

New species of *Laparocerus* Schönherr, 1834 from La Gomera, Canary Islands (Coleoptera, Curculionidae, Entiminae)

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Table of contents

Abstract	1
Introduction	1
Material and methods	1
Descriptions	2
<i>Laparocerus orone</i> n. sp.	2
<i>Laparocerus acutipennis</i> n. sp.	5
<i>Laparocerus benchijigua</i> n. sp.	6
<i>Laparocerus depressus</i> n. sp.	7
<i>Laparocerus spinimanus</i> n. sp.	9
<i>Laparocerus exiguus</i> n. sp.	10
<i>Laparocerus exophthalmus</i> n. sp.	12
<i>Laparocerus oculatissimus</i> n. sp.	14
<i>Laparocerus aethiops garajonay</i> n. ssp.	14
<i>Laparocerus hupalupa</i> n. sp.	16
<i>Laparocerus inermis</i> n. sp.	18
<i>Laparocerus junonius</i> n. sp.	19
<i>Laparocerus roudieri</i> n. sp.	21
<i>Laparocerus humeralis</i> n. sp.	23
<i>Laparocerus mulagua</i> n. sp.	25
<i>Laparocerus heres</i> n. sp.	29
<i>Laparocerus heres jocoensis</i> n. ssp.	35
Key to the species of <i>Laparocerus</i> from La Gomera	36
Acknowledgements	38
References	38

Abstract

In the course of a monographic study of the weevil genus *Laparocerus* Schönherr, 1834, which is very diverse in Macaronesia, this paper describes fifteen new species and one subspecies from the Canary island of La Gomera: *L. acutipennis* n. sp., *L. aethiops garajonay* n. ssp., *L. benchijigua* n. sp., *L. depressus* n. sp., *L. exiguus* n. sp., *L. exophthalmus* n. sp., *L. heres* n. sp., *L. humeralis* n. sp., *L. hupalupa* n. sp., *L. inermis* n. sp., *L. junonius* n. sp., *L. mulagua* n. sp., *L. oculatissimus* n. sp., *L. orone* n. sp., *L. roudieri* n. sp. and *L. spinimanus* n. sp.. In addition, *L. heres jocoensis* n. ssp. is described from the neighbouring island of Tenerife. Detailed descriptions, including photographs of holotypes and drawings of the aedeagus, spermatheca and sternite VIII, are supplemented with remarks on diagnostic features comparing the species to similar or related taxa. Data on their distribution on the island, phenology and host-plants are also presented, as is a key to all *Laparocerus* known from La Gomera.

Key words: Curculionidae, Entiminae, *Laparocerus*, Canary Islands, new species

Introduction

The genus *Laparocerus*, described by Schönherr (1834), belongs to the subfamily Entiminae, tribe Laparocerini (*vide* Alonso-Zarazaga & Lyal, 1999). It is distributed in Macaronesia (the archipelagos of the Azores, Madeira, Selvagens and Canaries), with a single species in North Africa (West Morocco). Up to the present, 106 valid taxa have been assigned to the genus (Machado, 2006). As part of a monographic study of the genus, which comprises a systematic revision and a phylogeny based on molecular data, this contribution describes fifteen new species (one with a subspecies from Tenerife) and one subspecies from the island of La Gomera. The exceptionally large number of 27 *Laparocerus* species occurring on La Gomera (16 here described) is probably related to its old age. La Gomera is an extremely eroded oceanic island with presently a surface area of 380 km², but in the past it must have been considerably larger. For the last 4 million years (Cantagrel et al., 1984) it has seen no volcanic activity and no increase in size. The diversity of *Laparocerus* species probably represents a relictual fauna condensed from a previously larger territory, where allopatric divergences of species must have been a common occurrence. Such divergences can still be recognised in the disjunct distribution of several species-pairs, such as *L. orone* - *L. benchijigua*, *L. hupalupa* - *L. inermis* and *L. exophthalmus* - *L. oculatissimus*.

Material and methods

This study is based on 2430 specimens collected by the author (see Machado, 2003) or borrowed from several institutions and colleagues. The abbreviations used for the various collections are the following:

AAC	Agustín Aguiar Clavijo, private collection, La Laguna, Spain
AL	Andrea Liberto, private collection, Roma, Italy
AMC	Antonio Machado Carrillo, private collection, La Laguna, Spain
CG	Christoph German, private collection, Hinterkapellen, Switzerland
DEI	Deutsches Entomologisches Institut, Müncheberg, Germany
EC	Enzo Colonnelli, private collection, Rome, Italy
HLH	Heriberto López Hernández, private collection, La Laguna, Spain
JM	Jochen Mesuttat, private collection, Preussisch Oldendorf, Germany
MM	Michael Morris, private collection, Dorchester, United Kingdom
MNCN	Museo Nacional de Ciencias Naturales, Madrid, Spain
MNHN	Muséum National d'Histoire Naturelle, Paris, France
MZUR	Museo di Zoologia dell' Università di Roma "La Sapienza", Rome, Italy
NHM	The Natural History Museum, London, United Kingdom
NMW	Naturhistorisches Museum, Vienna, Austria
NRS	Naturhistoriska Riksmuseet, Stockholm, Sweden
POM	Pedro Oromí Masoliver, private collection, La Laguna, Spain
PS	Peter Stüben, private collection, Mönchengladbach, Germany
RB	Roman Borovec, private collection, Nechanice, Czech Republic
RGB	Rafael García Becerra, private collection, S/C de la Palma, Spain
TFMC	Museo de Ciencias Naturales, Santa Cruz de Tenerife, Spain
ZMUH	Zoological Museum, University of Helsinki, Finland
ZMUL	Zoological Museum, University of Lund, Sweden.

The type specimens were chosen from a single locality or, at most, a few neighbouring ones, and specimens regarded as conspecific but from other areas were excluded from the type series so as to minimize its

variability. All holotypes have been deposited in the Natural History Museum of Santa Cruz de Tenerife (TFMC) and paratypes were lodged with the museums in Madrid (MNCN), London (NHM) and Paris (MNHN).

Photographs were taken with a Nikon digital camera, and drawings were made using a camera lucida attached to a microscope. Measurements were taken with a micrometer fitted to a stereoscopic microscope. The symbols L, W and H refer to length, width and height, respectively, where length is measured as excluding the rostrum. Eye convexity is expressed as percentage of a theoretical complete ellipsoid or globe protruding from the profile of the head; thus a 50% convexity is termed a hemispherical eye, 10% a fairly flat one, and so forth. Abdominal transverse convexity is determined by dividing the maximum height between elytra and ventrites in lateral view by the maximum width of the elytra measured in dorsal view.

The term *prorostrum* (Damoiseau, 1967) refers to the anterior and dorsal portion of the rostrum, delimited by the line where the apical declivity usually starts, just behind the level of insertion of the antennae, and the *metarostrium* is the posterior portion. Spermathecal terminology follows Thompson (1989).

Host plant families were taken from the official list of the Canarian fauna and flora (Izquierdo et al., 2004), which is available online at <http://www.gobcan.es/cmayer/interreg/atlantico/documentos/LESDCanarias.pdf>.

Descriptions

Laparocerus orone n. sp.

(Figs. 1A, 9A–B, 15C, 18A)

Dimensions, holotype (♂). *Length*: total (without rostrum) 4.65 mm, head 1.12 mm, rostrum 0.50 mm, scape 1.18 mm, funicle 1.26 mm, segments (1st/ 2nd/ 3rd/ 4th) 0.24 /0.30 /0.19 /0.14 mm, club 0.48 mm, eyes 0.30 mm, pronotum 1.02 mm, elytra 3.35 mm, tibiae (pro- /meso- /meta-) 1.26 /1.20 /1.36 mm. *Width*: head (with eyes) 0.96 mm, head (between eyes) 0.58 mm, rostrum (with pterygia) 0.42 mm, rostrum (minimum dorsal /ventral) 0.36 /0.56 mm, rostrum (base) 0.64 mm, scape 0.18 mm, club 0.14 mm, pronotum (anterior /maximum /posterior) 0.92 /1.28/ 1.12 mm, elytra (maximum) 2.20 mm. *Height*: abdomen 1.60 mm.

Male. Length 4.2–5.5 mm, oval-elliptical. Integument piceous, brilliant, beset with cinereous, linear, decumbent scales arranged in mosaic pattern on elytra, devoid of protruding setae; antennae and legs ferruginous, commonly lighter than body. *Antenna* robust; scape moderately sinuate, a little longer than pronotum, smoothly capitate at apex (34% of length); funicle longer than scape, first segment usually smaller than second, third longer than fourth; club fusiform, as long as the three previous segments combined. *Head* transversely and markedly depressed at frons; median fovea pushed forwards, small and deep, rarely extended; *metarostrium* strongly trapezoidal, not or slightly canaliculate, with punctures and scales; *prorostrum* well defined, smooth; epistomal keel complete, elevated; pterygia large and open (base of antennae visible), moderately protruding. Eyes strongly protruding, almost hemispherical in dorsal view (convexity 55%). *Pronotum* moderately transverse (L/W ratio 0.80), 0.30× length of elytra, sides evenly curved, widest at middle: disc with large deep punctures separated by approximately one diameter; interstices with small but deep micro-punctures; sparsely covered with small linear and curved scales, laterally coalescent. *Scutellum* small, acute, without or with few scales. *Elytra* ovate with ogival apex, usually widest at middle (or slightly obovate); base not much wider than base of pronotum (shoulders absent); apical declivity smooth. Striae marked by large punctures similar in diameter to those of pronotum but not as deep; intervals more or less subconvex, smooth or feebly shagreened. Vestiture dominated by decumbent cinereous scales with greenish or coppery tint, alternating with patches of thinner brownish scales (3rd interval usually dark in apical half, in spike-like pattern). *Legs* normal, without internal brush; protibia straight, shortly incrassate internally at apex, with small mucro, outer angle blunt, inner side very smoothly notched (preapical sinuosity); mesotibia mucronate; metatibia

without mucro and 12% longer. *Venter* with sparse covering of thin greyish linear scales, integument brilliant; inter-mesocoxal carina small and short, almost granular; apical ventrite shortly truncated. Abdominal convexity 73%. *Aedeagus* (figs. 9A–B) weakly curved, ending in a broad truncated plate protruding from ventral side, with small median point, dorsally with preapical hump sloping straight towards tip in lateral view; internal sac short, with reduced field of soft and short spines, not very conspicuous.

Female. As male but larger (length 4.9–5.9 mm), more robust and elytra uniformly more inflated, starting at base (shoulders rounded off). Elytra/pronotum L ratio 2.6 (instead of 3.2), punctures in striae much smaller. Preapical internal sinuosity of protibia less marked; last ventrite apically rounded. Sternite VIII as in fig. 15C, spermatheca as in fig. 18A.

Etymology. The specific epithet is a name in apposition and refers to the Guanche name of one of the four aboriginal districts of La Gomera, where the species is common.

Remarks. *Laparocerus orone* is easy to recognize by its trapezoidal rostrum with prominent pterygia, protruding rounded eyes, transversely depressed frons, heavily punctate pronotum combined with the ovate-elliptical elytra devoid of protruding erect setae. Its closest relatives, *L. acutipennis* and *L. benchijigua*, have a similar head and prothorax but conspicuously extended and acuminate elytra (L ratio elytra /pronotum >3.7) bearing additional setae on all or part of the surface. Moreover, in *L. orone* the antennae are more robust, the inner excavation of the male protibiae less developed (just a sinuosity) and the scales covering the elytra slightly smaller, broader and more regularly distributed. *Laparocerus orone*, *L. acutipennis* and *L. benchijigua* constitute a superspecies related to the group of *L. gracilis* Wollaston, 1865.

Material examined. Holotype: La Gomera: Valle Gran Rey, Ermita de San Antonio, 445 m (UTM = 28R 0272865 3112512), 2-1-2005, leg. A. Machado, 1 ♂ (TFMC, reg. CO-15528). **Paratypes:** same locality and collector, 65 exx.; Cementerio de Arure, 850 m, 31-3-2001, 1 ex.; Arure loma del túnel, 800 m, 12 exx. (and

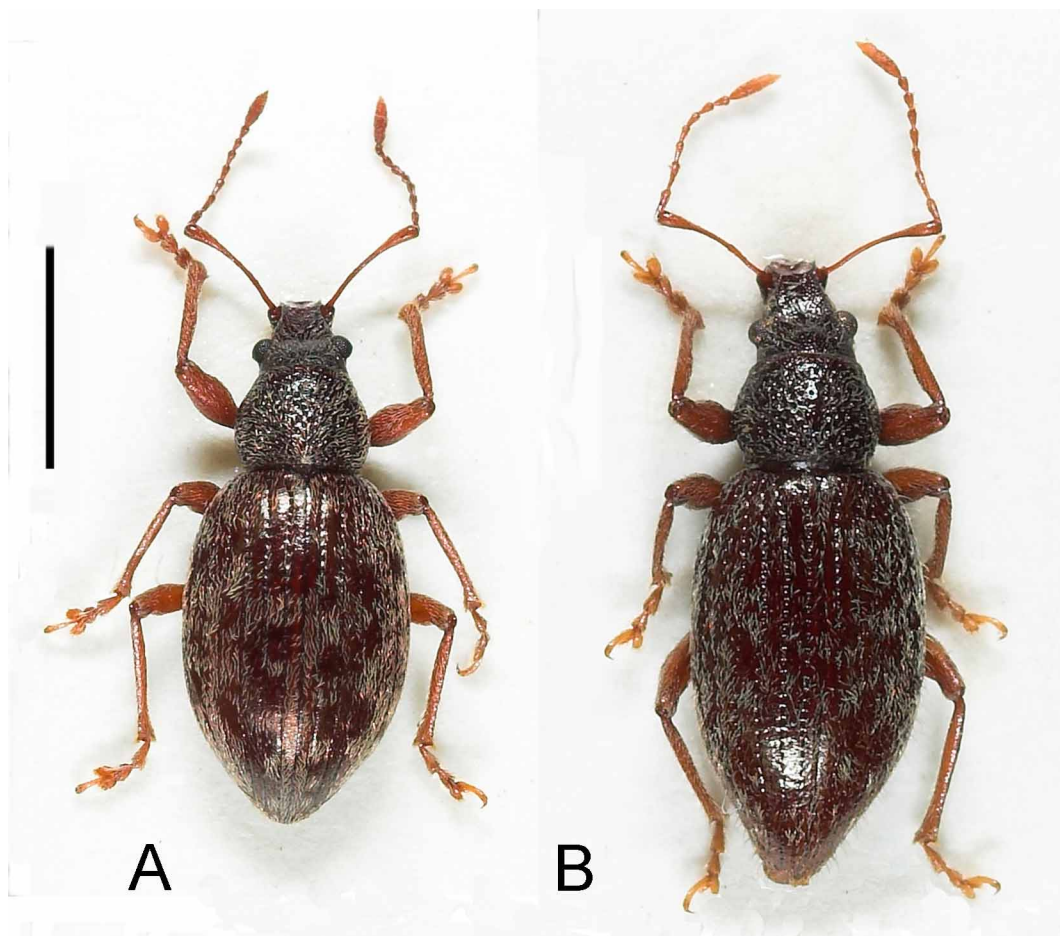


FIGURE 1. New *Laparocerus* species from La Gomera, holotypes: (A) *L. orone*; (B) *L. acutipennis*. Scale = 2 mm

ca. 100 teneral exx.); 31-3-2001, 7 exx.; 5-12-2006, 40 exx.; Valle Gran Rey, Mirador César Manrique, 700 m, 31-3-2001, leg. A. Machado, 15 exx. (AMC, TFMC, ZMUH, MNCN, NHM); Cementerio de Arure, 6-12-2002, 50 exx.; Túnel de Arure, 5-12-2006, leg. R. García, 12 exx. (RGB); 5-12-2006, leg. A. Aguiar, 18 exx. (AAC); Arure, Staudam, 860 m, 13-3-1989, leg. Demazer & Schmidt, 1 ex. (DEI); Valle Gran Rey, 12-12-1983, leg. G. Israelson, 1 ex. (NRS). **Other specimens:** Las Hayas, 800 m, 17-4-2000, 1 ex.; 6-12-2002, 2 exx.; Teselinde, Ermita Santa Clara, 7-12-2002, 2 exx.; Taguluche, 250 m, 15-3-2003, 6 exx.; idem, 400 m, 39 exx.; Tegueguenche, 500 m, 15-3-2003, 16 exx.; supra Alojera, 250 m, 15-3-2003, 2 exx.; supra Tazo, 650 m, 2-1-2005, 2 exx.; Vallehermoso, Roque Cano, 7-12-2002, 62 exx.; Vallehermoso, Barranco del Clavo, 365 m, 17-2-2004, 3 exx.; Montaña de la Zarza E, 780 m, 17-2-2004, leg. A. Machado, 19 exx. (AMC); Bosque de El Cedro, 3-11-1974, 1 ex.; Las Hayas, 20-12-2003, leg. P. Oromí, 22 exx. (POM); La Fortaleza, 4-4-1999, leg. Kirschbaum, 4 exx. (DEI).

Distribution and ecology. *Laparocerus orone* occurs in the thermophilous scrub vegetation at middle elevations (250–850 m) in the northern half of the island of La Gomera. It is nocturnal and fairly abundant in late winter and spring, feeding on several woody plants, such as *Kleinia neerifolia*, *Argyranthemum* spp., *Retama monosperma*, *Schyzogine sericea*, *Rubia fruticosa* and *Rumex lunaria* but especially on *Artemisia thuscula*. A few specimens have been collected on *Adenocarpus foliolosus* and *Cistus monspeliensis*. The islands of El Hierro and La Palma are inhabited by differentiated populations of this species, to be described in future contributions.

Laparocerus acutipennis n. sp.

(Figs. 1B, 9C–E, 15E, 18B)

Dimensions, holotype (♂). *Length:* total (without rostrum) 5.00 mm, head 1.05 mm, rostrum 0.50 mm, scape 1.18 mm, funicle 1.54 mm, segments (1st/ 2nd/ 3rd/ 4th) 0.23 /0.28 /0.20 /0.18 mm, club 0.40 mm, eyes 0.26 mm, pronotum 0.85 mm, elytra 3.70 mm, tibiae (pro- /meso- /meta-) 1.23 /1.20 /1.47 mm. *Width:* head (with eyes) 0.96 mm, head (between eyes) 0.60 mm, rostrum (with pterygia) 0.66 mm, rostrum (minimum dorsal /ventral) 0.38 /0.64 mm, rostrum (base) 0.64 mm, scape 0.14 mm, club 0.11 mm, pronotum (anterior /maximum /posterior) 0.90 /1.33/ 1.10 mm, elytra (maximum) 2.10 mm. *Height:* abdomen 1.60 mm.

Male. Length: 4.5–4.9 mm, elongate-acuminate. Integument piceous, brilliant, beset with loose cinereous linear decumbent scales arranged in mosaic pattern and long protruding setae on elytra; antennae and legs light brown. *Antenna* normal; scape moderately sinuate, longer than pronotum, smoothly capitate at apex (30% of length); funicle longer than scape, first segment slightly smaller than second; club fusiform, thin, slightly longer than the three previous segments combined. *Head* transversely and markedly depressed at frons, median fovea small, pushed forwards and obscurely extended apicad; rostrum strongly trapezoidal, canaliculate towards antennae; prorostrum well delimited, smooth and shiny; pterygia large and open (base of antennae visible); surface of metarostrum with punctures and scales. Eyes almost hemispherical, strongly protruding (convexity 45%). *Pronotum* fairly small (0.23× length of elytra), transverse (L/W ratio 0.65), sides moderately and evenly curved, widest about middle; integument regularly covered with large deep punctures separated by approximately one diameter; interstices with small but deep micropunctures; sparsely beset with linear and curved scales. *Scutellum* small, acute, without or with few scales. *Elytra* subconvex, elongate, strongly acuminate (sides straight and convergent in apical third); widest well after middle; base not much wider than base of pronotum; shoulders absent. Striae marked by large punctures similar in diameter to those of pronotum but not as deep; intervals more or less subconvex, often alutaceous. Long arcuate setae (longer in apical third, e.g. 2/3 of onychium) protruding from vestiture of loose decumbent cinereous scales (often with coppery or greenish tint), alternating with patches of thinner brownish scales (3rd interval usually dark in posterior half, in spike-like pattern). *Legs* normal, without combs; protibia shortly incurved at top, outer angle

blunt, internally with strong mucro, inner side feebly notched; mesotibia with mucro; metatibia 20% longer, with very obtuse mucro. *Venter* with sparse covering of thin greyish linear scales, integument brilliant; inter-mesocoxal carina small and short, almost granular; apical ventrite shortly truncated. Abdominal convexity 76%. *Aedeagus* (fig. 9C) weakly curved; apex a broad missilehead-shaped plate protruding from ventral side, dorsally flat and almost without dorsal heel (fig. 9D); internal sac short, with reduced field of soft and short spines (fig. 9E).

Female. As in male but on average larger (length 5.00–6.00 mm), more robust; elytra more inflated, widest usually at middle, slightly shorter (elytra/pronotum L ratio 4.2. instead of 4.4), shoulders slightly marked, punctures in striae smaller. Tibiae not mucronate, not curved at apex; last ventrite apically rounded. Sternite VIII as in fig. 15E, spermatheca as in fig. 18B.

Etymology. The specific name, a Latin adjective, refers to the acuminate elytra of the species.

Remarks. The apically prominently acuminate elytra, with conspicuous erect setae over their entire dorsal surface, are characteristic of this species and serve to distinguish it from *L. benchijigua* and *L. orone*, which are closely related and of similar appearance (especially regarding the head and pronotum). *Laparocerus benchijigua* also has extended and acuminate elytra, but with smaller and more curved, protruding setae restricted to the apical half in the female and to around the apex in the male, while *L. orone* has no trace of such setae on the elytra, the apices of which are pointed but not acuminate. A small series of specimens from Juan Tomé has the elytra notably less acuminate (elytra /pronotum ratio 3.6 in ♂♂, 4.0 in ♀♀), more similar to those of *L. orone*, but the typical vestiture of protruding setae and more slender decumbent scales, together with the broad, missilehead-shaped aedeagus, assigns it undoubtedly to *L. acutipennis*.

Material examined. Holotype: La Gomera: Bco. de Almagro, 1000 m (UTM = 28R 027880 310910), 31-3-2001, leg. A. Machado, 1♂ (TFMC, reg. CO-15504). **Paratypes:** same locality and collector, 18-4-2000, 6 exx.; 31-3-2001, 39 exx.; 6-12-2002, 52 exx. (most teneral) (AMC, TFMC, ZMUH, MNCN, NHM); same locality, 20-12-2003, leg. P. Oromí, 26 exx. (POM); same locality, 6-12-2002, leg. R. García, 20 exx. (RGB). **Other specimens:** Cumbre de Juan Tomé, 1350 m, 6-12-2002, leg. A. Machado, 6 exx. (AMC).

Distribution and ecology. *Laparocerus acutipennis* occurs in scrub vegetation on the high southern slopes of La Gomera, apparently restricted to the district of Alajeró. Westwards, in the huge watershed of Benchijigua, it seems to be replaced by *L. benchijigua* and eastwards by *L. orone*. It feeds at night on several plants, mainly on *Cistus monspeliensis* but also on *Innula viscosa*, *Bystropogon origanifolius*, *Adenocarpus foliolosus* and *Plantago* sp.. It is a species of the winter and early spring.

Laparocerus benchijigua n. sp.

(Figs. 2A, 9F–G, 18C)

Dimensions, holotype (♂). *Length:* total (without rostrum) 5.10 mm, head 1.14 mm, rostrum 0.54 mm, scape 1.24 mm, funicle 1.54 mm, segments (1st/ 2nd/ 3rd/ 4th) 0.32 /0.32 /0.18 /0.18 mm, club 0.40 mm, eyes 0.32, pronotum 1.05 mm, elytra 3.70 mm, tibiae (pro- /meso- /meta-) 1.38 /1.20 /1.42 mm. *Width:* head (with eyes) 0.96 mm, head (between eyes) 0.60 mm, rostrum (with pterygia) 0.66 mm, rostrum (minimum dorsal /ventral) 0.40 /0.56 mm, rostrum (base) 0.64 mm, scape 0.14 mm, club 0.09 mm, pronotum (anterior /maximum /posterior) 0.96 /1.36/ 1.14 mm, elytra (maximum) 2.20 mm. *Height:* abdomen 1.70 mm.

Differential diagnosis. Length ♂♂ 4.6 – 5.5 mm, ♀♀ 5.2 – 5.9 mm. Similar in appearance and details to *L. acutipennis* but without long protruding cinereous setae on elytra. Elytral setae in females very short, dark, more strongly curved, pointing backwards, hardly protruding in basal half, well developed only in apical third; in males much more reduced, restricted to a few small ones around apex. Elytra equally strongly acuminate but in females disc conspicuously depressed, sloping apicad (maximum height near the base). Prorostrium slightly less well delimited (bearing some punctures) and epistomal keel less clearly demarkated. Frontal

fovea smaller, shallower and extended as a line along metarostrum. Pronotum more quadrangular (pronotum/elytra L ratio 0.29 in ♂♂, 0.25 in ♀♀), usually with a diffuse discal granule devoid of punctures. Apical plate of aedeagus (fig. 18F–G) very distinctive, formed by a narrow and sharpened long plate protruding from ventral side, instead of broader, missilehead-shaped plate typical of *L. acutipennis*.

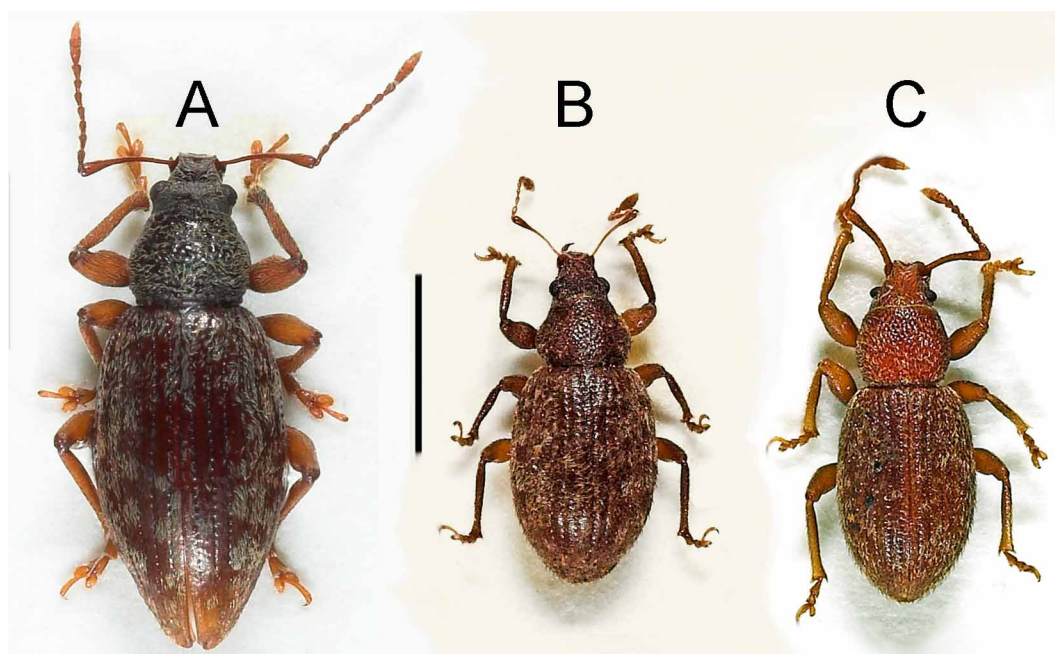


FIGURE 2. New *Laparocerus* species from La Gomera, holotypes: (A) *L. benchijigua*, (B) *L. exiguus*, (C) *L. heres heres*. Scale = 2 mm

Etymology. The specific name is a noun in apposition, taken from the type locality, the huge ravine of Benchijigua.

Material examined. Holotype: La Gomera: Road to Benchijigua, 670 m (UTM = 28R 0283034 3108570), 3-1-2005, leg. A. Machado, 1 ♂ (Coll. TFMC, reg. CO-15508). **Paratypes:** same locality and data, 1 ♂, 3 ♀♀ (AMC), 1 ♂ (TFMC); same locality, 6-12-2006, leg. A. Machado, 26 exx. (AMC, 2 DEI, 2 MNCN, 2 MNH), leg. R García, 10 exx. (RGB), leg. A. Aguiar, 16 exx. (AAC).

Distribution and ecology. *L. benchijigua* is endemic to La Gomera. It was collected at night on *Cistus monspeliensis* in the basin of Benchijigua, which in the east borders the district where *L. acutipennis* occurs.

***Laparocerus depressus* n. sp.**

(Figs. 3A, 10D–E, 15A, 18E)

Dimensions, holotype (♂). *Length:* total (without rostrum) 6.50 mm, head 1.44 mm, rostrum 0.66 mm, scape 1.44 mm, funicle 1.96 mm, segments (1st/ 2nd/ 3rd/ 4th) 0.40 /0.50 /0.23 /0.24 mm, club 0.58 mm, eyes 0.44, pronotum 1.45 mm, elytra 4.80 mm, tibiae (fore /mid /hind) 1.86 /1.72 /2.10 mm. *Width:* head (with eyes) 1.14 mm, head (between eyes) 0.64 mm, rostrum (with pterygia) 0.78 mm, rostrum (minimum dorsal /ventral) 0.56 mm/ 0.68 mm, rostrum (base) 0.66 mm, scape (maximum) 0.16 mm, club 0.12 mm, pronotum (anterior /maximum /posterior) 1.25 /1.70 /1.57 mm, elytra (maximum) 3.05 mm. *Height:* abdomen 2.35 mm.

Male. Length 5.6 – 6.9 mm, oblong, depressed. Integument shiny, piceous; vestiture composed of dense, separate, small, linear, recumbent, hyaline or whitish scales with glaucous or coppery tint, arranged in mosaic pattern on elytra; only few curved setae at apex. Legs paler or testaceous. *Antenna* slender; scape clavate, slightly sinuate, shorter than pronotum, much shorter than funicle (0.74×); funicle long, second segment

slightly longer than first (1.25×) and 3rd + 4th; club fusiform, narrow, not broader than scape, slightly longer than three previous segments together. *Head* normal, rostrum short (L/W 1.2×), dorsally somewhat convergent apicad, not canaliculate; prorostrum well delimited, epistomal keel complete, convex; pterygia small, hardly protruding; frons noticeably depressed between eyes, median fovea large, deep, rarely extended. Eyes hardly prominent, evenly convex (convexity 23%), reaching border of frons. Integument obscurely punctate, with scales, except glabrous on prorostrum. *Pronotum* transverse (L/W ratio 0.85), moderately convex, not rimmed, more constricted at front than at base; maximum width at middle; prebasal collar feebly developed. Integument somewhat rough, micropunctures shallow, densely distributed, macropunctures small, sparse, precise, irregular, occasionally with faint median line. *Scutellum* very small, punctate. *Elytra* long, elliptical, truncated at base (L/W ratio 1.7), 3.2× longer than pronotum and much wider (1.7×), sides evenly curved, widest at middle; shoulders not marked, declivous (scutellar area elevated); disc flattened. Striae with deep precise punctures (larger than on pronotum), obsolescent in distal half; intervals flat or clearly subconvex, devoid of punctures. Integument shiny; finely rugose; with linear recumbent scales 8–10 across intervals, separated but overlapping longitudinally, in mosaic pattern; very small arcuate dark setae, hardly projecting but visible in profile, longer and noticeably protruding only at apex. *Legs* normal; tibiae not carinate externally; protibia with apical angle externally blunt, internally slightly expanded, angular, with small mucro, smoothly emarginate in apical third, internal edge of excavation incrassate and black, grooming mat on internal face little developed; meso- and metatibia with tiny mucro. *Venter*. Ventriles with whitish scales and intermixed longer hair-like scales; no special tufts on coxae; inter-mesocoxal keel long and low; last ventrite apically clearly truncated. Abdominal convexity 72 %. *Aedeagus* (fig. 10D–E) with slender, fairly flat, hardly arcuate median lobe (0.60× length of elytra); apical plate smoothly tapering, evenly blunt; apodemes half the length of median lobe; internal sac with two long parallel fields of strong denticles and another much smaller isolated one at the end of the sac; muscular sheath covered with fine denticles.

Female. As male but larger (length 5.3–7.4 mm) and broader; elytra more strongly depressed on disc, maximum width in basal third; slightly impressed on flanks at 2/3 from base; irregular dark protruding setae on dorsum twice as long as in male, very conspicuous in apical third. Last ventrite apically rounded. All tibiae unarmed; protibia straight, not emarginate. Sternite VIII (fig. 15A) with broad, blunt plate, spermatheca as in fig. 18E.

Etymology. The specific epithet refers to the depressed disc of the elytra, which is characteristic of this species, particularly in the females.

Remarks. The species is easy to distinguish from other *Laparocerus* species on La Gomera by its depressed elytra, particularly in the female where the maximum width is in front of the middle. The slight impression on the flanks of the female is noteworthy, as this character is strongly developed in *L. subopacus* Wollaston, 1865, a species that also belongs to the *gracilis* group. Closely related species are *L. spinimanus* (see below) and *L. gracilis* Wollaston, 1864. The genetic distance of the latter species is minimal (unpublished data), but the morphological differences are too significant to not recognise *L. depressus* as a distinct species. *L. gracilis* is much narrower and more convex, particularly the males having a subcylindrical appearance and the females with elytra less convex than in the males but not depressed and without a ventrolateral impression, and the elytral vestiture consists of longer and denser scales without additional setae on the dorsum but, conversely, with much longer ones on the apex in females, and the ventrites show only a single type of scale. The rostrum is shorter and square, the frontal fovea is narrower and often extending as a line forwards and backwards, the smooth shiny integument of the prorostrum extends much more onto the metarostrum, the eyes are proportionally much larger, the antennae more strongly curved, the pronotum more distinctly punctate, etc. Moreover, the aedeagus of *L. gracilis* has a pointed apical plate and the basal aperture of the median lobe is situated more apically.

Material examined. **Holotype:** Vegaipala, 870 m (UTM = 28R 0283745 3109002), 3-1-2005, leg. A. Machado, 1 ♂ (TFMC, reg. CO-15509). **Paratypes:** same locality and collector, 17-2-2004, 3 exx.; 3-1-2005,

125 exx. (AMC, MNCN, NHM, ZMUH); same locality, 25-1-2003, leg. H. López, 6 exx. (HLH), 14-2-2003, leg. P. Oromí, 7 exx.; 15-2-2003, leg. P. Oromí, 8 exx. (POM, TFMC); 7-12-2006, leg. R. García, 14 exx. (RGB). **Other specimens:** Bco. de la Villa, Las Casetas, 10-2-2006, leg. A. Machado, 10 exx. (AMC).

Distribution and ecology. A species endemic to La Gomera, occurring at median altitudes (400–800 m) on the north-eastern mountain slopes of the island, in open habitat dominated by *Euphorbia* and *Cistus* scrub. It has been collected abundantly on *Kleinia neerifolia* but also feeding on *Lavandula multifolia* and *Pancreatium canariense*. It is nocturnal, with a short activity period in the winter months.

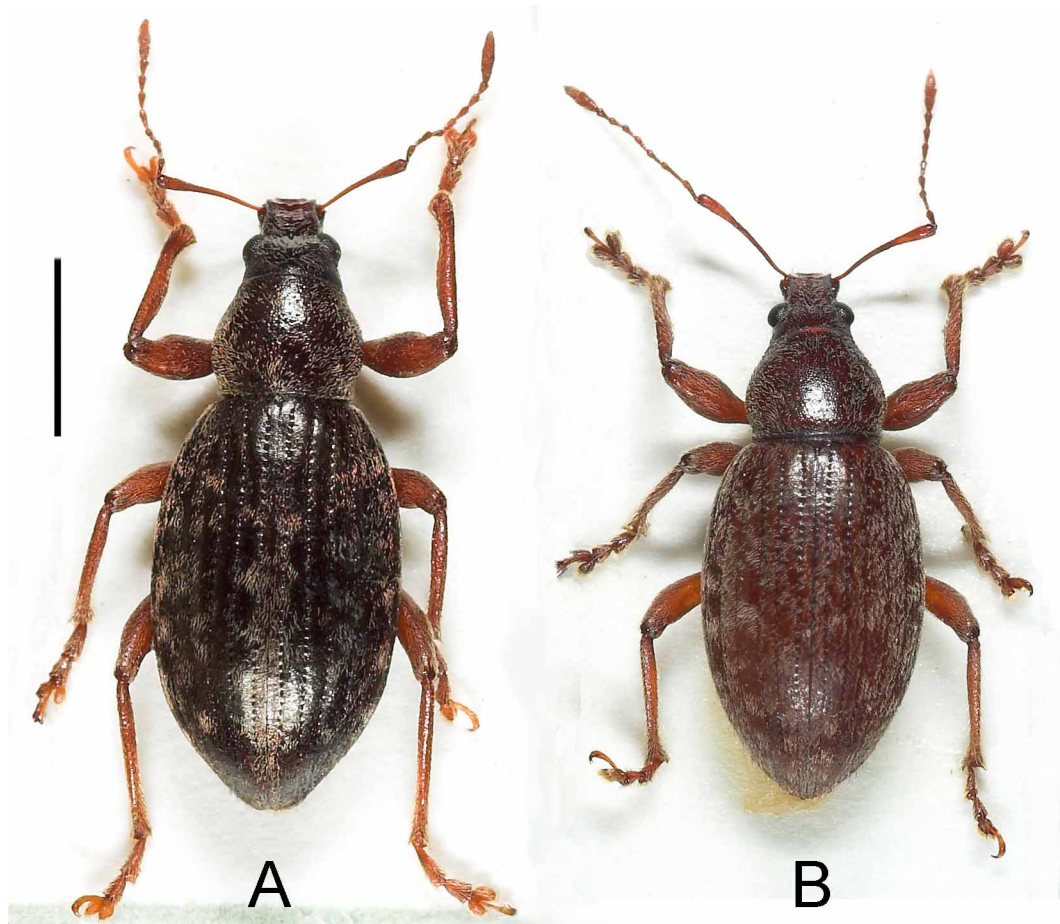


FIGURE 3. New *Laparocerus* species from La Gomera, holotypes: (A) *L. depressus* n. sp. (B) *L. spinimanus*. Scale = 2 mm

***Laparocerus spinimanus* n. sp.**

(Figs 3B, 10F–G, 16B, 18F)

Dimensions, holotype (σ). *Length:* total (without rostrum) 6.60 mm, head 1.46 mm, rostrum 0.94 mm, scape 1.56, mm, funicle 1.96 mm, segments (1st/ 2nd/ 3rd/ 4th) 0.24 /0.44 /0.30 /0.26 mm, club 0.60 mm, eyes 0.40, pronotum 1.65 mm, elytra 4.70 mm, tibiae (fore /mid /hind) 1.80 /1.64 /1.90 mm. *Width:* head (with eyes) 1.16 mm, head (between eyes) 0.62 mm, rostrum (with pterygia) 0.81 mm, rostrum (minimum dorsal /ventral) 0.54 mm/ 0.66 mm, rostrum (base) 0.60 mm, scape (maximum) 0.18 mm, club 0.20 mm, pronotum (anterior /maximum /posterior) 1.25 /1.95 / 1.75 mm, and elytra (maximum) 3.05 mm. *Height:* abdomen 2.35 mm.

Male. Length 6.3 – 7.0 mm, elongate-elliptical. Integument piceous or blackish, densely covered with linear, decumbent scales of whitish colour with coppery or bluish tint, forming mosaic pattern on elytra, frequently converging in groups of three at apex; a few curved, short, brown, protruding setae at apex; legs

usually ferruginous. *Antenna* slender; scape clavate, shorter than pronotum, much shorter than funicle (0.80×), slightly curved in basal half; funicle long, second segment more than 1.5× longer than first, 3–5th capitate; club fusiform, not broader than scape, as long as three previous segments together. *Head* subconical; rostrum long (L/W 1.7×), dorsally parallel-sided, flat or slightly concave; prorostrum laterally keeled and punctate; epistomal carina obsolete in middle; pterygia robust, prominent; frons with short deep median fovea. Eyes prominent, almost hemispherical (convexity 47%), slightly asymmetrical (more convex posteriorly); close to but not reaching lateral border of frons. Integument moderately punctate, beset with scales except for completely smooth median channel of prorostrum. *Pronotum* convex, hardly transverse (L/W ratio 0.85), not rimmed; more constricted at front than at base; maximum width at middle. Integument densely and sharply punctate, irregularly interspersed with few larger punctures (double in size) that become denser at base and flanks. Vestiture of scales in median sector of pronotum hyaline or commonly abraded so that dark integument conspicuously visible; without median line. *Scutellum* small, equilateral, punctate. *Elytra* convex, elliptical, truncate at base (L/W ratio 1.54), 2.85× longer than pronotum and scarcely wider (1.16×), evenly curved laterally, widest at middle. Shoulders absent. Striae marked by small shallow punctures; intervals completely flat. Integument subnitid, alutaceous, with fine micropunctures; linear scales arranged in mosaic pattern; protruding setae curved, small (2× length of scales), sparse, only in apical fourth. *Legs* normal; tibiae not carinate externally, hairy in apical half. Protibia sharply and strongly emarginate, with small protruding spine or prominent pointed angle at proximal end of emargination (middle of protibiae), apex blunt, not expanded laterally, with small mucro and short flattened setal mat on internal face; meso- and metatibia with smaller mucro. *Venter*. Thorax and coxae more densely squamose than ventrites; all coxae with moderately developed tufts; intermesocoxal keel long and low; last ventrite apically shortly truncate. Abdominal convexity 77%. *Aedeagus* (fig. 10F–G) with median lobe slender and arcuate (0.55× length of elytra); apical plate triangular, flat; apodemes very broad apically; internal sac with a very long field of strong denticles, a second shorter one parallel and a third much smaller proximal one; muscular sheath covered in fine denticles.

Female. As male (length 5.7–7.5 mm), elytra slightly broader (1.43× instead of 1.56×), apical declivity slightly steeper; protruding setae extended onto apical third, almost twice as long as in male, very conspicuous. Last ventrite apically shortly truncated. Pro- and mesotibia with tiny, inconspicuous mucro; protibia straight, not emarginate, without spine. Sternite VIII as in fig. 16B, spermatheca as in fig. 18F.

Etymology. The specific epithet *spinimanus* refers to the small inner spine of the male protibia, which is characteristic of this species.

Remarks. The smooth elliptical shape, clavate scape and the sharply emarginate male protibia with a median spine readily serve to distinguish *L. spinimanus* from all other species. Related species are *L. gracilis* and *L. depressus*, both also from La Gomera. The former is smaller and narrower to subcylindrical, with a shorter rostrum but larger and less protruding eyes and the emargination of the male protibia much smoother and devoid of any spine or sharp angle. The latter is as large but not elliptical, and its pronotum is constricted into a collar at the base, the elytra are characteristically depressed on the disc, with distinctly subconvex intervals, and the emargination of the male protibia is even less developed and only present in the apical third.

Material examined. Holotype: La Gomera: El Tabaibal (Hermigua), 260 m (UTM = 28R 028512 311900), 11-2-2006, leg. A. Machado, 1 ♂ (TFMC reg. CO-15531). **Paratypes:** same data and collector, 18 exx. (AMC, NHM); same data, leg. A. Aguiar, 3 ♂♂, 13 ♀♀ (AAC, TFMC, MNCN); same locality, 8-12-2006, leg. A. Machado, 32 exx. (AMC), leg. P. Oromí, 13 exx. (POM), 8-12-2006, leg. R. García, 11 exx. (RGB).

Distribution and ecology. *Laparocerus spinimanus* is endemic to La Gomera. It was collected at night on the windward part of the island at moderate altitudes, on a slope covered by a mixed vegetation of mainly *Euphorbia regis-jubae*, *Convolvulus floridus* and *Ceballosia fruticosa*. However, it was beaten from *Bituminaria bituminosa* shrubs growing intermixed in lower herbaceous vegetation, while another species, *L. subopacus* Wollaston, 1865, fed on the *Convolvulus* and *Ceballosia*. *L. spinimanus* is apparently a winter species.

***Laparocerus exiguus* n. sp.**

(Figs. 2B, 14A–B, 15D, 18D)

Dimensions, holotype (♂). *Length*: total (without rostrum) 3.40 mm, head 0.72 mm, rostrum 0.38 mm, scape 0.74 mm, funicle 0.70 mm, segments (1st/ 2nd/ 3rd/ 4th) 0.16 /0.14 /0.9 /0.9 mm, club 0.30 mm, eyes 0.22 pronotum 0.78 mm, elytra 2.45 mm, tibiae (pro- /meso- /meta-) 0.80 /0.68 /0.90 mm. *Width*: head (with eyes) 0.79 mm, head (between eyes) 0.44 mm, rostrum (with pterygia) 0.42 mm, rostrum (minimum dorsal /ventral) 0.30 /0.39 mm, rostrum (base) 0.42 mm, scape 0.09 mm, club 0.13 mm, pronotum (anterior /maximum /posterior) 0.68 /1.08/ 0.96 mm, elytra (maximum) 1.64 mm. *Height*: abdomen 1.24 mm.

Male. Length 3.2–3.6 mm, short-oblong, subparallel. Integument piceous, densely covered with linear, decumbent scales of testaceous and dark colour, arranged in mosaic pattern on elytra, and protruding, curved, short, dark, recurved setae; legs ferruginous. *Antenna* short; scape hardly longer than pronotum, sinuate, heavily capitate at apical third; funicle slightly shorter than scape, segments 1–2 elongated, subequal, 3–4 much shorter but still longer than broad, 5–7 globular; club large, oval, twice as thick as funicle, longer than three previous segments combined. *Head* subconical, with broad base; rostrum short, dorsally fairly trapezoidal and slightly canaliculate; prorostrum weakly delimited; epistomal carina poorly marked; pterygia small, hardly protruding; frons depressed, with long and fine median impression. Eyes prominent, almost hemispherical (convexity 40%); close to but not reaching frontal border; peri-ocular sulcus noticeable. Scrobes slightly curved downwards. Integument at vertex more or less strongly rugose and punctate, on prorostrum uneven, microreticulated, with a few punctures, devoid of scales. *Pronotum* subconvex, transverse (L/W ratio 0.70), not rimmed; sides strongly curved except at base and apex; widest at or slightly behind middle; densely covered with large, deep, almost coalescent, but sharply impressed punctures and short, decumbent, fulvescent, hair-like scales, with some intermixed setae. *Scutellum* small, acute, covered by adjacent scales. *Elytra* oblong, 3.1× longer and 1.5× broader than pronotum, laterally weakly curved, widest and subparallel in middle portion, apex blunt, shoulders not marked; striae with large deep separated punctures (larger than on pronotum); intervals noticeably convex, with row of short, curved, brown, recurved setae protruding from dense vestiture of loose moderate-sized linear decumbent scales of flavescent or dark colour (in patches); 10th interval not narrowing at metacoxal level; scales 1–1.5× diameter of a strial puncture in length, setae twice as long. *Legs* without brushes; protibia straight, hardly emarginate, apex externally rounded off, internally expanded into an acute point bearing a strong sharp mucro flanked on either side by an incrassate fringing seta; meso- and metatibia with smaller mucro. *Venter.* Vestiture of thinner and larger hair-like scales very sparse; intermesocoxal keel short and low; last ventrite uniformly rounded, as in females. Abdominal convexity 76%. *Aedeagus* (fig. 14A–B) with median lobe curved; apical plate evenly narrowing, with blunt tip; internal sac short, with a few large sclerotized denticles.

Female. As male but broader, more quadrangular (length 3.2 – 4.1 mm). Elytral L/W ratio 1.3 (instead of 1.5); intervals less convex; protibia with smaller mucro but apex hardly expanded internally; mesotibial mucro small, metatibial mucro tiny. Last ventrite rounded. Sternite VIII as in fig. 15D, with triangular-pointed plate, spermatheca as in fig. 18D.

Etymology. The specific epithet refers to the small size of the species.

Remarks. *Laparocerus exiguus* is the smallest *Laparocerus* species with eyes known from La Gomera, easy to recognize by its size, small, protruding, hemispherical eyes, trapezoidal rostrum, internally expanded and mucronate protibial apex, large antennal club, globular funicle segments 5–7, densely and sharply punctate pronotum and the subconvex elytral intervals, beset with strong curved setae protruding above the scale vestiture. The Gomeran species most similar in size is *L. puncticollis indutus* Wollaston, 1865, which has a strongly emarginate male protibia, elevated pronotal base in the female and soft, elongate, suberect, elytral hairs. Similar in appearance and often even smaller in size is *L. tenellus* Wollaston, 1864 from Tenerife, which, however, has a narrower, squarer snout, smaller and more appressed scales and funicular segments 3–4

also globular, in addition to 5–7. *Laparocerus exiguus* belongs to the group of *L. mendicus* Wollaston, 1864. Its closest relative is an undescribed vicariant species from the summit region of La Palma (unpublished molecular data), which is similar in appearance but much larger and with marked shoulders.

Material examined. Holotype: La Gomera: Laguna Grande, 1250 m (UTM = 28R 027830 311330), 6-12-2002, leg. A. Machado, 1 ♂ (TFMC, reg. CO-15512). **Paratypes:** same locality and collector, 6-12-2002, 52 exx.; 2-1-2005, 2 exx. (AMC, TFMC, MNCN, NHM); same locality, 31-10-2002, 2 exx.; Pajarito, 1360 m, 20-10-2001, leg. P. Oromí, 4 exx. (POM); same locality, 6-12-2002, leg. R. García, 58 exx. (RGB). **Other specimens:** Las Hayas N, 800 m, 5-12-2002, leg. A. Machado, 2 exx. (AMC); Cruce las Hayas, 6-12-2006, leg. R. García, 2 exx. (RGB); Pinar del Infierno [Infante?], 1200 m, 19-3-1985, leg. A. Vigna (MZUR), El Cedro, 7-1-1983, leg. P. Oromí, 1 ex. (POM).

Distribution and ecology. An endemic species of La Gomera, occurring in the high central parts of the island. It has been found in numbers under small stones and sticks in an open grassy spot and was occasionally beaten at night from bushy vegetation of *Adenocarpus* and *Cistus*. It appears to be associated with very low-growing plants.

***Laparocerus exophthalmus* n. sp.**

(Figs. 4A, 11A–C, 17E, 18G)

Dimensions, holotype (♂). *Length:* total (without rostrum) 5.50 mm, head 1.30 mm, rostrum 0.60 mm, eyes 0.32 mm, scape 1.32 mm, funicle 1.54 mm, segments (1st/ 2nd/ 3rd/ 4th) 0.34 /0.30/ 0.20 /0.18 mm, club 0.48 mm, pronotum 1.25 mm, elytra 3.95 mm, and tibiae (pro- /meso- /meta-) 1.60 /1.52 /1.84 mm. *Width:* head (with eyes) 1.08 mm, head (between eyes) 0.62 mm, rostrum (with pterygia) 0.63 mm, rostrum (minimum dorsal /ventral) 0.40 / 0.56 mm, eyes 0.32 mm, scape (apicad) 0.14 mm, club 0.17 mm, pronotum (anterior / maximum /posterior) 1.14 /1.64 /1.38 mm, elytra (maximum) 2.65 mm. *Height:* abdomen 2.10 mm. Specimen slightly teneral.

Male. Length 5.4–5.9 mm, oblong-elliptical. Integument piceous to blackish, shining, with dense cover of small, linear, decumbent, testaceous to glaucous scales arranged in diffuse mosaic pattern on elytra, interspersed with small, blackish protruding setae; antennae and legs ferruginous. *Antenna* slender; scape bisinuate, slightly longer than pronotum, abruptly capitate at apex (29% of length); funicle longer than scape, 2nd segment equal or shorter than 1st, shorter than 3rd + 4th; 7th slightly incrassate, larger than 6th; club large, fusiform, almost twice as wide and longer than three previous segments combined. *Head* broad at base, trapezoidal, dorsally flattened up to vertex, slightly depressed at frons; rostrum short, lateral edges divergent basad, surpassing eyes; temples elevated, with abrupt post-ocular declivity; median fovea narrow, often extended backwards. Prorostrium well delimited, not canaliculate, with isodiametric microreticulation in centre, laterally with few punctures; epistomal keel marked, complete. Pterygia small, moderately protruding. Eyes asymmetrically globular, protruding (convexity 56%), not reaching border of frons, with periocular sulcus. Dorsal integument coarsely and shallowly punctate except on prorostrium and base of metarostrium. *Pronotum* transverse (L/W ratio 0.76), 0.32× length of elytra, less convex, sides strongly curved in median third, widest at middle or slightly behind, often with anterolateral depression on disc. Surface shiny, with regular, large, distinct, deep punctures; interspaces very narrow (1/4 of puncture diameter), micropunctate; usually without trace of median line. Vestiture composed of mixed scales (longer and thinner, shorter and broader), sparse, quite uniform. *Scutellum* slightly elevated, densely covered with scales. *Elytra* elliptical with straight, truncate base, not very convex, laterally uniformly curved, widest at middle; shoulders short, with moderate humeral carina at base of 7th interval. Striae marked by large punctures, reduced in size apicad; intervals subconvex, 8th largely visible from above; elytral border at apex shortly raised into small peak; integument shining, with dense cover (8–10 across interval) of small, linear, testaceous, brown and glaucous scales in more or less

defined mosaic pattern; rows of short protruding dark arcuate setae along intervals (not longer than claws). *Legs* not particularly incrassate at tibial apex; protibia slightly sinuate preapically and with inner brush of long hairs, apex on outside roundly angled, on inside acute with very long, sharp mucro; meso- and metatibial mucro much smaller. *Venter* with sparse cover of hair-like scales; integument shining, ventrites 1–2 with transverse microrugosity; inter-mesocoxal process small, cariniform, little elevated; last ventrite truncate, shortly notched. Abdominal convexity 79%. *Aedeagus* (fig. 11B–C) 0.7× as long as elytron, median lobe feebly arcuate, apex broadly pointed, in profile straight with short dorsal hump. Internal sac with strongly developed proximal, median and distal fields of denticles.

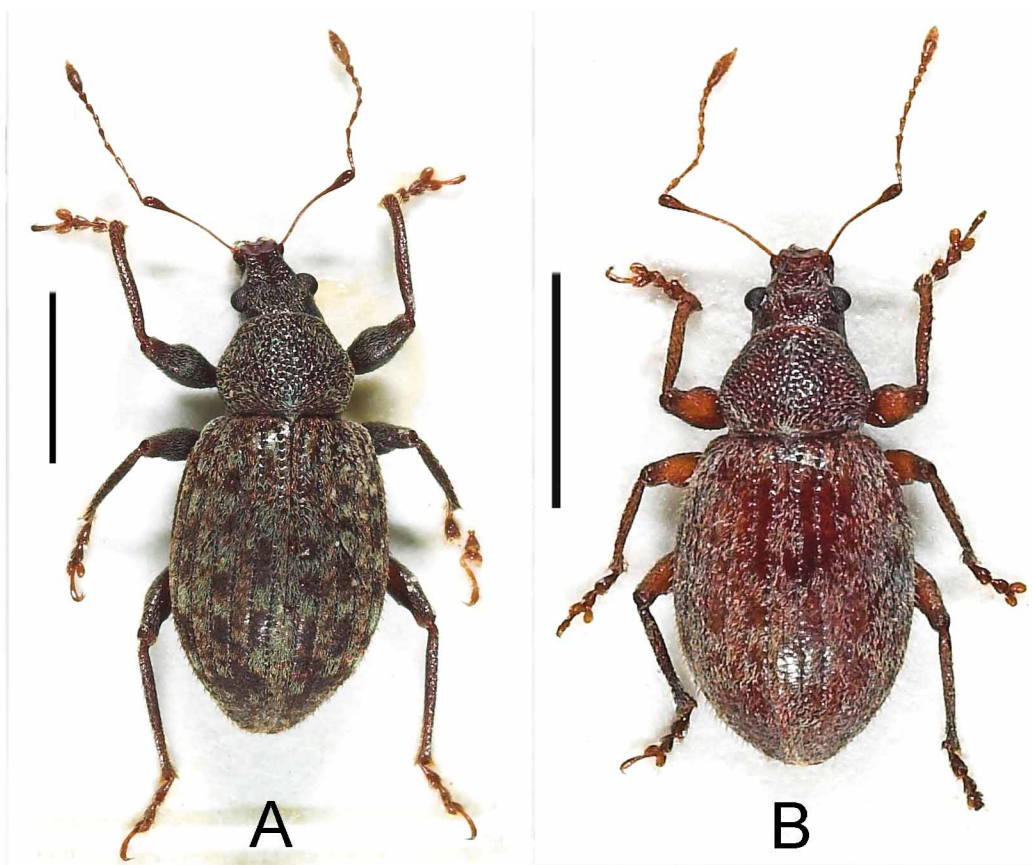


FIGURE 4. New *Laparocerus* species from La Gomera, holotypes: (A) *L. exophthalmus* n. sp. (B) *Laparocerus oculatissimus* n. sp. Scale = 2 mm

Female. As male but on average larger (length 5.4–6.9 mm) and broader, duller, elytra with less well marked humeral carina and 9th interval slightly swollen at apex; protibia completely straight and mucro smaller, obtuse; mesotibial mucro developed, metatibial mucro very small. Last ventrite apically rounded. Sternite VIII as in fig. 17E, spermatheca with very simple duct lobe and long incurved gland lobe (fig. 18G).

Etymology. The specific epithet is an adjective denoting the strongly protruding eyes of this species.

Remarks. *Laparocerus exophthalmus* is readily recognisable by its extraordinary protruding eyes and further characterised by the flattened trapezoidal head with a postocular protuberance, slightly incrassate 7th funicle segment, strongly and distinctly punctate pronotum and by the small, blackish arcuate setae protruding all over the elytra. It belongs to the group of *Laparocerus mendicus* Wollaston, 1864 and, apart from its cryptic sister species, *L. oculatissimus*, it is closely related to *L. mateui* Roudier, 1954 (unpublished genetic data).

Material examined. Holotype: La Gomera: Pajarito, 1360 m (UTM = 28R 027975 311175), 6-12-2002, leg. A. Machado, 1 ♂ (TFMC, reg. CO-15536). **Paratypes:** same locality and collector, 16 exx. (10 teneral) (AMC, NHM, MNHN); same locality, 6-12-2002, leg. R. García, 20 exx.; 6-12-2006, leg. R. García, 2 exx. (RGB); 6-12-2006, leg A. Aguiar, 8 exx. (AAC); 8-12-2006, leg. A. Machado, 4 exx. (AMC); Alto de Gara-

jonay, 7-12-1976, leg. A. Machado, 2 exx. (AMC); Bosque del Cedro, 1-1-1972, leg. P. Oromí, 1 ex. (POM); El Cedro, 800 m, 25-12-1998, leg. J. Messutat, 23 exx.; same data, 26-12-1998, 9 exx. (JM); Garajonay, 1400-1480 m, 26-12-1998, leg. V. Assing, 1 ex. (PS). **Other specimens:** Los Acebiños, 900 m, 1-4-2001, 1 ex.; same data, 23-10-2001, 12 exx.; Cumbre de Juan Tomé, 1350 m, 6-12-2002, 24 exx.; Vegaipala NE, 870 m, 16-3-2003, 2 exx.; Montaña Destene, 950 m, 16-3-2003, 4 exx.; Degollada de Peraza N, 950 m, 16-3-2003, 27 exx.; Apartacaminos, 1030 m, 2-1-2005, leg. A. Machado, 1 ex. (AMC); Juan Tomé, 3-1-1978, 1 ex.; Montaña del Dinero, 4-1-2003, 1 ex.; same data, 15-2-2003, 3 exx.; Apartacaminos, 15-2-2003, 3 exx.; El Bailadero, 15-2-2003, leg. P. Oromí, 1 ex. (POM); Cabezo de la Atalaya, 950 m, 20-3-1985, leg. E. Colonnelli, 4 exx. (MZUR); Monte de Arure, leg. H. Franz, 1 ex. (NMW).

Distribution and ecology. *L. exophthalmus* is endemic to La Gomera, where it is widely distributed in the high-mountain laurel-forest district but also occurs at their margins and in adjacent agricultural fields. It is a winter-active, hygrophilous and nocturnal species that feeds on various woody plants, generally on *Argyranthemum broussonetii gomerensis* but also on *Sonchus hierrensis* and *Cistus monspeliensis*, and it is occasionally beaten from ferns and apple-trees.

Laparocerus oculosissimus n. sp.

(Figs. 4B, 11D–F, 15B, 18K)

Dimensions, holotype (♂). *Length:* total (without rostrum) 4.10 mm, head 0.88 mm, rostrum 0.44 mm, eyes 0.24 mm, scape 1.14 mm, funicle 1.24 mm, segments (1st/ 2nd/ 3rd/ 4th) 0.24 /0.28/ 0.18 /0.14 mm, club 0.42 mm, pronotum 1.00 mm, elytra 2.85 mm, and tibiae (pro- /meso- /meta-) 1.24 /1.10 /1.26 mm. *Width:* head (with eyes) 0.92 mm, head (between eyes) 0.54 mm, rostrum (with pterygia) 0.55 mm, rostrum (minimum dorsal /ventral) 0.34 / 0.49 mm, eyes 0.20 mm, scape (apicad) 0.12 mm, club 0.12 mm, pronotum (anterior / maximum /posterior) 0.86 /1.30 /1.14 mm, elytra (maximum) 2.10 mm. *Height:* abdomen 2.10 mm. Specimen slightly teneral.

Differential diagnosis. Length: total ♂♂ 4.4–5.1 mm, ♀♀ 4.3–5.2 mm. Similar in appearance and structural details to its apparent sister species, *L. exophthalmus*, but smaller and with shorter and less elliptical elytra. Elytra on average 2.88× longer than pronotum (instead of 3.46×). 2nd funicle segment longer than 1st, 7th not incrassate (equal to 6th). Rostrum shorter (L/W ratio 1.3× instead of 1.5×), less constricted dorsally; pterygia not protruding, median fovea short, rarely extended; eyes globular, even more protruding (convexity 58–60%), posteriorly subpedunculate; postocular protuberance not or clearly less developed; protruding elytral setae whitish. Protibial mucro in male much smaller, meso- and metatibial mucrones very small in both sexes. Aedeagus (fig. 11D–F) more arcuate, apically not straight but strongly curved upwards, ending in a downward-pointing, shoe-like tip, in profile very narrow and slightly twisted (not broad-triangular); internal sac with less strongly developed fields of denticles. Spermatheca with lobes and tail much shorter (fig. 18K).

Etymology. The specific epithet is an adjective in the superlative referring to the extraordinarily protruding, globular eyes of this species, the most distinct known in *Laparocerus*.

Remarks. It is easy to distinguish *L. oculosissimus* from *L. exophthalmus* by its smaller size and shorter body proportions (rostrum and elytra) when having both species at hand. Otherwise, the posteriorly subpedunculate eyes, the 7th funicle segment not being incrassate and the whitish protruding elytral setae serve to distinguish *L. oculosissimus*, and all doubt about its identity is removed when examining the male genitalia, in particular by the shoe-like apex of the aedeagus.

Material examined. Holotype: La Gomera: San Sebastián, Loma del Camello, 350 m (28R 0290820 3107214), 3-1-2005, leg. A. Machado, 1 ♂ (TFMC, reg. CO-15525). **Paratypes:** same data, 10 exx. (1 TFMC, 9 AMC); same data, 5-12-2006, 36 exx. (2 NHM, 2 DEI, 2 MNCN, 30 AMC); same data, leg. R. García, 15 exx. (RGB); same data, leg. A. Aguiar, 6 exx. (AAC).

Distribution and ecology. *L. oculatissimus* appears to be restricted to the eastern part of La Gomera. It was collected at night from *Argyranthemum frutescens* in the dry *Euphorbia*-dominated vegetation belt that occurs at low altitude, and it is apparently more xerophilous than *L. exophthalmus*.

***Laparocerus aethiops garajonay* n. ssp.**

(Figs. 5, 10A–B, 16C)

Dimensions, holotype (♂). *Length*: total (without rostrum) 7.90 mm, head 1.45 mm, rostrum 0.75 mm, scape 1.72 mm, funicle 2.85 mm, segments ((1st/ 2nd/ 3rd/ 4th)) 0.46 /0.46 /0.30 /0.36 mm, club 0.70 mm, pronotum 1.80 mm, elytra 5.50 mm, tibiae (pro- /meso- /meta-) 1.95 /1.90 /2.20 mm. *Width*: head (with eyes) 1.20 mm, head (between eyes) 0.65 mm, rostrum (with pterygia) 0.90 mm, rostrum (minimum dorsal /ventral) 0.62/ 0.85 mm, rostrum (base) 0.70 mm, scape 0.16 mm, club 0.20 mm, pronotum (anterior /maximum /posterior) 1.55 /2.13 /1.80 mm, elytra (maximum) 3.10 mm. *Height*: abdomen 2.70 mm.

Differential diagnosis. Length ♂♂ 6.6–9.9 mm, ♀♀ 7.4–10.8 mm. Almost identical in appearance and structural details to the nominate subspecies, *L. aethiops aethiops* Wollaston, 1864 from El Hierro, but generally not as dark, males slightly shorter and females narrower. Head more finely striated on temples and frons; 2nd funicle segment much longer than 3rd and 4th together; elytra with base evenly convex; shoulders slightly marked (humeral carina more elevated) but still rounded and not subquadrate and prominent as in *L. excavatus* (its vicariant species from Tenerife; unpublished molecular data). Elytral punctures stronger; intervals more prominent in ♂♂, with microscopic hairs slightly longer; at apex, laterally and on rim with setae half as long as metatarsal onychium (obsolescent in ssp. *aethiops*). Median lobe of aedeagus (fig. 10A–B) apically almost straight, not curved downwards as in ssp. *aethiops* (fig. 10C).

Etymology. The subspecific epithet is a noun in apposition taken from the name of the National Park of Garajonay in La Gomera, where this subspecies is very common.

Material examined. Holotype: La Gomera, Jardín de las Creces, 950 m (UTM = 28R 027410 311550), 17-4-2000, leg. A. Machado, 1♂ (TFMC, reg. CO-15507). **Paratypes:** same data, 20 exx. (AMC, 2 MNCN, 1 TFMC); same data, 13-9-1997, leg. P. Oromí, 1 ex.; same data, 10-1978, leg. P. Oromí, 2 exx. (POM); Cruce de Las Hayas, 1100 m, 31-3-2001, leg. A. Machado, 1 ex. (AMC); same data, 4-1-2003, leg. P. Oromí, 1 ex. (POM); same data, 10-7-2001, leg. R. García, 8 exx.; 6-12-2006, leg. R. García, 4 exx. (RGB); Apartacamínos, 1030 m, 17-2-2004, leg. A. Machado, 19 exx.; same data, 2-1-2005, leg. A. Machado, 11 exx. (AMC, NHM); same data, 6-8-2002, leg. P. Oromí, 1 ex.; same data, 29-3-2002, leg. P. Oromí, 1 ex.; same data, 4-8-1993, leg. M. Peña, 3 exx. (POM); same data, 13-12-1983, leg. G. Israelson, 1 ex. (NRS); same data, 1-1-1982, leg. A.H. Törnvall, 1 ex. (ZMUL); Montaña La Zarza, 1100 m, 8-10-1998, leg. L. Behne, 5 exx. (DEI).

Other specimens: over 300 exx. from other localities: Altos de Garajonay, El Cedro (800-1000 m), Meriga, Agua de los Llanos, Las Rosas (600 m), Chorros de Epina, Teselinde, El Bailadero, Arure, Laguna Grande, Montaña del Dinero, Montaña Los Negrines, Montaña de Araña, Pajarito, Reventón Oscuro, Los Acebitos, Juego de Bolos, Plan de Régula, Cumbre de Juan Tomé, La Campana, Cabecera Bco. Juel, Cherelepín, Cabezo La Atalaya, etc.

Distribution and ecology. *Laparocerus aethiops garajonay* is endemic to La Gomera, occurring in the cloud forests that cover the upper parts of the island (600–1200 m). It is essentially nocturnal and fairly polyphagous, feeding on several native woody plants (*Cedronella*, *Hypericum*, *Adenocarpus*, *Bystropogon*, *Senecio*, *Argyranthemum*, *Phyllis*, *Aenoium*) but mainly on Lauraceae (*Laurus*, *Ocotea*, *Persea*) and other forest trees (*Viburnum*, *Erica*, *Myrica*, *Notholaea*, *Sambucus*). It has also been taken on some introduced fruit species, such as sweet chestnut and apple trees, causing damage to the latter. It is probably the most common species in the sylvan district.



FIGURE 5. New *Laparocerus* species from La Gomera, holotypes: *L. aethiops garajonay*. Scale = 2 mm

***Laparocerus hupalupa* n. sp.**

(Figs. 6A, 12A–B, E–F, 16D, 18N)

Dimensions, holotype (♂). *Length:* total (without rostrum) 7.25 mm, head 1.54 mm, rostrum 0.82 mm, eyes 0.48 mm, scape 1.76 mm, funicle 1.88 mm, segments (1st/ 2nd/ 3rd/ 4th) 0.44 /0.44 /0.26 /0.23 mm, club 0.58 mm, pronotum 1.66 mm, elytra 5.00 mm, and tibiae (pro- /meso- /meta-) 2.00 /1.80 /2.08 mm. *Width:* head (with eyes) 1.22 mm, head (between eyes) 0.64 mm, rostrum (with pterygia) 0.74 mm, rostrum (minimum dorsal /ventral) 0.50 /0.68 mm, eyes 0.39 mm, scape (apicad) 0.18 mm, club 0.22 mm, pronotum (anterior / maximum /posterior) 1.36 /2.07/ 1.78 mm, elytra (maximum) 3.35 mm. *Height:* abdomen 2.10 mm.

Male. Length 6.7–10.1 mm, oblong-oval, moderately convex. Integument subnitid, piceous (extremities usually somewhat ferruginous), devoid of scales on dorsum, appearing bare. *Antenna* slender; scape longer than pronotum, slightly sinuate, clearly capitate in last third; funicle almost as long as scape, 2nd segment equal or slightly longer than 1st; club oval, large, as long as three previous segments combined, almost twice as thick; 7th incrassate. *Head* small and elongate; rostrum narrow, longer than broad (L/W ratio 1.64×), parallel-sided, dorsally almost parallel or slightly convergent apicad, not canaliculate, sparsely punctate (small hair-like scales on sides and periocular area, occasionally with a few dorsally); frons almost flat, with very

short median incision; pterygia small, not protruding; base of antennae exposed; pregenal area and outer faces of mandibles densely hairy. Eyes oval (L/W ratio 1.23), almost evenly convex, moderately prominent (29%), reaching border of frons. *Pronotum* 0.62× width of elytra, moderately transverse (L/W ratio 0.8×), convex, sides strongly and evenly rounded; anterior margin slightly narrower than posterior, strongly and conspicuously constricted into a thin and deep collar, basal margin rimmed. Surface notably consperse, with irregularly dispersed, slightly larger, more or less conspicuous punctures; without trace of median line. A few tiny hairs (visible at 100×) usually on sides. *Scutellum* triangular, with obtuse angle; punctate. *Elytra* about 3× longer than pronotum, elongate-oval (L/W ratio 1.5×), evenly convex (transverse convexity of abdomen 62%); sides uniformly curved, maximum width at middle, apical declivity slanting, not vertical; shoulders completely rounded. Striae shallow, marked by small punctures (separated by 1–1.5× diameter). Dorsal intervals flat, very occasionally weakly convex, strongly rugose and generally minutely alutaceous; on flanks and apex weakly convex and microreticulation transversely disposed. Devoid of visible scales except for tiny microscopic hair-scales laterally at base, apex and occasionally sparsely along intervals, where shallow micropunctures are visible. 7th and 8th intervals slightly but visibly swollen at humeri. *Legs* slender; protibia gently sinuate, with apical quarter slightly curved downwards; apex truncate, strongly expanded inwards, less so outwards where almost right-angled; mucro small, absent or obsolete in meso- and metatibia; apical setal brush present; dorsal pilosity usually abraded at outer margin; pro- and mesotibia externally angled, with a few small teeth or granules on inner edge; metatibial apex extended into longitudinal, blade-like lobe armed with 4–6 broad short teeth (often abraded); onychia thin. *Venter*: Integument shiny, with vestiture of separate, decumbent, linear scales, denser on sides; coxae and metasternum at middle beset with conspicuous tufts of setae; intermeso-coxal ridge narrow, cariniform, very slightly elevated; truncated posterior margin of last ventrite shortly concave in middle. Abdominal convexity 62%. *Aedeagus* (fig. 12A–B) in profile moderately bent; apically clearly sinuate, apex ending in extended, narrow, almost parallel-sided, blunt plate, sometimes with faint medio-apical keel; apodemes shorter than body of median lobe. Internal sac short, with very large and dense field of thick denticles and two additional, paired, shorter ones.

Female. As male but shorter (length 7.5–9.8 mm), elytra completely oval and inflated (L/W ratio 1.4 instead of 1.5), declivity almost vertical except at apex (pre-apically concave); intervals 5–7 at base more elevated; humeri more marked. Metasternum and coxae without dense tufts but hairy; last ventrite rounded apically. Tibiae without visible mucro; protibia straighter, with symmetrical, lateral, fan-like enlargements at apex; metatibia without terminal protruding spur. Sternite VIII as in fig. 16D, spermatheca as in fig. 18N. Hemisternites blade-like, obliquely truncate at apex; styli distant from apical border, not protruding (fig. 12F).

Etymology. The specific epithet is a noun in apposition taken from Hupalupa, the name of an aborigin from the island of La Gomera, which means “great king” or “lord of everything”.

Remarks. *Laparocerus hupalupa* belongs to the group of *L. undatus* Wollaston, 1864 (subgenus *Machadotrox* Alonso-Zarazaga & Lyal, 1999). It is externally almost identical to another Gomeran species, *L. inermis* (see differential diagnosis of the latter), but the presence of a terminal spur on the male metatibia and the more evenly convex eyes are good identifying characters. When in doubt (i.e. spur broken), the male genitalia must be examined. Other similar species in this group are *L. laevis* Roudier, 1957 (from La Palma) and *L. aethiops* Wollaston, 1864 (with subspecies on El Hierro and La Gomera). *Laparocerus hupalupa* is easy to distinguish from these species by its more slender head, parallel and narrower rostrum (rostrum 1.7× longer than eye diameter, 1.5× in *L. laevis*), the pronotum with a conspicuous, deep and narrow premarginal collar and less obvious double punctation, the more strongly rounded humeri, curved male protibia and the characteristic protruding terminal spur of the male metatibia. Likewise, due to its bare, dark, piceous integument, oblong-oval appearance and long and narrow snout, *L. hupalupa* also resembles *L. boticarius* Machado, 2007 from Tenerife, which belongs to another group. This latter species usually bears scales and erect setae on the elytra, has quite hairy legs, a laterally less strongly curved pronotum, a shinier integument, more widely separated and thicker punctures and a very differently shaped aedeagus.

Material examined. Holotype: La Gomera: Las Hayas, 800 m (UTM = 28R 027410 311365), 17-4-2000, leg. A. Machado, 1♂ (TFMC, reg. CO-155517). **Paratypes:** same data, 38 exx. (AMC, 1 MNCN, 2 NHM, ZMUH); same data, 31-3-2001, 36 exx. (AMC); same locality, 6-12-2002, leg. A. Aguiar, 1 ex. (AAC); same locality, 20-12-2003, leg. P. Oromí, 1 ex. (POM); Cruce de las Hayas, 1100 m, 31-3-2001, 10 exx. (AMC); same data, 4-1-2003, leg. P. Oromí, 1 exx. (POM), Cementerio de Arure, 850 m, 31-3-2001, 13 exx.; same data, 6-12-2002, 2 exx. (AMC), same data, 6-12-2003, leg. A. Aguiar, 13 exx. (teneral) (AAC, TFMC); same data, 6-12-2002, leg. R. García, 16 exx. (RGB). **Other specimens:** Alojera: Tegueguenche, 500 m, 15-3-2003, 1 ex.; supra Tazo, 630 m, 2-1-2005, 7 exx. (teneral); Chorros de Epina, 800-1000 m, 17-4-2000, leg. A. Machado, 3 exx.; same data, 7-12-1992, 2 exx. (AMC).

Distribution and ecology. *Laparocerus hupalupais* endemic to La Gomera and occurs at least in the upper western parts of the island, above 500 m. Occasionally found in the forest, it is not uncommon on scrub vegetation or forest margins feeding on woody plants such as *Cistus monspeliensis*, *Erica arborea*, *Chamaecytisus proliferus*, *Artemisia thuscula*, *Adenocarpus foliososus*, *Argyranthemum sp.*, *Micromesia sp.* and *Rubus ulmifolius*. It is a nocturnal species, active in winter and spring.

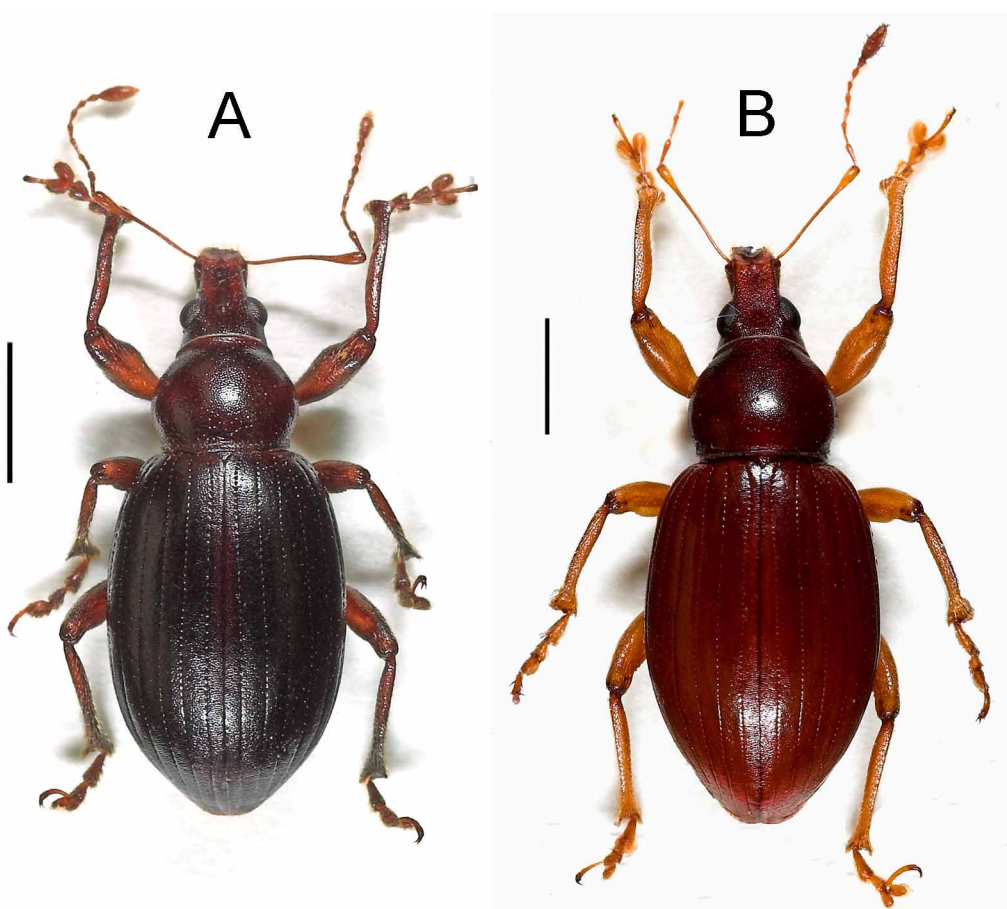


FIGURE 6. New *Laparocerus* species from La Gomera, holotypes: (A) *L. hupalupa*, (B) *L. inermis*. Scale = 2 mm

***Laparocerus inermis* n. sp.**

(Figs. 6B, 12C–D, G, 16A, 18M)

Dimensions, holotype (♂). *Length:* total (without rostrum) 8.85 mm, head 1.85 mm, rostrum 0.95 mm, eyes 0.62 mm, scape 2.05 mm, funicle 2.10 mm, segments (1st /2nd) 0.50 /0.45 mm, club 0.68 mm, pronotum 2.15 mm, elytra 6.20 mm, and tibiae (pro- /meso- /meta-) 2.35 /2.15 /2.50 mm. *Width:* head (with eyes) 1.40 mm, head (between eyes) 0.80 mm, rostrum (with pterygia) 0.92 mm, rostrum (minimum dorsal /ventral) 0.66 /

0.80 mm, eyes 0.44 mm, scape (apicad) 0.20 mm, club 0.24 mm, pronotum (anterior /maximum /posterior) 1.70 /2.60 /2.30 mm, elytra (maximum) 3.90 mm. *Height*: abdomen 3.10 mm. Specimen slightly teneral.

Differential diagnosis. Similar in appearance and structural details to *L. hupalupa* but slightly more oblong, rostrum a little shorter and broader (L/W ratio 1.4 instead of 1.6); eyes less evenly convex (more depressed in front); legs stouter (protibia not much longer than pronotum), male metatibia more robust without trace of terminal spur; internal rim of tibial face flat and bordered by 4–5 flat, thickened, blunt setae or spines, leaving a small open middle space. Aedeagus (fig. 12C–D) relatively long and characteristic, ending in broad ly tapering, slightly bisinuate apical plate with a well developed median keel at blunt apex, anvil-like in profile; internal sac shorter but with equivalent fields of sclerotized denticles and teeth. Hemisternites with short subapical styli, not widely distant (compare figs. 12F, G); plate of sternite VIII larger (fig. 16A).

Etymology. The subspecific epithet (unarmed) refers to the absence of an apical lobe on the male metatibia.

TABLE 1. Dimensional differences between males of *L. hupalupa* and *L. inermis*.

Dimension	<i>L. hupalupa</i>	<i>L. inermis</i>
Rostrum L/W	1.64	1.43
Eye convexity	29%	26%
L protibia/pronotum	1.20	1.09
Pronotum L/W	0.80	0.82
Elytra L/W	1.49	1.59
L elytra/pronotum	3.01	2.88
W elytra/pronotum	1.62	1.50
Abdominal convexity	62%	77%

Remarks. Females of *L. inermis* and *L. hupalupa* are difficult to distinguish from each other unless the ovipositor is examined. Only the males of the latter species bear the characteristic apical metatibial lobe, which is absent in *L. inermis*. However, if this lobe is broken or abraded, also the males can only be distinguished by their genitalia, the apex of the median lobe being narrowly attenuated in *L. hupalupa* but broad, narrowing apicad and always with a well developed median keel in *L. inermis* (fig. 16A). Both species can be easily distinguished from other similar species by the conspicuous, narrow pronotal constriction or collar and by the absence of hairs or scales on the elytra.

Material examined. Holotype: Tagamiche-S, 930 m (UTM = 28R 02785788 3109002), 3-1-2005, leg. A. Machado, 1 ♂ (TFMC, reg. CO-15518). **Paratypes:** same data, 6 exx. (AMC); same locality, 7-12-2002, leg. R. García, 7 exx. (RGB); Degollada de Peraza-N, 950 m, 16-3-2003, 2 exx.; same data, 20-2-2007, 58 exx.; Vegaipala-NE, 760 m, 16-3-2003, 3 exx.; Carretera a Benchijigua, 670 m, 3-1-2006, leg. A. Machado, 3 exx. (AMC). **Other specimens:** El Cedro, 850 m (under stone), 5-5-1981, leg. A. Machado, 1 ex. (AMC).

Distribution and ecology. This species seems to be restricted to high altitudes in the south-eastern part of La Gomera. It was collected at night, feeding on *Cistus monspeliensis* mixed in bush vegetation with *Kleinia*, *Echium* and *Euphorbia* or, on cliffs, with *Pericalis* or *Argyranthemum*. One specimen was found beneath stones in the forest area of El Cedro, but the exact habitat is not recorded.

Laparocerus junonius n. sp.

(Figs. 7A, 13A–B, 17D, 18H)

Dimensions, holotype (♂). *Length*: total (without rostrum) 4.85 mm, head 1.20 mm, rostrum 0.65 mm, eyes 0.38 mm, scape 1.48 mm, funicle 1.74 mm, segments (1st/ 2nd/ 3rd/ 4th) 0.44 /0.40 /0.20 /0.18 mm, club 0.56

mm, pronotum 1.06 mm, elytra 3.30 mm, and tibiae (pro- /meso- /meta-) 1.40 /1.20 /1.56 mm. *Width*: head (with eyes) 0.94 mm, head (between eyes) 0.50 mm, rostrum (with pterygia) 0.62 mm, rostrum (minimum dorsal /ventral) 0.40 /0.54 mm, eyes 0.39 mm, scape (apicad) 0.12 mm, club 0.16 mm, pronotum (anterior / maximum /posterior) 1.00 /1.30 /1.16 mm, elytra (maximum) 2.05 mm. *Height*: abdomen 1.40 mm.

Male. Length 4.5–6.5 mm, oblong-acuminate, convex, with fairly long, slender legs. Integument shiny, submetallic, piceous (antennae and legs usually somewhat ferruginous); sparse vestiture of testaceous or glaucous, linear scales with coppery or greenish tint. *Antenna* slender, fairly long; scape 1.4× longer than pronotum, slightly sinuate, clearly capitate in apical quarter; funicle longer than scape, 1st and 2nd segments subequal, longer than major axis of eye; 3rd + 4th as long as 2nd; club fusiform, slightly longer than three previous segments combined. *Head* large and elongate; rostrum narrow, longer than broad; pronotum weakly delimited, epistomal keel usually poorly demarcated; metarostum dorsally almost parallel or slightly constricted apically (lateral border convex), not canaliculate; pterygia very small, not protruding; frons hardly depressed, with large median fovea. Eyes not reaching border of frons, large, oval (L/W ratio 1.3), moderately prominent, convexity (26%), slightly asymmetrical. Dorsal integument with isodiametric microreticulation, some shallow punctures and few scales. *Pronotum* small, 0.64× width of elytra, moderately transverse (L/W ratio 0.8), sides evenly and smoothly curved; anterior margin slightly narrower than posterior, basal margin rimmed. Surface shiny, with dispersed, large, deep, foveiform punctures except for broad midline on disc; scales sparse. *Scutellum* triangular, broad, smooth. *Elytra* convex, about 3× longer than pronotum, oblong-acuminate (L/W ratio 1.6), maximum width at or slightly before middle, in profile more elevated than pronotum (transverse convexity of abdomen 68%); base straight, shoulders well marked, with blunt angle; humeral carina developed; sides less and smoothly curved in basal half, clearly acuminate apically. Striae marked by large, deep punctures separated by less than one diameter; intervals variable, 6–7th usually convex and slightly uneven. Vestiture composed of long recumbent, separated scales in patches, sparse; erect, recurved, blackish setae along intervals, small and increasing in length apicad, fairly long and very conspicuous in apical third. Integument shiny, commonly smooth, occasionally uneven (rugose). *Legs* long and thin, moderately hairy; protibiae straight, apex blunt, internally expanded, with small mucro; mesotibiae with mucro, metatibiae unarmed, hardly incrassate at apex. *Venter*. Integument shiny, with sparse vestiture of scales; ventrites 1 and 2 with conspicuous transverse marks; coxae almost bare; intermesocoxal ridge long and narrow, hardly elevated; last ventrite apically curved, not truncated. Abdominal convexity 68%. *Aedeagus* (fig. 13A–B) 0.6× length of elytra, smoothly curved; apex broadly pointed, simple. Internal sac fairly long, with two very long parallel, partially interrupted rows of separated large denticles; fields of small denticles in proximal section and muscular sheath.

Female. As male but bulkier (length 5.2–6.5 mm), elytra broadly triangular in shape, much broader and rectangular at base (maximum width in basal third), slightly shorter (L/W ratio 1.47), more inflated (convexity 82%) but dorsally less convex, somewhat flattened; shoulders very pronounced, humeral angle nearly square. Lateral intervals usually more swollen, sutural intervals usually depressed and with rugose surface. Integument of pronotum usually with visible isodiametric microreticulation. Pro- and mesotibia with very tiny mucro. Last ventrite apically slightly truncate. Sternite VIII with oblong plate (fig. 17D), spermatheca as in fig. 18H.

Etymology. The name of this species derives from the Latin *iunonius*, meaning “of Juno” (the sister and wife of Jupiter), and refers to an old name for the island of La Gomera, *Junonia minor*, according to Pliny.

Remarks. *Laparocerus junonius* is the vicariant species of *L. obtriangularis* Wollaston, 1864 from Tenerife (unpublished molecular data). It shares almost all its characteristics but the elytra are clearly more inflated (pronotum and elytra in profile not at the same level) and quadrangular, with clearly marked shoulders. In *L. obtriangularis* the elytra are more curved and clearly convergent at the base, the shoulders being less conspicuous, and in females the base is slightly concave, not straight, forming a perfect heart shape. The eyes of *L. junonius* are slightly more prominent (convexity of 26% instead of 20%), and the male protibia is completely

straight (not curved at the apex) and the median lobe is broadly pointed rather than abruptly sharp pointed as in *L. obtriangularis*. *Laparocerus junonius* is easy to distinguish from other *Laparocerus* species on La Gomera by its quadrangular, acuminate elytra with marked shoulders, beset with erect black setae on the apical third, submetallic integument, sparse vestiture of scales, slender legs and fairly flat eyes.

Material examined. Holotype: La Gomera: Juego de Bolas [Las Rosas], 600 m (UTM = 28R 028260 311900), 18-4-2000, leg. A. Machado, 1♂ (TFMC, reg. CO-15520). **Paratypes:** same data, 29 exx. (AMC, 1 TFMC, 2 MNCN, 2 NHM); same locality, 11-7-2001, leg. R. García, 8 exx. (RGB); Las Rosas, 650 m, 1-4-2001, leg. A. Machado, 10 exx. (AMC); same locality, 12-7-2001, leg. R. García, 4 exx. (RGB); Las Rosas, 15-2-2003, 5 exx.; Presa Amalahuigue, 15-2-2003, leg. P. Oromí, 1 ex. (POM). **Other specimens:** Meriga, 850 m, 16-4-2000, 3 exx.; Jardín de las Creces, 950 m, 17-4-2000, 1 ex.; Chorros de Epina, 800 m, 17-4-2000, 11 ex.; same data, 7-12-2002, 13 exx.; Los Acebiños, 800 m, 1-4-2001, 24 exx.; same data, 23-10-2001, 5 exx.; Laguna Grande, 1200 m, 18-4-2000, 1 ex.; Pajarito, 1360 m, 6-12-2002, 1 ex.; Teselinde Ermita Sta Clara, 7-12-2002, 2 exx.; Cruz de Juel, 790 m, 7-12-2006, 32 exx.; Tamargada, 450 m, 7-12-2002, 1 ex.; Bco. del Clavo, 365 m, 17-2-2004, 4 exx.; Piedra Encantada (Vallehermoso), 17-2-2004, leg. A. Machado, 3 exx. (AMC); El Rejo, 30-10-2001, 1 ex.; Cabecera Bco. Juel, 8-6-2002, 1 ex.; Montaña del Dinero, 4-1-2003, leg. P. Oromí, 1 ex. (POM); Chorros de Epina, 23-4-1984, leg. A.H. Törnvall, 3 exx. (ZMUL); Laguna Grande, 1200 m, 28-12-1889, leg. V. Assing, 2 exx. (PS); El Cedro, Rosa de Friate, 1000 m, 8-10-1988, leg. L. Behne, 2 exx.; same data, leg. H. Ringel, 1 ex. (DEI); Meriga, 30-3-1994, 1 ex.; Ermita de Santa Clara, 2-4-1994, leg. A. Liberto, 1 ex. (AL); San Sebastián, 9 km NW, 720 m, 31-12-2004, leg. P. Stüben, 1 ex. (PS).

Distribution and ecology. *Laparocerus junonius* is endemic to La Gomera and widely spread over the elevated mountain region, above 600 m, exposed to the humid trade winds. It is not uncommon in lower vegetation at the margins of the forest, in clearings or at road-sides. An eminently nocturnal and autumn-winter species, it feeds preferably on *Rubus* sp. but also on *Phyllis nobla* and *Cedronella canariensis* and more occasionally on other plants, such as *Sambucus palmensis* and *Mercurialis annua*.

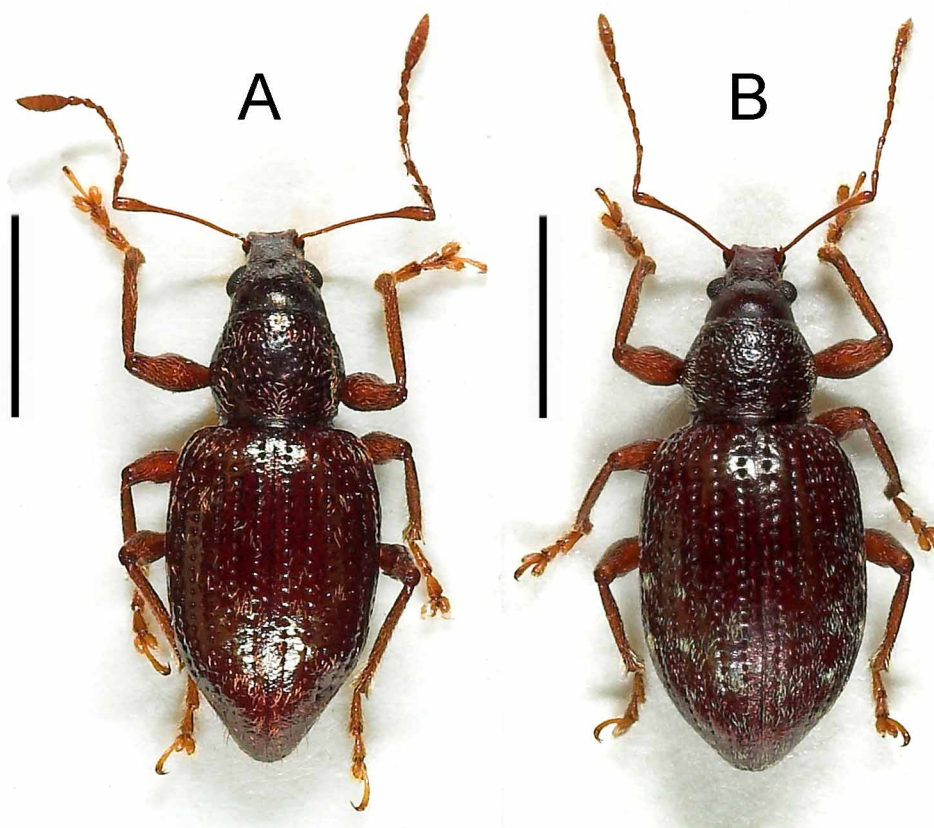


FIGURE 7. New *Laparocerus* species from La Gomera, holotypes: (A) *L. junonius*, (B) *L. roudieri*. Scale = 2 mm

***Laparocerus roudieri* n. sp.**

(Figs. 7B, 13C–D, 17A, 18I)

Measurement of holotype (♂). *Length*: total (without rostrum) 4.60 mm, head 1.20 mm, rostrum 0.52 mm, scape 1.20 mm, funicle 1.42 mm, segments (1st/ 2nd/ 3rd/ 4th) 0.26 /0.38 /0.18 /0.18 mm, club 0.54 mm, eyes 0.28, pronotum 0.90 mm, elytra 3.43 mm, tibiae (fore /mid /hind) 1.30 /1.10 /1.34 mm. *Width*: head (with eyes) 0.88 mm, head (between eyes) 0.50 mm, rostrum (with pterygia) 0.60 mm, rostrum (minimum dorsal /ventral) 0.34 mm/ 0.52 mm, rostrum (base) 0.60 mm, scape (maximum) 0.12 mm, club 0.14 mm, pronotum (anterior /maximum /posterior) 0.90 /1.30 /1.15 mm, elytra (maximum) 2.20 mm. *Height*: abdomen 1.75 mm.

Male. Length 3.5–4.8 mm, oval and convex. Integument piceous, shiny, with less striking, sparse vestiture of small, linear, white or glaucous scales; devoid of protruding setae on elytra. Legs somewhat paler. *Antenna* long and slender, scape 1.3× longer than pronotum, slightly arcuate, clearly capitate in apical third; funicle 1.2× longer than scape; 2nd segment markedly longer than 1st, as long as 3rd + 4th together; club oblong, narrow, about length of three previous segments combined. *Head* robust; vertex somewhat inflated; rostrum quadrangular, much narrower dorsally than ventrally (genae clearly visible from above); pronotum weakly delimited; epistomal keel obsolete; pterygia broad, moderately prominent (antennal base exposed); metarostrium not canaliculate, convergent apicad, trapezoidal. Frons slightly depressed; median frontal fovea usually very short. Eyes small (major axis 0.56× of interocular distance), protruding, hemispherical (convexity 78%), not reaching border of frons; integument shortly and slightly raised behind eye. Dorsal integument smooth or with isodiametric microreticulation, some shallow punctures and few scales. *Pronotum* 0.59× width of elytra, moderately transverse (L/W ratio 0.8), sides evenly curved, maximum width at middle; anterior margin narrower than posterior, basal margin thinly rimmed. Surface shiny, variable (smooth, uneven or microreticulate), with shallow large and small punctures intermixed; median line obsolescent. Scales usually transversely orientated at base and on flanks. *Scutellum* triangular, small, usually bare. *Elytra* broadly oval-elongated (L/W ratio 1.6), evenly convex; 3.8× longer than pronotum; base straight; sides less curved in middle third; maximum width at or slightly behind middle; shoulders moderately prominent, rounded, occasionally slightly and shortly angular. Deep broad punctures along striae, separated by own diameter; intervals shiny, smooth or microrugulose, 8th slightly inflated, visible from above at base. Vestiture composed of sparse, short, decumbent, whitish or glaucous, linear scales (4–5 across interval) forming an obscure pattern; easily abraded. Short, testaceous, curved setae along intervals, not protruding from vestiture of scales and barely distinct. *Legs*. Protibia shortly curved inwards at apex; outer angle broadly rounded, internal angle sharp, with small mucro; meso- and metatibia hardly incrassate at apex, with small mucro. *Venter*. Integument shiny, with denser cover of larger and thinner scales than on dorsum; intermesocoxal ridge hardly developed; last ventrite apically truncate. Abdominal convexity 79%. *Aedeagus* (fig. 13C–D) 0.65× length of elytra, smoothly arcuate, evenly convergent at apex; apex blunt, simple, in profile slightly curved upwards. Internal sac at rest not much longer than testes; with two short, median, parallel rows of short, thick denticles and a smaller, single group distally. Denticles of muscular sheath weakly developed.

Female. As male but broader and rounder (length 4.2–5.0 mm). Elytra shorter, broader (L/W ratio 1.4 instead of 1.6), laterally more evenly curved, shoulders square, occasionally a little porrect. Protibia straight, unarmed. Last ventrite rounded apically. Ventrite VIII as in fig. 17A, round at apex and with parallel-sided plate, spermatheca as in fig. 18I.

Etymology. This species is dedicated to Adrien Roudier (1913–2000), French specialist in Curculionidae who contributed much to the knowledge of *Laparocerus* of the Canary Islands and Madeira.

Remarks. *Laparocerus roudieri* is easily distinguished from the other *Laparocerus* species of La Gomera by its small size (<5 mm), fairly rounded appearance (especially in the females), shiny, dark integument with less distinct vestiture of scales and devoid of additional setae and, particularly, by the small, prominent, almost hemispherical eyes. Specimens from coastal vegetation at Tamargada and Playa de Hermigua have rounded shoulders in both sexes but show no other consistent differences.

Material examined. Holotype: La Gomera: Bco. del Clavo, 365 m (UTM = 28R 0276378 3119008), 17-2-2004, leg. A. Machado, 1 ♂ (TFMC, reg. CO-15529). **Paratypes:** same data, 54 exx. (AMC, 2 NHM, 1 TFMC, 2 MNCN); Vallehermoso, 11-4-1967, leg. T. Palm, 2 exx. (ZMUL); same locality, 13-7-2001, leg. R. García, 10 exx. (RGB). **Other specimens:** Tamargada, 450 m, 7-12-2002, leg. A. Machado, 60 exx. (many teneral) (AMC); Tamargada, km 33, 500 m, 29-3-1994, leg. Liberto, 1 ex. (AL); Playa de Hermigua, 10 m, 7-12-2002, 34 exx.; same locality, 8-12-2006, leg. A. Machado, 4 exx. (AMC); same data, 19-1-2003, 7 exx.; Taguluche, 17-2-2003, leg. P. Oromí, 1 ex. (POM).

Distribution and ecology. *Laparocerus roudieri* is endemic to La Gomera, where it occurs in the northern part of the island at low altitudes (10-400 m) in natural scrub vegetation as well as on weeds in agricultural land or along roadsides. The type series was collected on *Rubia fruticosa* and *Ferula linkii* and the other specimens on *Argyranthemum fruticosum*, *Shizogyne sericea*, *Mercurialis annua*, *Bidens pilosa*, *Artemisia thuscula*, *Rubus ulmifolius* and *Sonchus* sp. It is apparently a fairly polyphagous, nocturnal species active in winter.

Laparocerus humeralis n. sp.

(Figs. 8A, 13E-F)

Dimensions, holotype (♂). *Length:* total (without rostrum) 5.60 mm, head 1.25 mm, rostrum 0.66 mm, scape 1.50 mm, funicle 1.84 mm, segments (1st/ 2nd/ 3rd/ 4th) 0.38 /0.46 /0.22 /0.22 mm, club 0.56 mm, eyes 0.32 mm, pronotum 1.30 mm, elytra 4.20 mm, tibiae (fore /mid /hind) 1.70 /1.50 /1.74 mm. *Width:* head (with eyes) 1.02 mm, head (between eyes) 0.59 mm, rostrum (with pterygia) 0.76 mm, rostrum (minimum dorsal /ventral) 0.50 mm/ 0.66 mm, rostrum (base) 0.70 mm, scape (maximum) 0.16 mm, club 0.16 mm, pronotum (anterior /maximum /posterior) 1.10 /1.70 /1.50 mm, elytra (maximum) 2.45 mm. *Height:* abdomen 2.10 mm.

Males. Length 5.3–5.6 mm, elongate-elliptical. Integument shiny, piceous, antennae and tarsi paler. Vestiture composed of small, long, linear, testaceous (with coppery or greenish tint), whitish and hyaline scales, arranged on elytra in mosaic-pattern and with few small, curved, protruding setae. *Antenna* slender, scape 1.15× longer than pronotum, slightly arcuate, clearly capitate in apical quarter; funicle 1.2× longer than scape; 2nd segment markedly longer than 1st, slightly longer than 3rd + 4th together; club oblong, narrow, as long as three previous segments combined. *Head* broad-conical, not depressed at frons, not inflated at vertex; rostrum subquadrangular, narrower dorsally than ventrally, genae clearly visible from above; pronotum with small median longitudinal keel, laterally punctate; epistomal keel marked only laterally; metarostrum subcanaliculate, lateral border slightly convergent basad, incomplete. Frontal fovea small, deep. Eyes oval (major axis 0.54× inter-ocular distance), not reaching border of frons; moderately protruding (convexity 38%), asymmetrical (vertex shifted backwards). Dorsal integument densely and shallowly punctate, particularly at vertex. *Pronotum* large, convex, 0.66× width of elytra, moderately transverse (L/W ratio 0.76×), sides evenly curved, maximum width at middle; anterior margin narrower than posterior, basal margin thinly rimmed. Surface shiny, with separate deep macropunctures (smaller than on striae) and many micropunctures in interspaces; median line faint. *Scutellum* triangular, right-angled, squamose. *Elytra* elongate-elliptical (L/W ratio 1.7×), uniformly curved; maximum width behind middle; fairly convex, 3.2× longer than pronotum, not much broader at base. Basal line slightly concave; shoulders very short but angular, marked by humeral carina. Punctures of striae foveate, not much larger than distance between them; intervals shiny, smooth or slightly rough, 7th interval shortly and markedly inflated at base. Vestiture of linear scales arranged in mosaic pattern of whitish, testaceous and dark. Short, dark, curved setae along intervals, barely protruding from vestiture of scales except at apical third (conspicuous in profile). *Legs* slender, tibiae apically hairy, also tarsi; protibia moderately incurved apically; apex with outer angle broadly rounded, inner one sharp, with strong mucro; meso- and metatibia incrassate internally at apex, with strong and smaller mucro, respectively. *Venter.* Integu-

ment shiny, covered by fairly open pubescence of long, hair-like scales; intermesocoxal ridge poorly developed, sloping down; mesosternum and basal ventrites with transverse median corrugation; last ventrite apically truncate. Abdominal convexity 85%. *Aedeagus* (fig. 13E–F) fairly long (0.75× length of elytra), smoothly arcuate, evenly convergent at apex; apex simple, not very sharp, slightly curved upwards. Internal sac posteriorly shorter than temones; bearing one set of parallel rows of short thick denticles; denticular field of muscular sheath weakly developed.

Female. As male (length 5.6 mm) but broader, almost rectangular. Elytra much broader (1.6× broader than pronotum instead of 1.5×), nearly parallel-sided, quadrangular at base, ogival at apex, with small point directed downwards; shoulders much more prominent, humeral carina well developed. Dorsum along intervals with conspicuous rows of protruding long, black, recurved setae (0.5× length of onychium). Protibia straight, unarmed. Metasternum and basal ventrites not transversely rugose; last ventrite apically rounded.

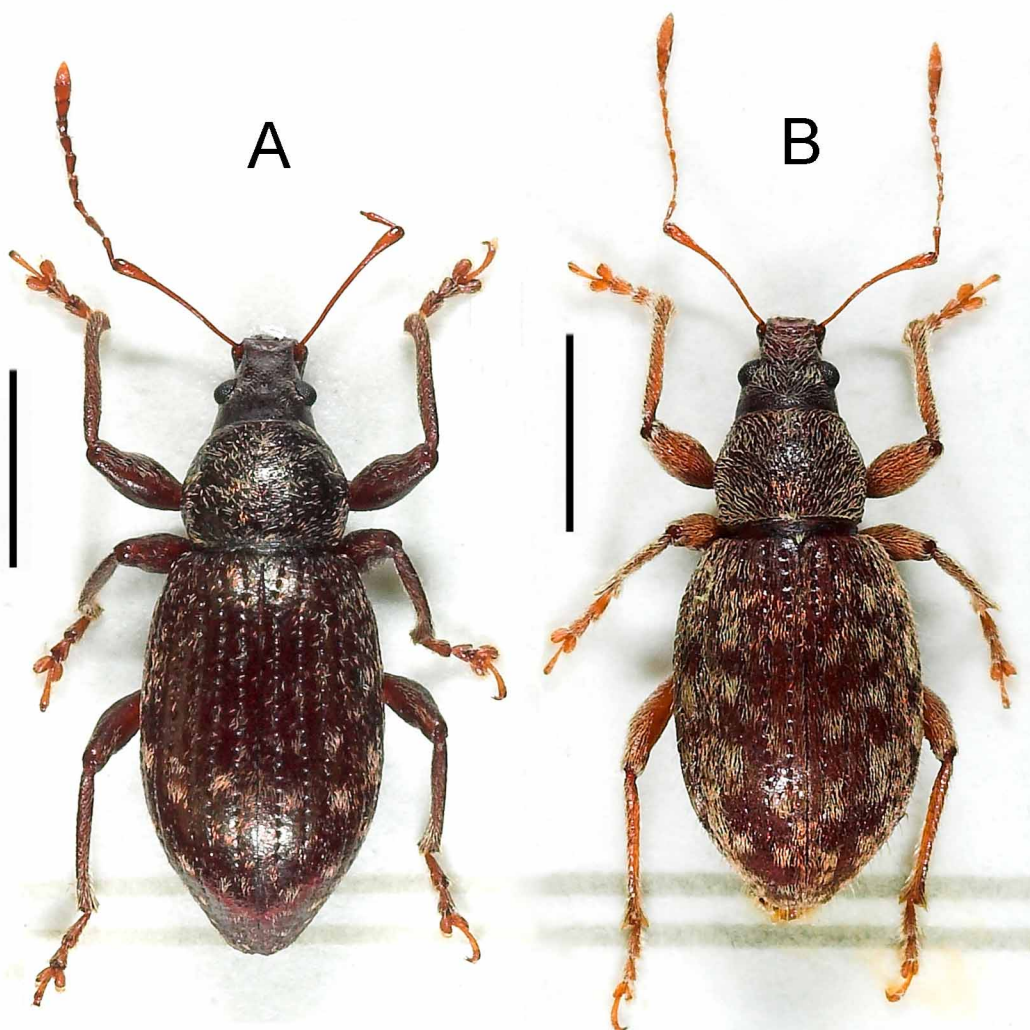


FIGURE 8. New *Laparocerus* species from La Gomera, holotypes: (A) *L. humeralis*, (B) *L. mulagua*. Scale = 2 mm

Etymology. The specific epithet is a Latin adjective referring to the reduced but sharply marked shoulders of this species.

Remarks. *Laparocerus humeralis* is similar in appearance and related to *L. obscurus* Wollaston, 1864 from Tenerife. It is more elliptical, with smaller and more protruding eyes, the frons not depressed, the male protibia less curved and emarginate, the 2nd funicle segment not much longer than 3rd+4th; the shoulders marked but not advanced, the elytral integument shiny and not alutaceous, and the black setae much shorter in males (hardly protruding) but longer in females. The aedeagus is very similar but proportionally much longer.

L. humeralis shares many features with *L. roudieri*, but its size exceeds 5 mm and the females bear long, protruding black setae all over the elytra (absent in *L. roudieri*), while in the males the hardly protruding elytral setae, elliptical elytra, reduced, sharp-angled shoulders with a humeral carina, head not depressed at frons, asymmetrical eyes with no trace of a postocular granule and the more incurved protibia are suitable diagnostic characters.

Material examined. Holotype: La Gomera: Hermigua: San Juan, 620 m (UTM = 28R 02837 31173), 11-2-2006, leg. A. Machado, 1 ♂ (right antenna damaged) (TFMC, reg. CO-15516). **Paratypes:** same data, 1 ♂, 1 ♀; same data, 9-12-1996, 6 exx.; same data, 19-2-2007, 7 exx. (AMC); same locality, 9-12-1966, leg. P. Oromí, 3 exx. (POM); same locality, 9-12-2006, leg. R. García, 2 exx. (RGB).

Distribution and ecology. This species is restricted to the island of La Gomera. It has been collected only in the northern humid valley of Hermigua, on the slopes in remnants of the original thermophilous vegetation. The few specimens collected were beaten at night from *Rubus*, *Aeonium* and *Artemisia thuscula*.

Laparocerus mulagua n. sp.

(Figs. 8B, 14C–D, 17C, 18J)

Dimensions, holotype (♂). *Length:* total (without rostrum) 5.50 mm, head 1.20 mm, rostrum 0.56 mm, scape 1.36 mm, funicle 1.72 mm, segments (1st/ 2nd/ 3rd/ 4th) 0.32 /0.38 /0.24 /0.22 mm, club 0.56 mm, eyes 0.34 mm, pronotum 1.14 mm, elytra 4.20 mm, tibiae (fore /mid /hind) 1.60 /1.50 /1.68 mm. *Width:* head (with eyes) 1.02 mm, head (between eyes) 0.56 mm, rostrum (with pterygia) 0.70 mm, rostrum (minimum dorsal /ventral) 0.48 mm/ 0.60 mm, rostrum (base) 0.56 mm, scape (maximum) 0.14 mm, club 0.16 mm, pronotum (anterior /maximum /posterior) 1.08 /1.50 /1.38 mm, elytra (maximum) 2.50 mm. *Height:* abdomen 2.00 mm.

Male. Length 4.5–5.5 mm, elliptical, moderately convex, piceous, with legs brownish. Integument shiny, clothed with long, lanceolate, testaceous, golden and glaucous scales of a pubescent appearance; on elytra usually arranged in mosaic pattern, with frequent, protruding, whitish hairs. *Antenna* slender, scape 1.19× longer than pronotum, bisinuate, capitate in apical third; funicle 1.26× longer than scape; 2nd segment slightly longer than 1st but not longer than 3rd + 4th; club fusiform, slightly longer than three previous segments combined. *Head* normal, rostrum as long as broad, not or feebly depressed at frons. Prorostum well defined, smooth and shiny; epistomal keel complete, elevated; pterygia small, moderately prominent. Metarostum not canaliculate, more or less convergent apicad. Frontal fovea small, not very deep. Eyes close to but not reaching border of frons, ovate (major axis 0.33× interocular distance), moderately protruding (convexity 32–35%), usually slightly asymmetrical (vertex depressed, shifted backwards). Dorsal surface shallowly and regularly punctate. *Pronotum* moderately transverse (L/W ratio 0.76×), convex, sides evenly curved, maximum width at middle; not rimmed. Surface shiny, with sharp, regular double punctation of conspicuous macropunctures, separated by one diameter or less, and micropunctures 1/3 of their size. Vestiture of scales quite uniform, dense. Without median line. *Scutellum* very small, squamose. *Elytra* elliptical (L/W ratio 1.68), with straight truncate base; sides uniformly curved; maximum width at middle; moderately convex, 3.7× longer than pronotum. Base as wide as base of pronotum; shoulders not prominent, humeral angle occasionally weakly developed. Striae marked by punctures almost as large as macropunctures of pronotum. Vestiture of long, lanceolate scales fairly dense, overlapping. Intervals flat, shiny, micropunctate, beset with rows of long, sloping, slightly curved, protruding whitish hairs (0.5× length of onychium). *Legs* normal, fairly hairy; protibia straight, slightly emarginate on inside, apex blunt, inner angle shortly expanded, with robust mucro partially buried under dense tuft of hairs; grooming brush short; meso- and metatibia each with mucro; inner apical angle of metatibia extended into small spatulate lobe. *Venter* shining, beset with sparser cover of lanceolate scales; ventrites with additional recumbent hairs, transversely microcorrugated; intermesocoxal ridge poorly developed; last ventrite apically truncate. Abdominal convexity 80%. *Aedeagus* (fig. 14C–D) simple, almost

half as long as elytra, arcuate; median lobe fairly depressed, straight, acute; internal sac at rest not much longer than temones, with three long median fields of denticles and two short distal ones; denticular field of muscular sheath moderately developed. Parameres of tegmen fairly long, robust, with bristles at apex.

Female. As male but slightly more robust and less elliptical (length 4.9–6.1 mm). Elytra variable, oval or obovate (not elliptical), at base wider than base of pronotum (shoulders clearly prominent). Protruding thin hairs on elytra longer, less curved and more erect. All tibiae unarmed; metatibia at apex normal, without terminal lobe. Last ventrite apically rounded. Sternite VIII as in fig. 17C, spermatheca as in fig. 18J, with short and straight gland lobe.

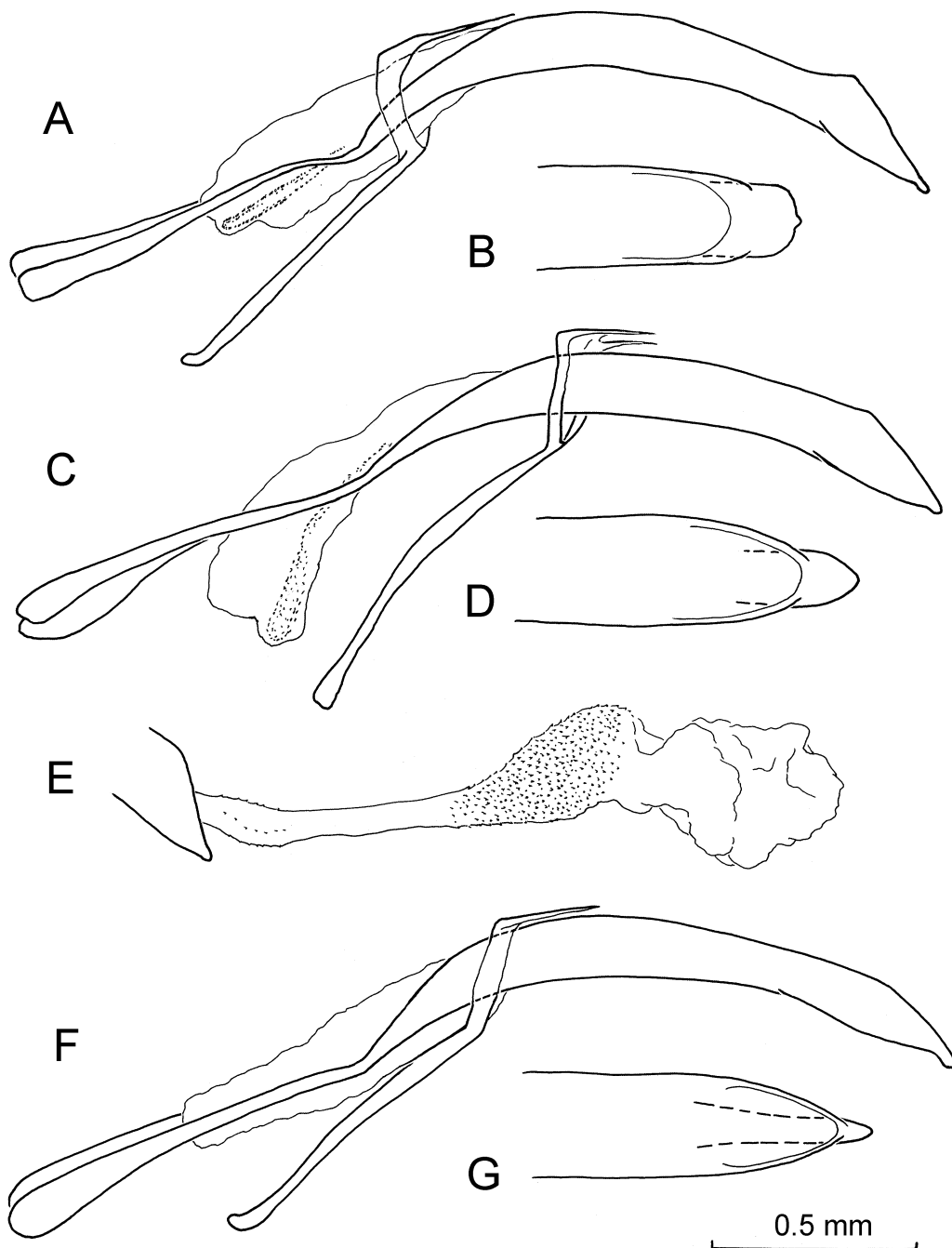


FIGURE 9. New *Laparocerus* species from La Gomera, aedeagi: (A–B) *L. orone*, (C–D–E) *L. acutipennis*, (F–G) *L. benchijigua*.

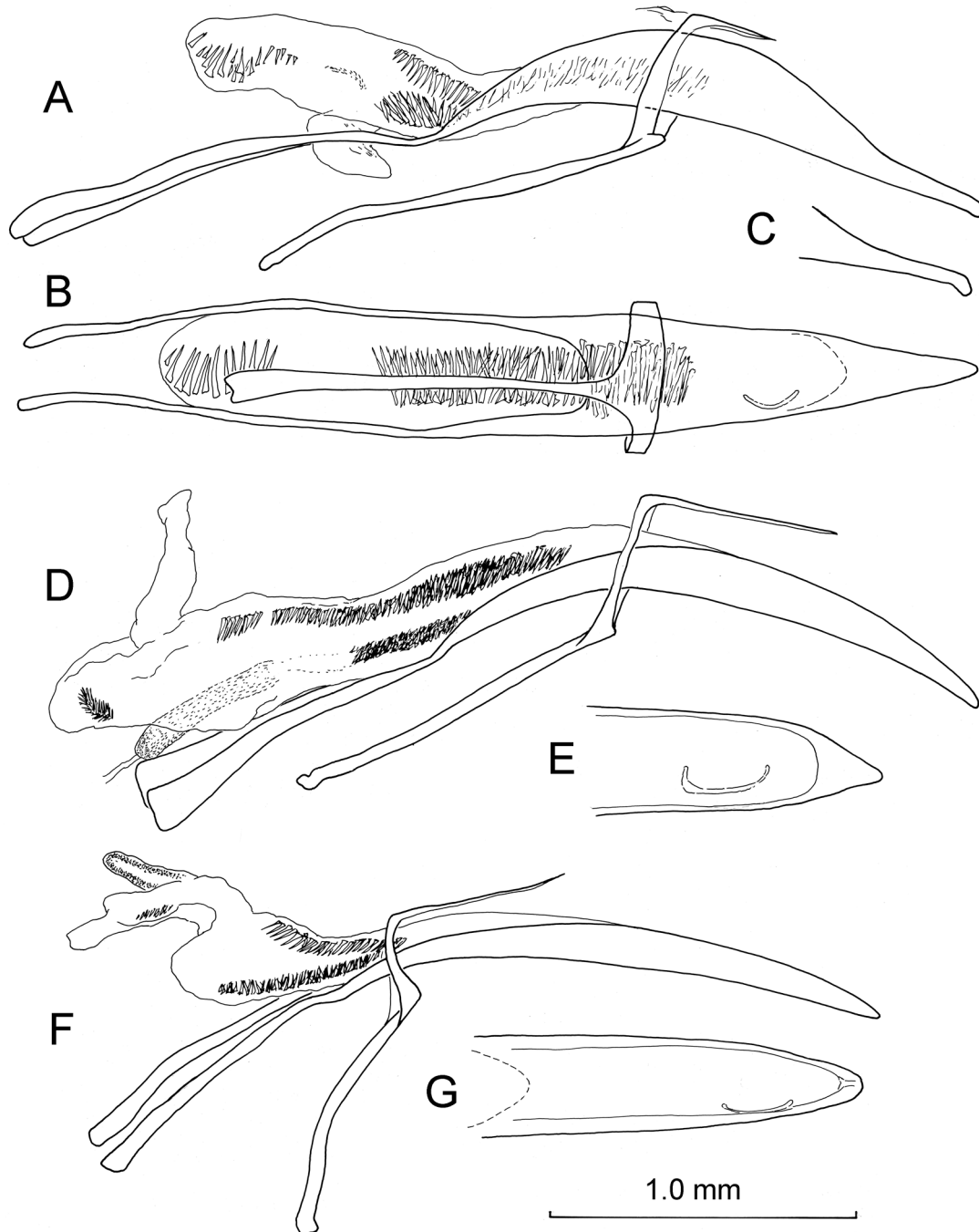


FIGURE 10. *Laparocerus* species from La Gomera, aedeagi: (A–B) *L. aethiops garajonay* n. ssp., (C) *L. aethiops aethiops* Wollaston, (D–E) *L. depressus* n. sp., (F–G) *L. spinimanus* n. sp.

Etymology. The specific epithet is a noun in apposition and the Guanche name of one of the four aboriginal districts of La Gomera (Hermigua – Agulo), where the species was discovered.

Remarks. *Laparocerus mulagua* is easy to distinguish from other *Laparocerus* species on La Gomera due to its moderate size, protruding rounded eyes, hairy elytra and the male protibia not curved or emarginate. Long, thin, protruding hairs over the entire elytra are present also in *L. lepidopterus* Wollaston, 1864 and *L. inflatus* Wollaston, 1865, but these species are much larger (>8 mm) and show quite flattened eyes or exceedingly prominent shoulders, respectively. More similar in appearance is *Laparocerus bacalladoi* Machado, 2005, from Tenerife, of similar size and with hairy elytra but with femora fringed with very long hairs, an

almost clavate (not clearly capitate) more robust scape and no protruding lobe in the inner angle of the male metatibial apex, as is characteristic of *L. mulagua*. According to unpublished molecular data, it belongs to the group of *L. lepidopterus*.

Material examined. Holotype: La Gomera: Playa de Hermigua, 10 m (UTM = 28R 028660 311880), 7-12-2002, leg. A. Machado, 1 ♂ (TFMC, reg. CO-15522). **Paratypes:** same data, 9 exx. (AMC); same data, leg. A. Aguiar, 6 exx. (AAC); same data, leg. R. García, 7 exx. (RGB); same data, leg. R. García, 27 exx. (RGB); same data, leg. A. Aguiar, 6 exx. (AAC); same locality, 8-12-2006, leg. A. Machado, 32 exx. (AMC); same locality, 19-1-2003, leg. P. Oromí, 23 exx. (POM, 2 TFMC, 2 MNCN, 2 NHM, 2 DEI); same locality, 4-1-2003 leg. P. Oromí, 2 exx. (AMC); Hermigua, 19-12-1995, leg. M.G. Morris, 1 ex. (MM). **Other specimens:** Tamargada, 450 m, 7-12-2002, leg. A. Machado, 24 exx. (AMC); Vallehermoso: Guillama, 200 m, 2-1-2005, 106 exx.; Vallehermoso: Arguamul, 270 m, 2-1-2005, leg. A. Machado, 2 exx. (AMC); Agulo, 300 m, 14-4-1987, leg. E. Colonnelli, 2 exx. (EC); Bco. Tamargada, 7-12-2002, leg. A. Aguiar, 6 exx. (AAC); Bco. Chinguarame, 650 m, 7-2-2005, leg. R. Mesa, 1 ex. (AMC).

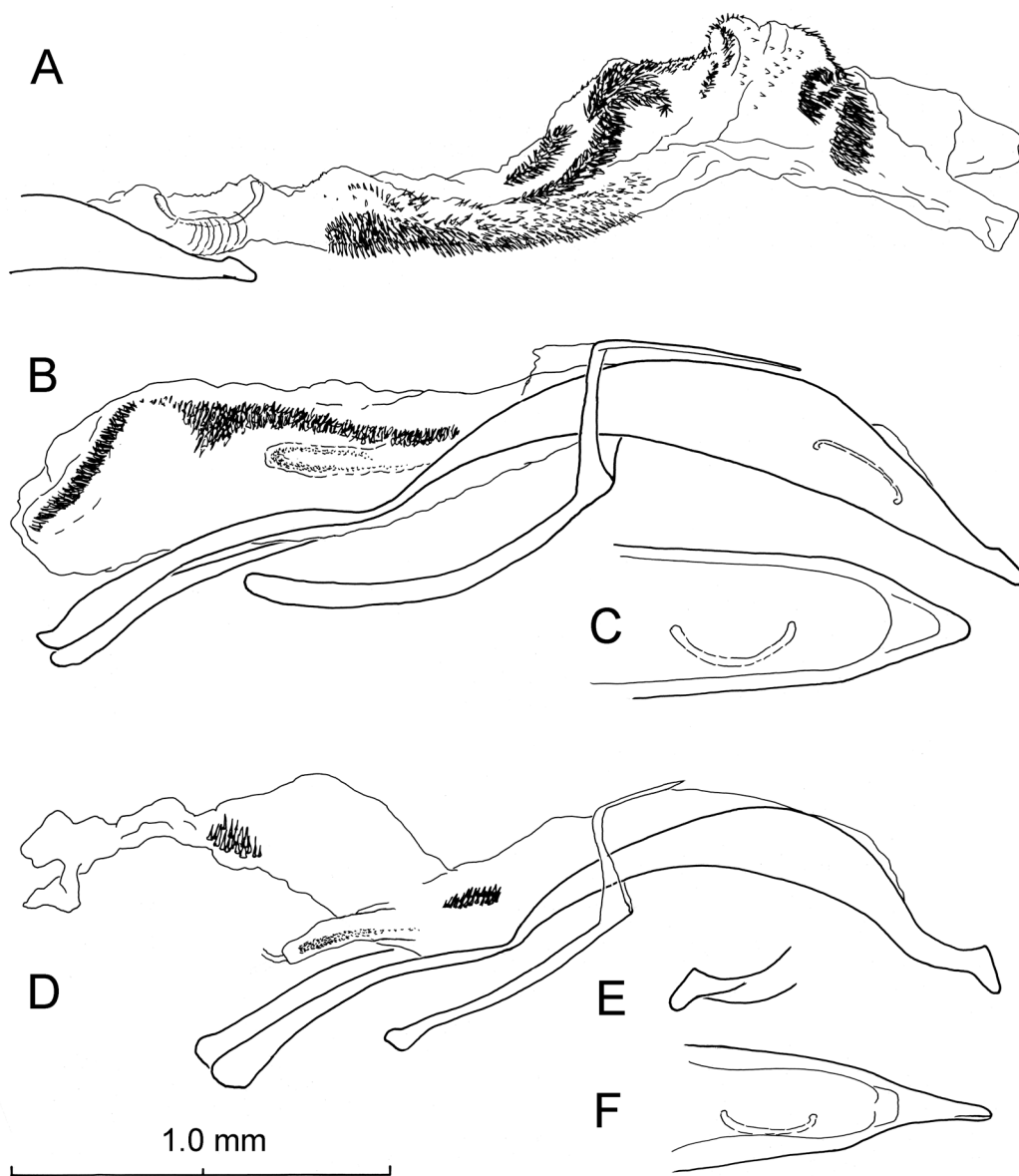


FIGURE 11. New *Laparocerus* species from La Gomera, aedeagi: (A–B–C) *L. exophthalmus*, (D–F) *L. oculatissimus*, (E) *idem*, apex in reverse lateral view.

Distribution and ecology. *L. mulagua* is endemic to La Gomera, where it occurs at low altitude at least in the north-east windward sector of the island but is presumably more widely distributed (one locality confirmed on the leeward side). It has been collected at night in coastal and *Euphorbia*-dominated vegetation, feeding on several scrubby plant species: *Shizogyne sericea*, *Rumex lunaria*, *Artemisia thuscula*, *Launaea arborens*, *Argyranthemum frutescens*, *Kleinia neerifolia*, *Astydamia latifolia*, *Beta maritima* and the rare endemic *Convolvulus subauriculatus*, which was heavily attacked. Apparently it is a polyphagous species active in winter and spring.

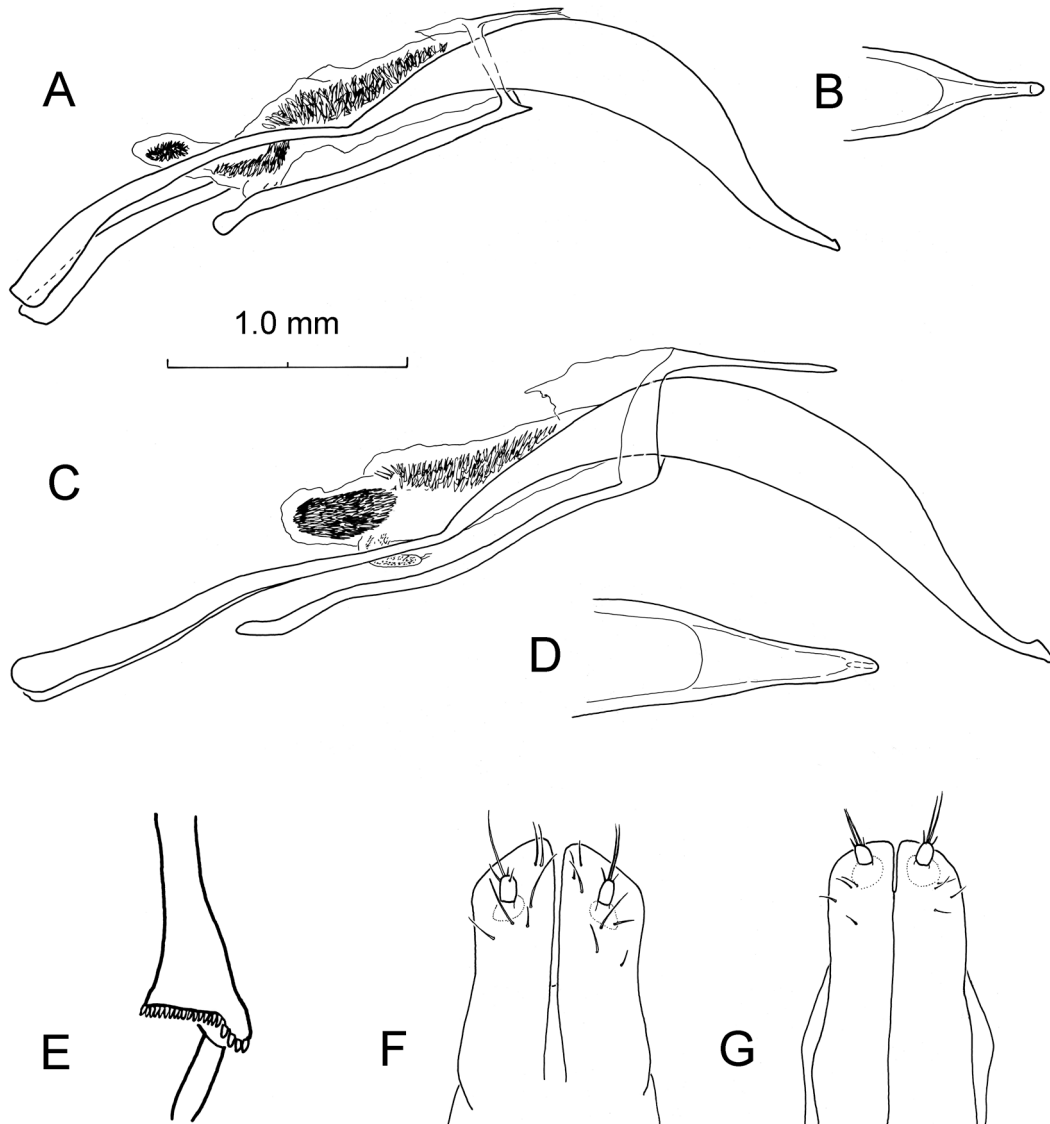


FIGURE 12. New *Laparocerus* species from La Gomera: (A–B) *L. hupalupa*, aedeagus, (C–D) *L. inermis*, aedeagus, (E) *L. hupalupa*, metatibia (not to scale), (F): *L. hupalupa*, hemisternites, (G) *L. inermis*, hemisternites.

***Laparocerus heres* n. sp.**

(Figures 2 C, 14 E–F–G, 17 B, and 18 L)

Dimensions, holotype (♂). Length: total (without rostrum) 3.4 mm, head 0.78 mm, rostrum 0.40 mm, scape 0.80, mm, funicle 0.80 mm, segments (1st/ 2nd/ 3rd/ 4th) 0.16 /0.16 /0.11 /0.10 mm, club 0.37 mm, eyes 0.16,

pronotum 0.86 mm, elytra 2.30 mm, tibiae (fore /mid /hind) 0.90 /0.76 /0.91 mm. *Width*: head (with eyes) 0.73 mm, head (between eyes) 0.48 mm, rostrum (with pterygia) 0.50 mm, rostrum (minimum dorsal /ventral) 0.30 mm / 0.49 mm, rostrum (base) 0.44 mm, scape (maximum) 0.12 mm, club 0.13 mm, pronotum (anterior /maximum /posterior) 0.86 /1.02 /0.90 mm, elytra (maximum) 2.30 mm. *Height*: abdomen 1.16 mm.

Male. Length 3.2– 3.4 mm, oblong-elongate, flattened on disc of pronotum and elytra; piceous, antennae and tarsi somewhat ferrugineous. Integument shiny, coarsely punctate, clothed with light-olive, lanceolate, decumbent scales, on elytra in variegated pattern, with abundant additional short, arcuate, dark setae. *Antenna*

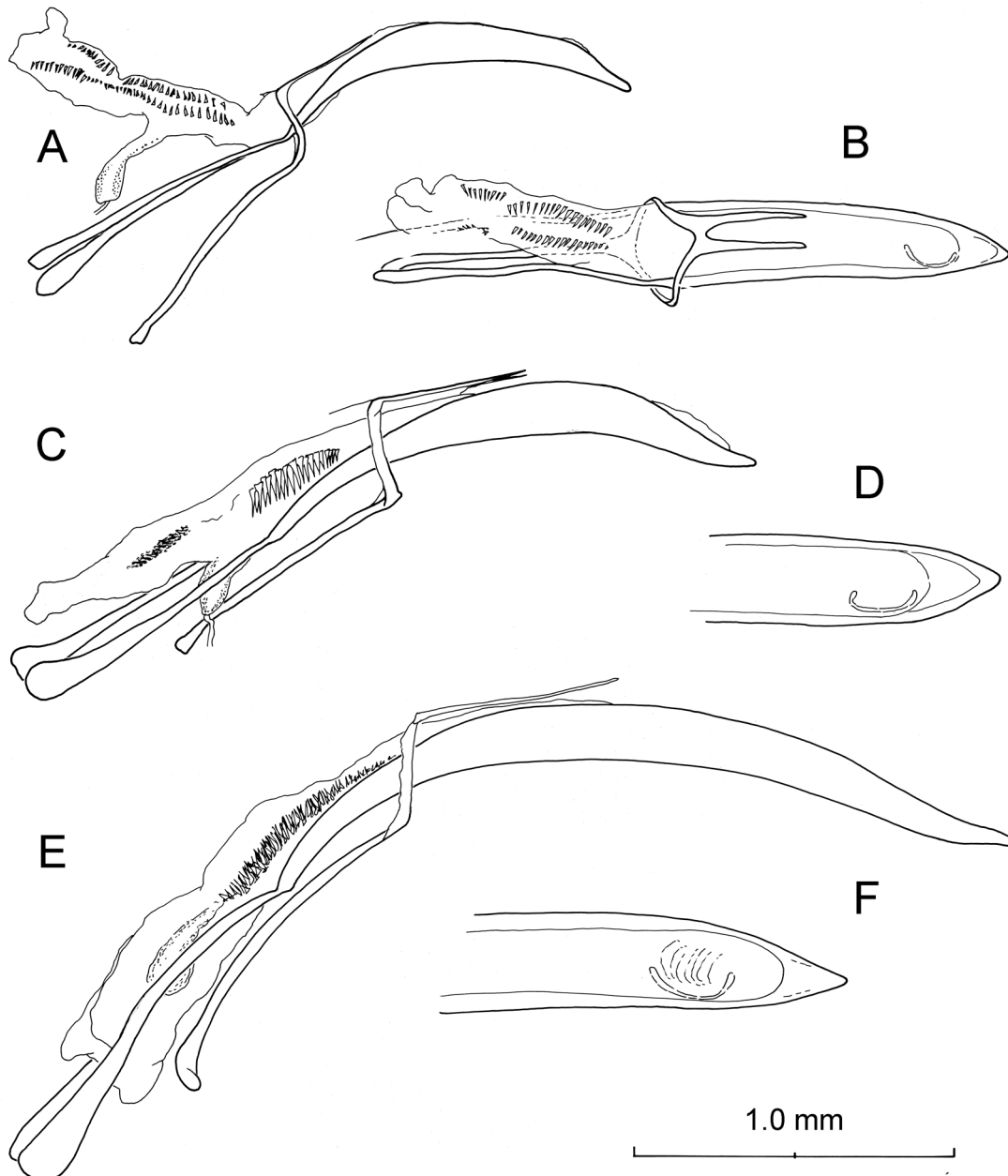


FIGURE 13. New *Laparocerus* species from La Gomera, aedeagi: (A–B) *L. junonius*, (C–D) *L. roudieri*, (E–F) *L. humeralis*.

robust, relatively short; scape slightly shorter than pronotum, clavate, slightly arcuate, very strongly incrassate from base on (as broad as other segments), flattened basally; funicle as long as scape; 1st and 2nd segments equal; club fusiform, thin, much longer than three previous segments combined. *Head* robust, conical; ros-

trum short, strongly constricted dorsally (0.60×), base of antenna totally exposed; prostrum variably defined (usually not smooth); epistomal keel complete; pterygia slightly prominent. Metarostrum slightly convergent apicad, slightly V-canalicate. Frons not depressed, lateral edge weakly defined, convex; median fovea linear, short, not very deep (if extended, a shallow line). Eyes circular, moruliform, fairly small (diameter 1/3 of interocular distance), placed at middle of head in profile, in crater-like depression (i.e. perioocular sulcus broad, complete), very protruding (convexity 56%), subconical, with vertex slightly shifted backwards. Dorsal and ventral integument coarsely punctate. *Pronotum* slightly transverse (L/W ratio 0.86), disc flattened,

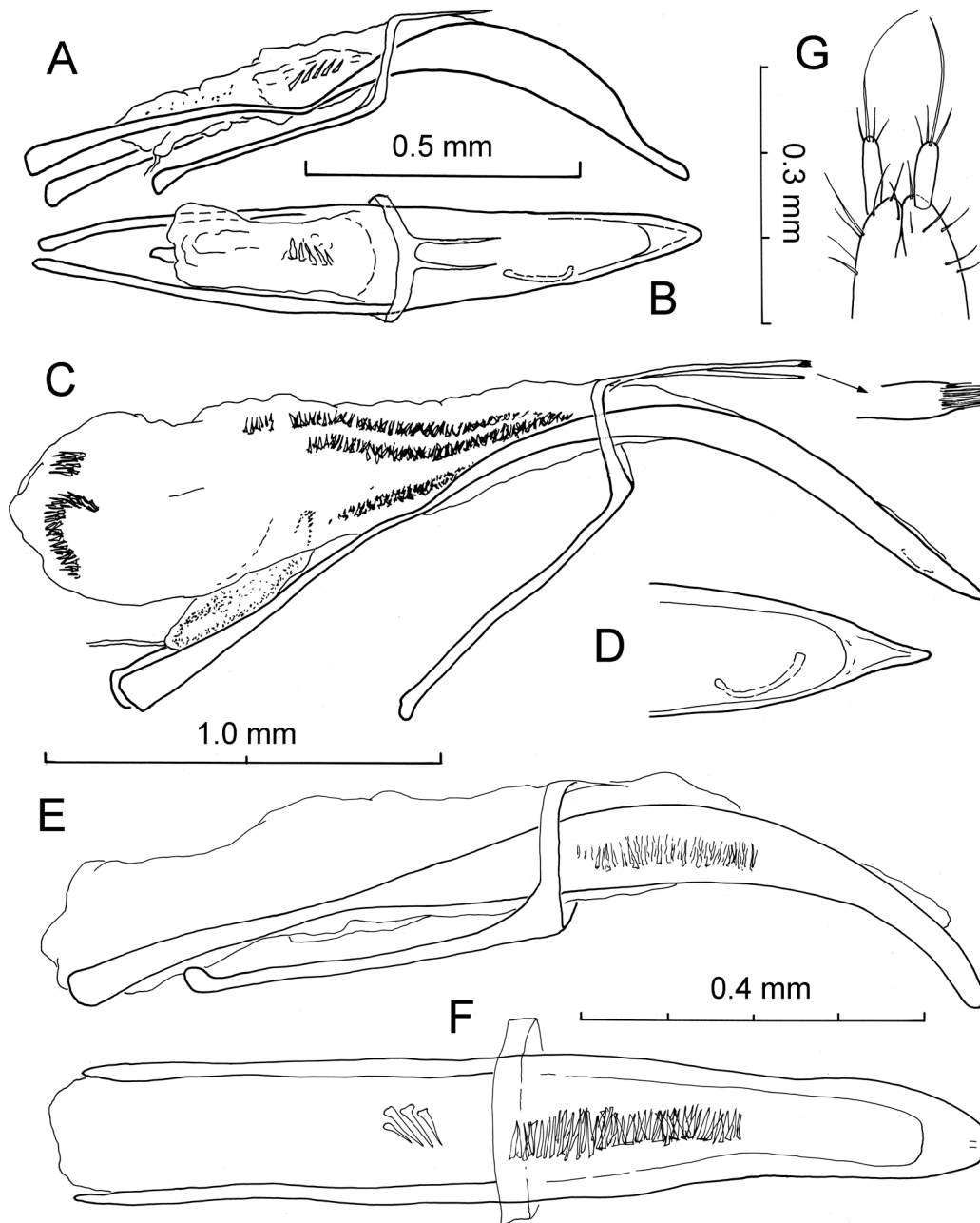


FIGURE 14. New *Laparocerus* species from La Gomera: (A–B) *L. exiguus*, aedeagus, (C–D) *L. mulagua*, aedeagus, (E–F) *L. heres*, aedeagus, (G) *L. heres*, hemisternites.

sides weakly and evenly curved, maximum width at middle; anterior margin slightly elevated, shortly incised at mid-point; submarginal depression barely visible; posterior margin rimmed. Surface shiny, covered by regular mix of decumbent, lanceolate, thin, hair-like scales, punctures large, deep, longitudinally elongate,

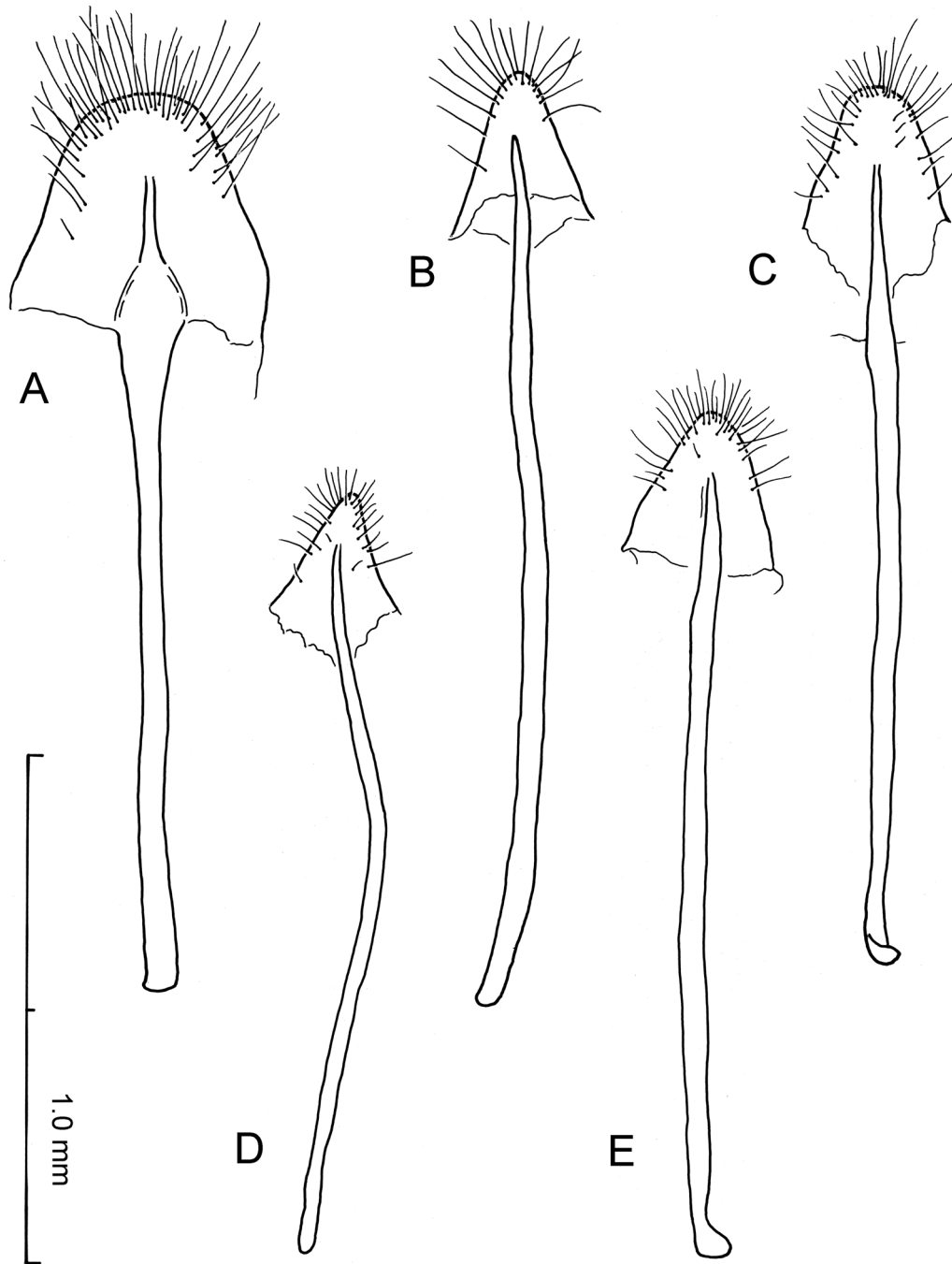


FIGURE 15. New *Laparocerus* species from La Gomera, female sternites VIII: (A) *L. depressus*, (B) *L. oculatissimus*, (C) *L. orone*, (D) *L. exiguus*, (E) *L. acutipennis*.

closely packed, very conspicuous. No median line. *Scutellum* small, acute, clothed with tuft of clear scales. *Elytra* oblong (L/W ratio 1.53), dorsal profile flat (transverse convexity of abdomen 56%); base straight, shoulders hardly prominent, humeral angle rounded; sides uniformly arcuate, maximum width at middle; 2.7× longer than pronotum. Striae impressed, subcanaliculate, punctures deep, each with a scale, separated by less than 1/2 diameter. Intervals subconvex, 3rd often slightly more convex basally, uniformly beset with rows of recurved, dark setae longer than claws, protruding from dense vestiture of decumbent, light-olive and darker lanceolate scales arranged in variegated pattern (no clear mosaic-pattern). Integument with coarse micro-asperity. *Legs* robust, tibiae straight, clavate; apex of protibia externally rounded, internally expanded into acute angle, with strong mucro; meso- and metatibia each with mucro; anterior and posterior fringing setae of

tibial face fairly long; grooming setal brush short. *Venter* shiny, with sparser cover of recumbent, hair-like scales (denser in middle of mesosternum) and large, shallow punctures all over; intermesocoxal ridge moderately developed, convex; last ventrite broadly rounded at apex. *Aedeagus* (fig. 14E–F) fairly simple, in profile straight and flat, arcuate only in apical third; *temones* very short, constriction between these and median lobe weakly marked, apex digitiform in profile, broadly rounded dorsally. Internal sac short and simple, without *frenum*; a single basal field of long denticles with a small detached group; muscular sheath beset with denticles. *Tegmen* with short *parameres*.

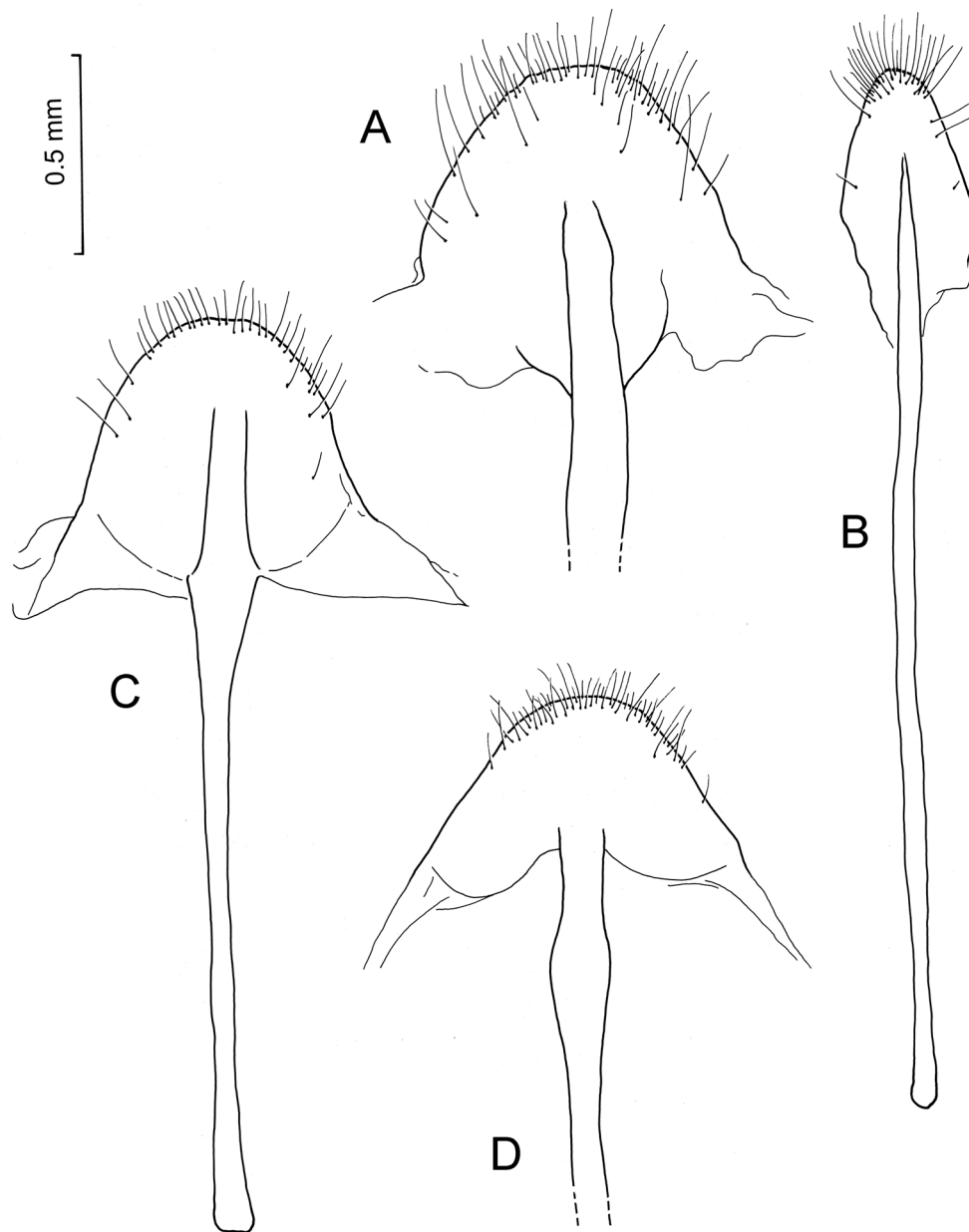


FIGURE 16. New *Laparocerus* species from La Gomera, female sternites VIII: (A) *L. inermis*, (B) *L. spinimanus*, (C) *L. aethiops garajonay*, (D) *L. hupalupa*.

Female. As male but larger and broader (length 3.5–4.5 mm). Eyes somewhat smaller; preocular genae more bulging. Elytra broader (L/W ratio 1.40), more parallel-sided; shoulders clearly prominent, rounded; intervals less convex, punctures shallower. Pro- and mesotibia each with minuscule mucro. Last ventrite apically shortly truncate. Ventrite VIII as in fig. 17B, with bell-shaped plate, spermatheca as in fig. 18L. Styli long, terminal (fig. 14G).

Etymology. The specific epithet is a noun in apposition, from the Latin *heres* (the heir) and named for the film *The Hellstrom Chronicle* (directed by Walon Green and Ed Spiegel, 1971), in which the insects are considered to become the heirs of the Earth.

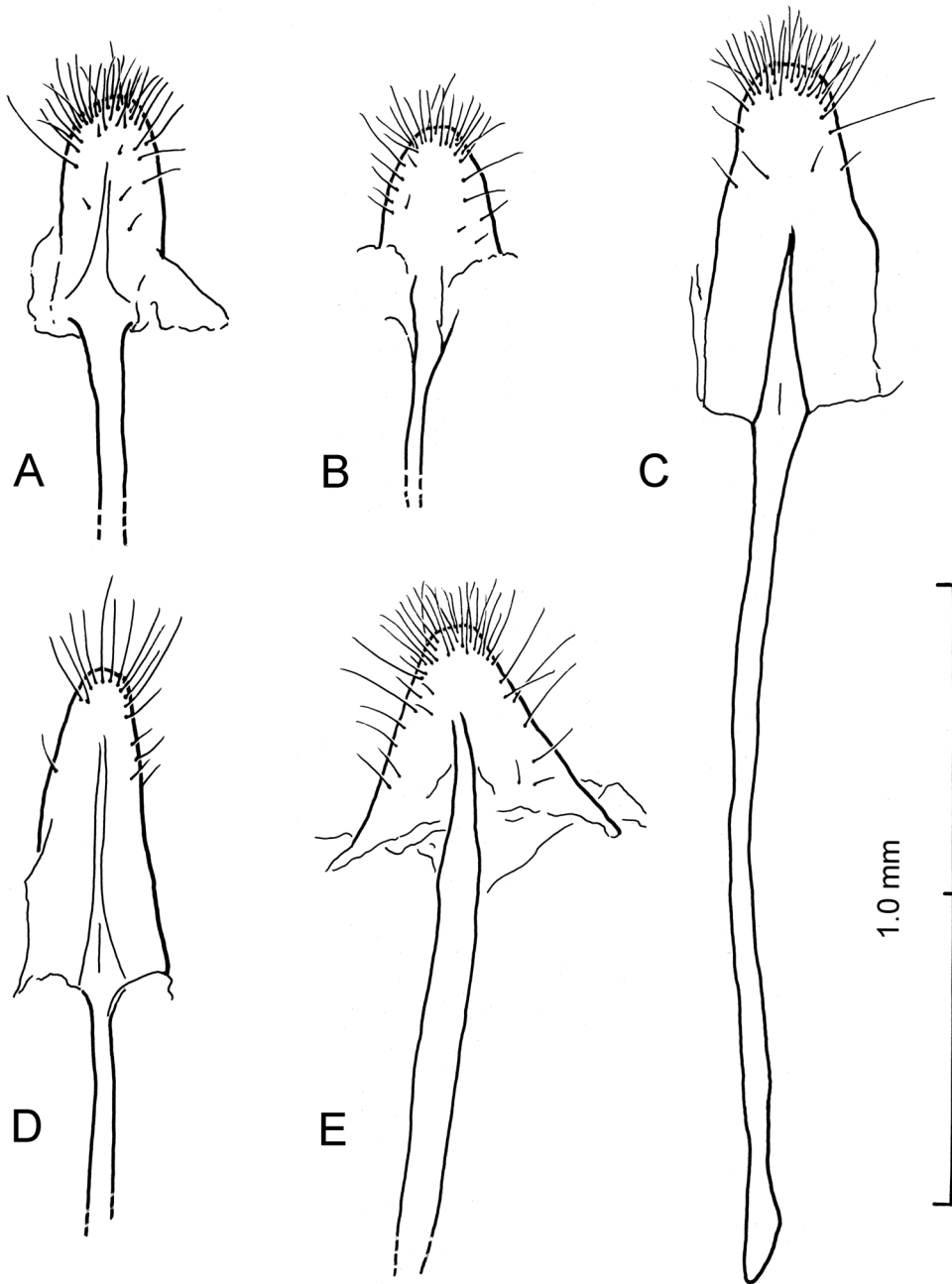


FIGURE 17. New *Laparocerus* species from La Gomera, female sternites VIII: (A) *L. roudieri*, (B) *L. heres*, (C) *L. mulagua*, (D) *L. junonius*, (E) *L. exophthalmus*.

Remarks. *Laparocerus heres* is hard to confuse with other known *Laparocerus* species due to its strongly incrassate, clavate scape and small, moruloid eyes laterally placed in a crater-like depression in the middle of the head. It may resemble at first sight also the genus *Lichenophagus* Wollaston, 1854, as presently interpreted, and its genital features also suggest such an affinity. However, the lanceolate scales are typical of *Laparocerus*, and unpublished molecular data reveal the closest relatives to be *L. exophthalmus* and *L. inflatus* Wollaston, 1865, both Gomeran species. Specimens of *L. heres* from Tenerife have a similar aedeagus as those from La Gomera, but show minor though constant external differences that seems to justified the recognition of this differentiated island population as a distinct subspecies.

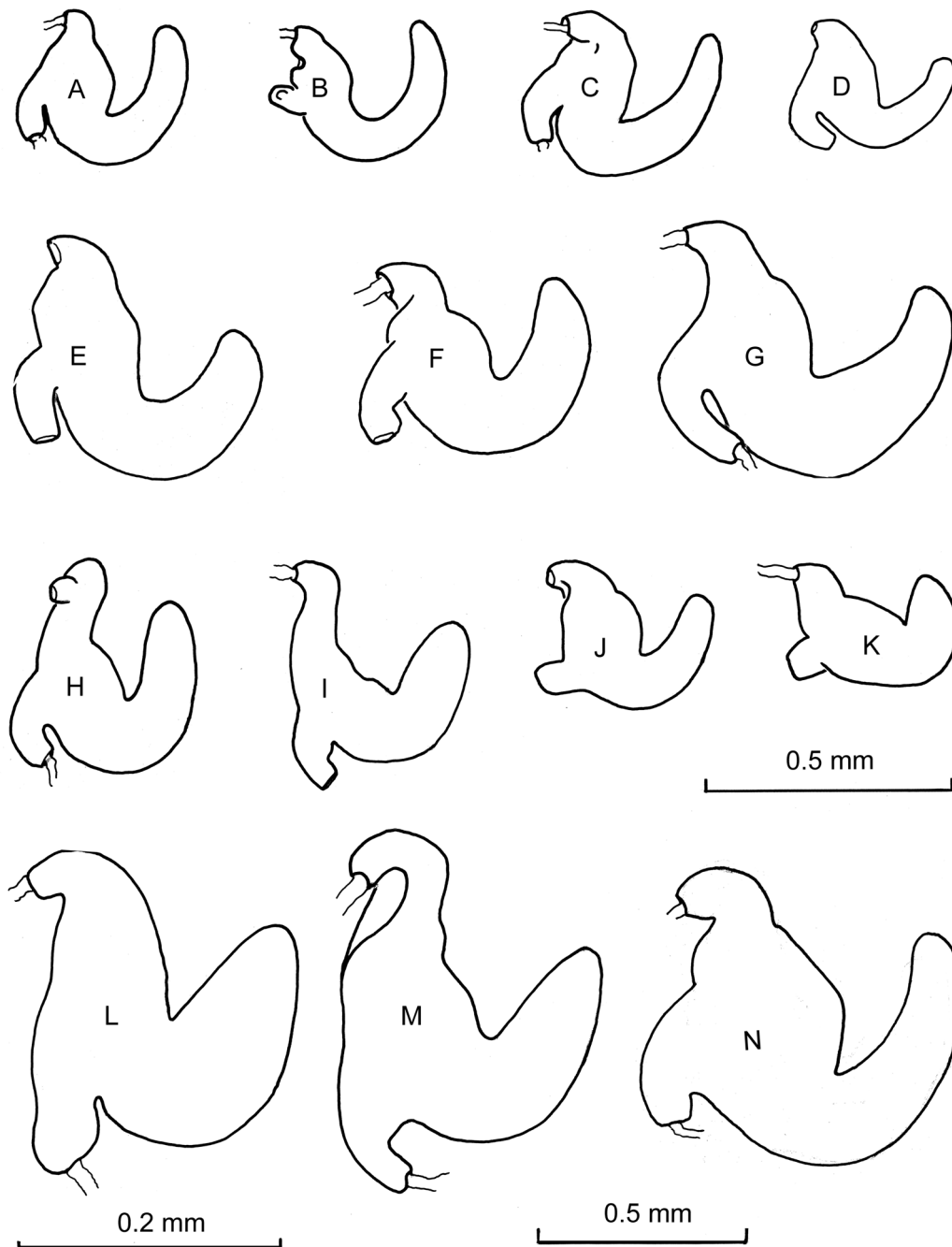


FIGURE 18. New *Laparocerus* species from La Gomera, spermathecae: (A) *L. orone*, (B) *L. acutipennis*, (C) *L. benchijigua*, (D) *L. exiguus*, (E) *L. depressus*, (F) *L. spinimanus*, (G) *L. exophthalmus*, (H) *L. junonius*, (I) *L. roudieri*, (J) *L. mulagua*, (K) *L. oculatissimus*, (L) *L. heres*, (M) *L. inermis*, (N) *L. hupalupa*

***Laparocerus heres jocoensis* n. ssp.**

Diagnosis: Length without rostrum: ♂♂ 3.3–4.0 mm, ♀♀ 3.5–4.6 mm. Structural details as in the nominal subspecies but with more rounded, less conical eyes, the frontal fovea developed as a deep sulcus along the whole metarostrum and posteriorly often surpassing the level of the eyes, the head punctuation deeper, the pre-marginal depression of the pronotum more noticeable and the elytra laterally less strongly curved, more sub-parallel towards the base. *Etymology:* The species epithet derives from the type locality, the mountain of Joco, where the insect was discovered.

Material examined. [*ssp. heres*]. **Holotype:** La Gomera: Las Hayas N, 800 m (UTM = 28R 027410 311365), 7-4-2000, leg. A. Machado, 1 ♂ (slightly teneral) (TFMC, reg. CO-15514). **Paratypes:** same data, 7-4-2000, 8 exx. (MNHN, AMC); same locality, 14-9-2003, leg. A. Machado, 56 exx. (TFMC, NHM, AMC); same locality, 9-7-2001, leg. R. García, 4 exx. (RGB). **Other specimens:** Benchijigua, 1-9-1989, leg. P. Oromí, 1 ex. (POM). [*ssp. jocoensis*]. **Holotype:** Tenerife: Montaña de Joco, 1958 m (UTM = 28R 03564 31389), 1-8-2003, leg. A. Machado, 1 ♂ (TFMC, reg. CO-15534). **Paratypes:** same data, leg. A. Machado, 74 exx. (TFMC, MNHN, MNCN, NHM, AMC); same data, leg. A. Aguiar, 63 exx. (AAC); Fuente Joco, 1958 m, 30-6-2003, leg. A. Machado, 1 ex. (AM).

Distribution and ecology. *Laparocerus heres heres* is endemic to La Gomera, where it occurs in the higher parts of the island on scrub vegetation formed by *Chamaecytisus proliferus*, *Erica arborea*, *Adenocarpus foliolosus* and *Cistus monspeliensis*. It was collected at night from these woody plants, 5 of 9 specimens taken in April being males (some teneral) but all 50 specimens collected in September being females. *Laparocerus heres jocoensis* is endemic to the island of Tenerife, where it was collected at high altitude in an open locality (earth mixed with lapilli) surrounded by Canary Pine forest. The weevils were feeding on the lower branches of *Adenocarpus viscosus*, mainly on those touching the ground, with again a preponderance of females (64 from 75 specimens). The subspecies is apparently also active in summer.

Key to the species of *Laparocerus* from La Gomera

- 1 Eyes present 2
- Eyes absent (edaphic species); body sub-cylindrical *L. oromii* Machado in press.
- 2 Eyes gently convex, more or less protruding, reaching lateral border of frons or nearly so; scape slender, not incrassate 3
- Eyes conical, small, moruloid, placed very distantly from lateral border of frons; scape incrassate
..... *L. heres heres* n. sp.
- 3 Scape clavate (progressively and smoothly swollen towards the apex); elytra always with vestiture of scales 5
- Scape capitate (apically swollen 1/4 - 1/5th of its length); elytra with or without vestiture of scales 7
- 5 First and second funicle segments subequal; male protibia smoothly emarginate, without median spine.. 6
- First funicle segment much shorter than second; male protibia sharply emarginate, with median spine
..... *L. spinimanus* n. sp.
- 6 Elytral disk convex, intervals flat, female with long recurved setae on apical third; recumbent scales hardly overlapping; male protibia emarginate in apical half *L. gracilis* Wollaston, 1864
- Elytral disk depressed (strongly so in female), intervals subconvex, with few short setae on apical third, recumbent scales clearly overlapping; male protibia emarginate at apical third *L. depressus* n. sp.
- 7 Protibia with outer apical angle produced, somewhat expanded 8
- Protibiae with outer apical angle gently rounded or obliquely truncate 13
- 8 Pronotum and elytra devoid of scales and setae 9
- Pronotum or elytra with vestiture of scales or setae 11
- 9 Pronotum with anterior premarginal constriction (collar); elytral intervals with barely discernible micro-punctures 10
- Pronotum without anterior premarginal constriction; elytral intervals with conspicuous punctures
..... *L. aethiops garajonay* n. spp.
- 10 Male metatibia at apex with short, blade-like protruding lobe; stylus of ovipositor preapical, distant from apical border of hemisternite, not protruding *L. hupalupa* n. sp.
- Male metatibia without protruding lobe at apex; stylus of ovipositor short, subapical, shortly protruding

from apical border of hemisternite	<i>L. inermis</i> n. sp.
11 Size > 5 mm; male protibia hardly emarginate; base of pronotum in female without granule	12
- Size < 5 mm; male protibia sharply emarginate; base of pronotum in female with basal median granule, more or less elevated	<i>L. puncticollis indutus</i> Wollaston, 1865
12 Eyes small and rounded; elytra with short stiff setae; protibial apex equally expanded on both sides (fan-like)	<i>L. gomerensis</i> Lindberg, 1953
- Eyes large and flattened; elytra with abundant long silky hairs; protibial apex more strongly expanded on inside	<i>L. lepidopterus</i> Wollaston, 1864
13 Elytra without tubercles, surface at most undulated	14
- Elytra with large tubercles	<i>L. mateui</i> Roudier, 1954
14 Size > 4.5 mm; funicle segments 5–7 longer than broad	15
- Size < 4.5 mm; funicle segments 5–7 globular	<i>L. exiguus</i> n. sp.
15 Frons deeply transversely depressed between eyes	16
- Frons even or slightly depressed	18
16 Elytra elongated and strongly acuminate, with setae	17
- Elytra oval-elliptical, without setae	<i>L. orone</i> n. sp.
17 Elytral setae erect, uniformly distributed in both sexes	<i>L. acutipennis</i> n. sp.
- Elytral setae smaller, curved, well developed in distal half in female, restricted to apex in males	<i>L. benchijigua</i> n. sp.
18 Body not laterally compressed; elytra with convex sides	19
- Body laterally compressed; elytra with lateral median constrictions (spectacular in some females)	<i>L. subopacus</i> Wollaston, 1865
19 Elytra with long and thin hairs	20
- Elytra with short or longer setae, or without additional vestiture	23
20 Pilosity restricted to elytra	21
- Pilosity extending onto head, pronotum and elytra	<i>L. sanchezi</i> Roudier, 1957
21 Size > 8 mm; elytra elliptic or acuminate; eyes large and flattened	22
- Size < 8 mm; elytra ovate; eyes small and convex	<i>L. mulagua</i> n. sp.
22 Elytra without shoulders; recurved hairs only in apical third of elytra	<i>L. ellipticus</i> Wollaston, 1863
- Elytra with marked shoulders; erect, long hairs over entire elytra	<i>L. inflatus</i> Wollaston, 1865
23 Head trapezoidal (eyes very protruding); pronotum densely covered with large, deep punctures; elytra uniformly and densely beset with tiny setae	24
- Head not markedly trapezoidal; pronotum with sparse, shallow punctures; elytra without setae or with long setae at least on part	25
24 Size < 5.3 mm; eye convexity 58–60%; elytral setae whitish; apex of aedeagus in profile strongly sinuous, shoe-like	<i>L. oculatissimus</i> n. sp.
- Size > 5.3 mm; eye convexity 50–56%; elytral setae brownish; apex of aedeagus in profile straight, with small dorsal protruberance	<i>L. exophthalmus</i> n. sp.
25 Size < 7 mm; elytral integument shiny or glossy, setae sparse or absent, in female without preapical tumefaction	26
- Size > 7 mm; elytral integument dull, setae dense, increasing in size towards apex; in female each with preapical tumefaction	<i>L. longiclava</i> Lindberg, 1953
26 Eyes small and rounded (convexity > 35%); elytra widest at middle or slightly behind, with or without setae	27
- Eyes large and flattened (convexity < 30%); elytra widest before middle (strongly cordiform and somewhat undulated in females), with sparse long blackish setae	<i>L. junonius</i> n. sp.
27 Elytral shoulders with short humeral carina; elytra in males elliptic with few apical setae, in females rect-	

- angular with setae all over *L. humeralis* **n. sp.**
 - Elytral shoulders rounded-off; elytra devoid of setae in both sexes *L. roudieri* **n. sp.**

Acknowledgements

The author expresses his appreciation to all his colleagues and curators who lent specimens for study or facilitated the examination of material and to Dr. Miguel Ángel Alonso-Zarazaga for fruitful discussion and comments on the manuscript. Max Barclay (NHM) and Rolf Oberprieler (CSIRO) kindly revised the linguistic aspects of the manuscript.

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