomson 1878, *C. megacephala* Gory & Laporte 1837, and *C. tranquebarica* (Gmelin 1790). The known buprestid fauna from Hispaniola is listed below.

Checklist of the Buprestidae of Hispaniola

Subfamily Polycestinae

<i>Acmaeodera cruenta</i> (Olivier, 1790)	Dominican Republic, Haiti
<i>Micrasta fisheri</i> Théry, 1927	Dominican Republic
<i>M. hispaniolae</i> Fisher, 1940	Dominican Republic
<i>M. monticola</i> Fisher, 1940	Dominican Republic
<i>Polycesta (Polycesta) bilyi</i> Cobos, 1990	Dominican Republic
<i>P. (P.) dominicana</i> Cobos, 1990	Dominican Republic
<i>P. (P.) fisheri</i> Obenberger, 1936	Haiti
<i>P. (P.) porcata</i> (Fabricius, 1775)	Haiti
<i>P. (P.) regularis</i> Watherhouse, 1904	Dominican Republic
<i>P. (P.) thomae</i> Chevrolat, 1838	Dominican Republic, Haiti
<i>Polycesta (Jamaicquesia) cyanipes</i> (Fabricius, 1787)	Dominican Republic
<i>Paratyndaris (Knulliella) antillarum</i> Fisher, 1940	Dominican Republic

Subfamily Chrysochroinae

<i>Dicerca divaricata</i> (Say, 1823)	Haiti
<i>Lampetis (Spinthoptera) aurata</i> (Saunders, 1871)	Dominican Republic, Haiti
<i>L. (S.) aurifer</i> (Olivier, 1790)	Dominican Republic, Haiti

Subfamily Buprestinae

<i>Buprestis (Buprestis) hispaniolae</i> Fisher, 1940	Dominican Republic
<i>B. (B.) maculiventris</i> Say, 1825	Haiti
<i>B. (B.) maura</i> Olivier, 1790	Dominican Republic
<i>Cypriacis (Cypriacis) striata</i> (Fabricius, 1775)	Haiti
<i>Mixochlorus elegans</i> Fisher, 1925	Dominican Republic
<i>Peronaemis insulicola</i> Fisher, 1940	Dominican Republic
<i>Hilarotes mannerheimi</i> (Mannerheim, 1837)	Dominican Republic
<i>H. nitidicollis</i> (Laporte & Gory, 1837)	Dominican Republic, Haiti
<i>Spectralia albonotata</i> (Laporte & Gory, 1837)	Dominican Republic, Haiti
<i>Melanophila acuminata</i> (Degeer, 1774)	Haiti
<i>Tetragonoschema quadrata</i> (Buquet, 1841)	Dominican Republic

<i>Isophaenus klapperichorum</i> Nelson, 1978	Dominican Republic
<i>Chrysobothris chlorosticta</i> Thomson, 1878	Dominican Republic
<i>C. dentipes</i> (Germar, 1824)	Dominican Republic
<i>C. haitensis</i> Fisher, 1930	Dominican Republic, Haiti
<i>C. hispaniolae</i> Fisher, 1925	Haiti
<i>C. megacephala</i> Gory & Laporte, 1837	Dominican Republic, Haiti
<i>C. parvofoveata</i> Fisher, 1925: 116	Haiti
<i>C. tranquebarica</i> (Gmelin, 1790)	Dominican Republic, Haiti
<i>Actenodes auronotatus</i> (Gory & Laporte, 1837)	Haiti
<i>A. bellulus</i> (Mannerheim, 1837)	Dominican Republic, Haiti
<i>A. embrikstrandii</i> Obenberger, 1936	Haiti
<i>A. nobilis</i> (Linnaeus, 1758)	Haiti
<i>A. oberthuri</i> Bleuzen, 1989	Haiti
Subfamily Agrilinae	
<i>Sambomorpha clarki</i> Hespeneheide, 1990	Dominican Republic
<i>Agrilus dominicanus</i> Thomson, 1878	Dominican Republic
<i>A. hispaniolae</i> Hespeneheide, 1998	Dominican Republic
<i>Taphrocerus haitensis</i> Fisher, 1949	Dominican Republic, Haiti
<i>Leiopleura darlingtoni</i> Fisher, 1940	Dominican Republic, Haiti
<i>L. gibbipennis</i> (Fisher, 1940)	Dominican Republic
<i>L. iviei</i> sp. nov.	Dominican Republic
<i>Pachyschelus valentinorum</i> sp. nov.	Haiti
<i>Neotrachys bilyi</i> Hespeneheide, 1990	Dominican Republic

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Michael Ivie of Montana State University provided specimens collected as part of the West Indian Beetle Fauna Project. Barry Valentine, Ohio State University, provided the type specimens of *Pachyschelus valentinorum* sp. nov. Examination of some Antillean types in the past was facilitated by John Kingsolver of the U.S. National Museum, Smithsonian Institution, Washington, D.C. Genitalic drawings were prepared by Margaret Kowalczyk.

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