

REVISION OF THE NEOTROPICAL
ACANTHOCININI
(COLEOPTERA : CERAMBYCIDAE)

II. THE GENUS *LAGOCHEIRUS*

By LAWRENCE S. DILLON

AMONG the most primitive Western Hemisphere members of the tribe Acanthocinini is the genus *Lagocheirus*, whose components are confined chiefly to Central America and the extreme north-western portion of South America. Only one or two species are known from north of Mexico, where they occur as distinct subspecies of Mexican forms; in the West Indies, the situation is quite similar, but showing the influence of both Mexico and South America. In addition, one member of the genus is widely distributed throughout the South Pacific, its range extending as far north as the Hawaiian Islands. While this latter species is actually, of course, not "Neotropical" in any sense of the word, its close relationship to those which are found in this region dictates its inclusion here.

Primitive features of the genus include, first of all, the median position of the lateral pronotal tubercles. Others equally indicative of primitiveness are the complexity of the pronotal and elytral sculpturing, the breadth of the mesosternal and prosternal process, the loose association of the body parts, the coarseness of the body structure, the armature of the sixth antennal segment, the broad front, and the declivous vertex. To *Lagocheirus*, the genera of the *Leptostylus-Leptostylopsis* complex are most closely related, being differentiated by the lack of an appendix on the antenna, by the less prominent sculpturing of the pronotal disk, and, in the case of *Leptostylus*, by the more posteriorly-placed lateral tubercles.

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DESCRIPTIVE PHRASEOLOGY

In order to avoid needless repetition, the following terms (*italicized*) will be employed for characteristics that are found in all or most of the species :

On the pronotum are several short fuscous vittae : of these one set (*basal vittae*) is found each side of the middle at base, extending forward to about the basal third from the margin and usually angulate, and another set (*apical vittae*) is directly opposite these near the apical margin and placed more or less strongly obliquely. Additional fuscous or coloured vittae may also be present.

On the elytra may be present a varying number of the following fuscous or dark brown markings : *scutellar maculae* are often found laterally near the apex of the scutellum. At about the basal fourth extending transversely across the suture is a rather narrow *postbasal plaga*. The largest marking on these organs is the *lateral macula* which covers the better portion of the base of the sides and which before middle extends to a greater or lesser degree on to the disk. Just behind this but close to the suture may be an irregular *sutural macula*, which may be joined by a usually indistinct, undulating *postmedian fascia*. At the apical fourth the latter is paralleled by a similar (but rather more distinct) *preapical fascia*.

On the antennal segments the annulation is in terms of pale pubescence markings, although actually the only true annuli present are the dark ones toward the apices of the segments. However, not only does this practice follow that of earlier workers, it is quite a bit more convenient than its converse would be. In most species, the males bear an appendix at the apex of the sixth segment which is of some considerable constancy for any specified form, at least within certain limits. In statements as to the length of the appendix, the tuft of hairs upon it is not taken into consideration.

KEY TO GENERA RELATED TO *Lagocheirus*

1. Head with vertex strongly declivous ; antennal scape short, scarcely reaching behind middle of pronotum, not gradually clavate 2
 Head with vertex only slightly declivous ; scape elongate, extending nearly or quite to basal sulcus of pronotum, slender, gradually clavate from base to apex
Lagocheirus Erichson
2. Prosternum with a transverse cariniform process at middle *Sternocheirus* gen. n.
 Prosternum simple *Archlagocheirus* gen. n.

Lagocheirus Erichson

Lagocheirus Erichson, 1847, *Archiv. Naturg.* **13**, 1 : 144. Thomson, 1860, *Class. Ceramb.* : 6, 9 ; 1864, *Syst. Ceramb.* : 355. Lacordaire, 1872, *Gen. Col.* **9** : 759, 762. Leng & Hamilton, 1896, *Trans. Amer. Ent. Soc.* **23** : 115. Dillon, 1956, *Ann. Ent. Soc. Amer.* **69** : 136.
Lagochirus Erichson, 1873, *LeConte, Smiths. Misc. Coll.* **11** (265) : 337. Horn, 1880, *Trans. Amer. Ent. Soc.* **8** : 117. Bates, 1880, *Biol. Centr.-Amer.*, *Col.* **5** : 144. Casey, 1913, *Mem. Col.* **4** : 303.

Large or very large, robust, subdepressed beetles with head usually punctate only around eye ; front ranging from one-tenth to one-half again as broad as tall ; eye

with lower lobe subquadrate, erect or transverse. Pronotum strongly transverse, often twice as broad across lateral tubercles as long; lateral tubercles usually robust, prominent, sometimes small, rounded, always situated at middle of sides; disk punctate, with five prominent tubercles; transverse sulci shallow, the apical one placed close to margin. Scutellum subtriangular, truncate or rounded at apex. Elytra with basal gibbosity quite evident; disk distinctly punctate, usually granulate at base, costae not prominent, as a rule bearing numerous tufted tubercles especially basally and apically, one or two basal ones on gibbosity much larger than the rest; apices broadly truncate, the angles sometimes subdentate; humeri prominent. Prosternal process two-fifths or one-half as broad as a procoxal cavity, longitudinally concave, simple; mesosternal process ranging from four-fifths as broad to slightly broader than a mesocoxal cavity, sometimes bituberculate anteriorly; fifth sternite as long as or slightly longer than fourth in male, distinctly longer in female. Legs successively longer posteriorly; femora robust, clavate apically, pedunculate basally; tarsi with first segment slightly shorter than next two together, mesotarsi with first segment a little longer than the second and third combined; in male protarsi strongly expanded and fringed and protibiae densely fringed apically as well. Antennae ranging from one and two-thirds to more than twice as long as body, slender, fringed beneath only on first two segments and sometimes at extreme apex of third; scape slightly elongate, extending a little beyond middle of pronotum, slender, gradually clavate apically; third segment about one-sixth longer than first; fourth subequal to (or feebly longer than) first, rest gradually shorter, the sixth usually bearing an appendix at apex in the male.

Type species: *Lagocheirus plantaris* Erichson, by monotypy.

KEY TO NEOTROPICAL SPECIES

1. Body beneath glabrous medially, the integument black or piceous, especially on abdomen; mesosternal process strongly declivous anteriorly, its lateral beading rugose (rogersi group) 9
 Body beneath pubescent medially as well as laterally, the integument dark ferruginous; mesosternal process less strongly declivous anteriorly, its lateral beading not at all rugose (araneiformis group) 2
2. Antennal fourth segment biannulate with ashy (undatus complex) 3
 Antennal fourth segment either entirely ashy or broadly singly annulate with that colour (araneiformis complex) 8
3. Eye with upper lobe distinctly wider than interocular space 4
 Eye with upper lobe at most subequal to interocular space in width 5
4. Elytral apices strongly emarginate, the outer angle dentate; elytra behind base with a dense white plaga *wenzeli*
 Elytral apices at most feebly emarginate, usually subtruncate, the outer angle not at all dentate, disk without white plaga *dezayasi*
5. Elytra covered with erect flying hairs; Pacific Islands *zimmermani*
 Elytra without erect flying hairs 6
6. Pronotum with punctures outlined with white, basal vittae long and distinct; scutellum with a distinct vitta each side *undatus*
 Pronotal punctures not white outlined, basal vittae short, not extending far before basal sulcus; scutellum without vittae 7

7. Pronotum and elytra basally irregularly maculate with bright fulvous; elytra with a patch of snowy-white pubescence medially; antennal sixth segment in male without an appendix *simplicicornis*
 Pronotum and elytra dull lead grey pubescent, without fulvous maculae or white areas; antennal sixth segment of male appendiculated *procerus*
8. Elytra with a broad, white, common fascia behind middle; pronotum as coarsely punctate on disk as at apex and base; head and pronotum strongly maculate with fulvous *foveolatus*
 Elytra without a white, common fascia; head and pronotum rarely maculate with fulvous, the colour usually dull and not extensive when present; pronotal disk much more finely punctate than at apex or base *araneiformis*
9. Mesosternal process anteriorly with a pronounced tubercle each side 10
 Mesosternal process not tuberculate 11
10. Elytral surface nearly black, costae vittate with bright fulvous or ochraceous; abdominal vitta broken into maculae on each sternite *rosaceus*
 Elytral surface bright ferruginous, costae not vittate; abdominal vitta interrupted only at base of first sternite *praecellens*
11. Tarsi with integument distinctly paler than that of tibia, usually having a golden appearance 12
 Tarsi with integument as dark as or darker than that of tibia, never appearing golden 13
12. Scutellum entirely blackish; pronotal lateral tubercles more or less rounded, low, usually at least twice as broad as high; elytral lateral macula sharply defined *plantaris*
 Scutellum blackish medially, margins narrowly paler; pronotal lateral tubercles conical, nearly as high as broad; elytral lateral macula indistinct *tuberculatus*
13. Tarsi fuscous pubescent, only the first segment ashy-annulate; elytra with basal gibbosity strongly tumid, subhemispherical; body beneath with lateral pale vitta broad, continuous from back of metasternum to apex of fourth abdominal sternite, except for an interruption on base of first sternite *cristulatus*
 Tarsi with at least the first two segments entirely ashy pubescent; elytral basal gibbosity not very prominent, usually only feebly elevated; body beneath with lateral pale vitta broken into a transverse macula on each sternite 14
14. Scutellum broadly vittate with fuscous each side; elytra with lateral macula very irregular in outline, often incised posteriorly, basal granules near suture extending to or behind middle *rogersi*
 Scutellum entirely fuscous except for basal angles and narrow pale margins; elytra with lateral macula smooth in outline, rarely shallowly incised posteriorly, basal granules not extending to middle *integer*

ARANEIFORMIS GROUP

In this group, the integument of the body beneath is reddish-brown, not glabrous medially, and the prosternal and mesosternal processes are not rugose on the lateral beading. The antennae are somewhat more elongate, with at least the sixth segment attaining elytral apex in the male, and the seventh in the female.

THE UNDATUS COMPLEX

In this group of species, the tarsi are fuscous with at least the first two segments ashy pubescent. The antennae are biannulate on the fourth segment and frequently on the third to fifth or sixth as well.

Lagocheirus undatus undatus (Voet)

Cerambyx undatus Voet, 1778, *Cat. Col.* 2 : 11, pl. 9, fig. 34 ; 1794, ed. Panzer, 3 : 27, pl. 9, fig. 24.

Lagocheirus obsoletus Thomson, 1860, *Class Ceramb.* : 10. [Syn. n.]

Lagochirus obsoletus Thomson. Bates, 1880, *Biol Centr.-Amer.*, Col. 5 : 145, 383.

Lagochirus longipennis Bates, idem.

MALE. Dark reddish-brown, densely covered dull ashy brown or fulvous pubescence. Head on vertex with two small interocular fuscous maculae. Pronotum with apical vittae slender, sometimes sinuous, set at an angle of 45° to the median line ; basal vittae twice as broad, somewhat narrowed anteriorly, broadly angulate ; a short median basal vitta or macula also present as a rule, lateral basal markings indistinct ; punctures and the vittae margined with whitish. Scutellum with two fuscous vittae, sometimes poorly defined, extending to base from sides near apex ; basal angles whitish. Elytra nearly uniformly dull brownish or ochraceous pubescent, punctures, especially on apical half, narrowly outlined with whitish, postbasal impression frequently tinged with ashy or sometimes nearly entirely pale ashy ; postbasal plaga indistinct or wanting ; circumscutellar maculae and postmedian fascia lacking, and preapical fascia reduced and indistinct ; lateral macula usually fairly prominent, dark brown, as a rule accentuated with fuscous along its anterior margin and on disk, posteriorly sinuous or irregular, usually followed by some whitish pubescence ; sutural macula sublinear, feebly oblique, often reduced ; costae often brighter fulvous pubescent. Body beneath and legs densely dull whitish pubescent, faintly mottled with brown ; sternum tinged on sides with brown or fulvous ; tibiae bimaculate (metatibiae trimaculate) with dark brown on outer edge. Antennae with first segment, and often most of third, ashy and brown pubescent, scape indistinctly fuscous annulate apically ; rest fuscous pubescent, fourth to sixth (or rarely seventh) biannulate with ashy, as is the third occasionally ; seventh to eleventh with a single ashy annulus which (from above) is no broader than apical fuscous portion.

Head scarcely impressed between eyes ; front finely, rather densely, quite evidently punctate, broadly convex, one-third wider than high, near eye with several coarse setigerous punctures ; eye with lower lobe one-third again as tall as gena, distinctly higher than wide. Pronotum with disk transversely tumid, the five tubercles equally elevated, finely punctate except on tubercles, the apical and basal rows distinctly coarser. Elytra finely, usually densely granulate-punctate from extreme base to basal third, thence punctures simple, fine, and less dense to apex ; apices truncate or emarginate, the angles scarcely prominent ; discal carina entire or confined to apical half, bearing 10-12 very low tufts ; rest of surface very rarely provided with long, flying hairs (in only two cases, both from Jalapa) ; basal gibbosity scarcely evident, provided with a single large tubercle at base. Antennae with sixth segment attaining (or slightly surpassing) elytral apex ; scape attaining basal third of pronotum ; third segment one-fourth again as long as first ; fourth one-fifth shorter than third ; rest strongly diminishing in length, sixth segment with appendix slender, elongate, at least equal in length to width of segment, subparallel-sided, often expanded apically. Protibiae densely fuscous-fringed.

FEMALE. Pronotal disk scarcely tumid, the tubercles of disk more sharply elevated. Antennae with seventh segment attaining elytral apex. Protibiae and protarsi not fringed.

Length 15–21 mm.; width 6–8.7 mm.

Type localities: “Indiis Orientalibus” [*undatus*]; Mexico [*obsoletus*]; R. Sarston, British Honduras [*longipennis*].

DISTRIBUTION. From North Central Mexico to Nicaragua.

Mexico: 1, no further data [CAS]. 1, Los Mochis, Sinaloa, July 7 [CAS]. 3, Venedio, Sin., July–Aug. [CAS; USNM]. 2, Tamazunchale, S.L.P. [CMNH]. 1, Ocotlan, Jalisco, Aug. [CAS]. 3, Colonia, Guerrero, Nov. 16 [CAS]. 1, Chilpancingo, Guerrero [BM]. 3, Cuernavaca, Morelos, Oct. [CAS]. 1, Tepotzlán, Morelos [CMNH]. 1, Colima, Nov. 24 [AMNH]. 1, Tehuacan, Puebla, July 6 [CMNH]. 2, Jalapa, Vera Cruz [BM]. 1, Oaxaco, July 24, 5,000 ft. [CAS]. 1, Almalonga [BM].

Guatemala: 1, El Naranjo, Chic., July 12, on *Cinchona* [USNM]. 1, San Geronimo [BM].

Honduras: 1, Zamorana, Morazán, 2,600 ft. on papaya, July 16 [USNM].

Nicaragua: 1, Chontales [BM].

***Lagocheirus undatus mariorum* Dillon, ssp. n.**

FEMALE. Differing from the type form only as follows: Pubescence of body above and below longer and coarser, causing a shaggy appearance. Eyes with upper lobes distinctly wider than interocular space. Pronotum with lateral tubercle more obtuse, rounded at apex and without a process; discal tubercle less prominent; basal vittae of nearly uniform width throughout. Scutellum with black vittae attaining apex, not attaining base. Elytra with tufts more numerous and longer; apices distinctly obliquely truncate. Prosternal process less than half as broad as procoxal cavity, while in the typical form it is more than half. Body beneath with mottling somewhat more pronounced, especially medially. Antennae with only the fourth and fifth segments biannulate.

Length 12.5–14 mm.; width 5–5.2 mm.

Holotype: Female; Maria Madre Island, Tres Marios Islands, Mexico, May 21, 1923 (H. H. Keifer) [CAS].

Paratype: Female; same data as holotype [CAS].

***Lagocheirus dezayasi* Dillon, sp. n.**

Lagocheirus obsoletus Thomson. Gahan, 1895, *Trans. Ent. Soc. Lond.*: 130 [misdet.].

MALE. Resembles *obsoletus* very closely, differing only in the following details. Pronotum with apical vittae obsolete or wanting; punctures not outlined with white. Scutellum without distinct vittae but broadly and vaguely tinged with dark brown on each side. Elytral pubescence largely pale ashy, so that the whitish margin of the apical punctures scarcely contrasts with it; postbasal plaga usually wanting; lateral macula often so pale as to be hardly evident. Body beneath

strongly mottled with dark brown, sometimes the latter colour predominating over the pale ashy.

Eye with upper lobe one-fourth to one-half again as broad as interocular space. Pronotal disk with punctures sparser, usually wanting between the several basal tubercles. Elytral apices never emarginate, the angles not at all prominent. Antennal sixth segment with appendix usually shorter than width of segment, rarely slightly exceeding it.

FEMALE. Differs in much the same manner as does the male.

Length 13–18 mm. ; width 6–7.5 mm.

Holotype: Male; environs of Havana, Cuba, on Cassava, *Manihot esculenta*, (F. de Zayas) [author's collection].

Allotype: Female; Cayamas, Cuba, May 1922 [ANSP].

Paratypes: 4, Cuba [BM]. 1, Havana (T. Cockerell) [AMNH].

Lagocheirus zimmermani zimmermani Dillon

Lagocheirus zimmermani Dillon, 1952, *Ent. News*, 63 : 207.

MALE. Identical to *obsoletus obsoletus* except as follows: Pubescence of body above in general distinctly brown or fulvous, not ashy; across basal half of pronotum and on entire elytron with numerous, long, erect, pale brown hairs. Pronotal disk less strongly tumid, the discal tubercles more distinctly elevated; disk with punctures quite numerous between the basal tubercles. Scutellar vittae poorly defined. Elytra with two or three strongly pronounced carinae at base; the apical carinae likewise more prominent; basal tubercle much larger; tufts longer and more densely situated. Antennae with scape not fuscous annulate at apex; third segment never distinctly biannulate; fourth and fifth distinctly, sixth usually not at all but rarely indistinctly, biannulate; sixth segment with appendix usually quite small, never much longer than width of segment, slender.

FEMALE. Differing from females of *O. obsoletus* in much the same fashion as do the corresponding males.

Length 11–14 mm. ; width 5–6.2 mm.

Type locality: Honolulu, Oahu, Hawaiian Islands.

DISTRIBUTION. The Hawaiian and Society Islands.

Hawaii: 2, no further data [BM]. 8, Honolulu [CAS]. 1, Kahaluu, Oahu, July 7 [CAS]. 2, Napoopoo [ANSP].

Tahiti: 1, Fontana Valley, 2,500 ft., Mar. 13 [BM].

Moorea: 1, no further data [BM].

REMARKS. The two Society Island specimens above are slightly paler in colour than typical examples.

Lagocheirus zimmermani aukena Dillon, ssp. n.

MALE. From the typical form, this is distinguished by the apical vittae of the pronotum being absent or obsolete and by the presence on the middle portion of the

elytron of a considerable amount of whitish pubescence. The lateral macula of the elytra also is paler.

Length 18 mm. ; width 7.6 mm.

Holotype: Male; Aukena Is., Mangareva Islands, June 26, 1934, on breadfruit [BM].

Lagocheirus wenzeli Dillon, sp. n.

MALE. In general similar to *obsoletus*, differing chiefly as follows: Pronotum, scutellum, and elytra on basal fifth chocolate-brown pubescent. Pronotum with three fine, short vittae (one at centre and one above lateral tubercle), and a number of small, irregular, scattered maculae of ochraceous; apical vittae anteriorly recurved toward sides, narrower posteriorly; basal vittae rather broad, straight, only attaining base of discal tubercles. Scutellum without fuscous markings. Elytra with postbasal plaga vague, followed nearly to middle by a transverse area of dense white tomentum, which is tinted here and there with ochraceous; the white also outlining the lateral macula and forming rounded maculae over entire apical half of elytron; sutural macula indistinct; the usual tufts are replaced by small, irregular, fuscous maculae, some of which also are arranged transversely in the customary position of the preapical fascia. All three pairs of tibiae with a broad whitish annulus before middle. Antennae with only third and fourth segment biannulate.

Head with front nearly planate, one-fourth again as wide as high; eye with lower lobe quadrate, about one-third again as tall as gena, upper lobe nearly one-half again as wide as interocular space. Pronotum with median discal tubercle quite small, scarcely a fifth as large as the others. Elytra with basal gibbosity and all carinae feebly elevated; basal tubercle quite large, prominent; apices broadly, transversely emarginate, the outer angle briefly dentate. Prosternal process three-eighths as broad as a procoxal cavity, deeply sulcate, especially anteriorly. Antennae with fifth segment attaining elytral apex; third segment nearly half again as long as first; fourth feebly shorter than third; rest gradually diminishing in length; sixth segment with appendix much longer than width of segment, tapering apically.

Length 25 mm. ; width 10 mm.

Holotype: Male; near Compostela, Nayarit, Mexico, June 29, 1933 [CMNH].

REMARKS. It is a pleasure to name this species for Rupert Wenzel, of the Chicago Museum of Natural History, from whom the author has received many favours.

The species is distinguished by the narrowly separated eye, the dentate elytral apex, the quadrate lower ocular lobe, as well as by the maculation of the pronotum and elytra. Particularly, the presence of fuscous maculae in place of tufts on the elytral carinae is diagnostic.

Lagocheirus procerus (Casey)

Lagocheirus procerus Casey, 1913, *Mem. Col.* 4: 304.

Lagocheirus procerus Casey. Dillon, 1956, *Ann. Ent. Soc. Amer.* 40: 140, fig. 3.

MALE. Much larger than *obsoletus* but in general quite similar to that species. From it, *procerus* is distinct in having the pubescence of the body above largely

whitish, tinged irregularly with brown. Pronotum with punctures not outlined with whitish, apical vittae fine, rather short, set at an angle of about 60° ; basal vittae fine, short, extending just to base of discal tubercles; median and lateral vittae wanting. Scutellum without vittae or other markings. Elytra with post-basal plaga indistinct, broadly interrupted at suture, its segments arcuate; sutural macula sometimes evident, narrow, arcuate; postmedian fascia always absent; preapical fascia pronounced, narrow, strongly angulate; area behind this fascia usually darker brown pubescent; punctures only occasionally outlined with whitish. Body beneath whitish pubescent, only moderately mottled with brown laterally. Legs rather heavily mottled with dark brown. Antennae with only fourth and fifth segments biannulated.

Head on vertex between eyes distinctly impressed; eye with lower lobe slightly transverse, scarcely exceeding gena in height, upper lobe not quite so wide as interocular space. Pronotum much more strongly transverse; disk not so tumid, the discal tubercles much more prominent. Elytra with carinae scarcely evident, tufts short, widely spaced; basal gibbosity rather prominent, basal tubercle fairly large. Prosternal process deeply sulcate, not more than two-fifths so broad as a procoxal cavity; mesosternal process more strongly angulated on sides at apex. Antennae with fifth segment attaining elytral apex; third segment one-half again as long as first; fourth equal to third; fifth slightly shorter than fourth; sixth equal to scape, appendix very short, tuberculiform.

FEMALE. Antennae with sixth segment attaining elytral apex.

Length 19–28 mm.; width 7.5–11.5 mm.

Type locality: "Probably from Lower California".

DISTRIBUTION. Southern and Lower California.

Lower California: 18, Santa Rosa [CAS]. 8, 3 mi. north of San Pedro, July 6, 1938 (Michelbacher & Ross) [CAS]. 1, 20 mi. north of Comondu, July 23, 1938 (Michelbacher & Ross) [CAS]. 2, Todos Santos, October 18, 1941 (Ross & Bohart) [CAS]. 1, Coyote Cove, Conception Bay, July 24 [CAS].

Lagocheirus simplicicornis Bates

Lagocheirus simplicicornis Bates, 1872, *Trans. Ent. Soc. Lond.*: 210.

Lagochirus simplicicornis Bates. Bates, 1880, *Biol. Centr.-Amer.*, Col. 5: 146, pl. 11, fig. 14.

MALE. Morphologically most closely related to *procerus*, but in coloration similar to *obsoletus*, from which it differs as follows: Head on vertex and around eyes, and pronotum on lateral and discal tubercles touched with silky ochraceous pubescence. Pronotum with apical vittae indistinct, short, fine; basal vittae fine, not extending on to basal tubercles. Scutellum without vittae. Elytra with carinae ochraceous, the entire middle portion of disk snowy-white; postbasal plaga indistinct, straight, preapical fascia somewhat pronounced, the apical portion of disk brownish; tufts low, few in number. Body beneath ashy-white, pubescent, unmottled, laterally broadly tinged with ochraceous. Antennae with segments 3–6 biannulate, rest very broadly singly annulate with ashy.

Head with front rugosely punctate, deeply transversely impressed just above epistoma; eye with lower lobe slightly transverse, scarcely taller than gena, upper lobe distinctly narrower than interocular space. Elytra with carinae strongly prominent on apical half; basal tubercle large, followed by a strong carina, the other basal carinae weak; apices broadly, arcuately truncate. Prosternal process half as wide as a procoxal cavity, deeply sulcate. Antennae with fifth segment attaining elytral apex; third segment one-third longer than the very elongate scape; fourth subequal to third; fifth and following gradually shorter; sixth without a trace of an appendix.

Length 19 mm.; width 8 mm.

Type locality: Chontales, Nicaragua.

DISTRIBUTION. The middle portion of Central America.

Costa Rica: 1, Candelaria Valley, 500–700 m., Dec. 28, 1923, on *Bursera* (F. Nevermann) [USNM].

REMARKS. From *procerus*, to which it is very closely related, this species is distinct in having the front rugosely punctate, in the ochraceous-tinted pronotum, the arcuately truncate elytral apices, the prominent elytral carinae, and in the unarmed sixth antennal segment.

THE ARANEIFORMIS COMPLEX

In this complex the third to sixth antennal segments are either unicolorous or broadly singly annulate with ashy. On the elytra the postmedian and preapical fasciae are usually quite distinct.

Lagocheirus araneiformis stroheckeri Dillon

Lagocheirus stroheckeri Dillon, 1956, *Ann. Ent. Soc. Amer.* 69: 138, fig. 2.

MALE. Dark reddish-brown to piceous, densely covered with greyish-brown or fulvous brown pubescence. Head, body beneath, legs, and antennal scape finely mottled with dark brown. Head above and especially on front clouded with brown; on vertex between eyes with a pair of small, velvety black maculae, which are often more or less coalescent. Pronotum on disk sometimes broadly clouded with brownish; apical vittae in the form of a single arc, usually twice interrupted anteriorly, basal vittae strongly angulate, broad basally, narrowed anteriorly where they are prolonged over apex of discal tubercles; discal punctures very narrowly annulate with white. Scutellum each side basally with a large, rounded, black macula, the two together occupying most of basal half. Elytra broadly clouded with brown across base; scutellar maculae distinct, outlining most of sides of scutellum, and often apex as well; on base a vague fuscous area continuing the basal vittae of pronotum; postbasal plaga rather distinct; lateral macula prolonged a little more strongly on to disk than in *undatus*, nearly uniformly dark brown throughout, on side of disk behind humerus preceded by a whitish dot, posteriorly the discal angle not sharply pronounced, rather broadly outlined behind by whitish pubescence which is not arranged in a definite form; sutural macula elongate, slightly oblique, much more evident than the short postmedian fascia; preapical fascia visible

but not prominent, broad suturally, strongly narrowed laterally, the undulations rounded; behind scutellum along suture a whitish vitta extending to basal sixth; costae with rows of very unequal-sized black tufts, that of suture continuous nearly to apex, the others broadly interrupted. Antennae uniformly ashy-brown pubescent or indistinctly annulate.

Head finely sparsely punctate; front about one-third again as wide as high; eye with lower lobe subquadrate, nearly one-half again as tall as gena. Pronotum twice as wide across lateral tubercles as long; lateral tubercles broad, conical, acute, armed with a short tooth at apex; disk not tumid, tubercles prominent, subequal, before each lateral tubercle a small cariniform fold or tubercle, punctation sparse and rather coarse. Elytra rather sparsely and moderately coarsely punctate to behind basal fifth, the punctures thence simple and gradually finer to apical third, apically punctures very shallow and sparse, nearly entirely disappearing before apex; basal gibbosity broad, scarcely prominent, the basal tubercle rather pronounced, as are the basal carinae; apices broadly, squarely truncate, marginal angle prominent. Antennae two-thirds again as long as body; scape attaining apical fourth of pronotum; third segment one-sixth to one-fifth again as long as first; fourth subequal to first; rest gradually shorter; sixth segment with a rounded appendix at apex which is not so long as the thickness of segment.

FEMALE. Differs from the male only in the shorter antennae, which are nearly one-half again as long as body, in the sixth antennal segment lacking a process, as well as in the simple protarsi.

Length 13–24 mm.; width 6–10 mm.

Type locality: Miami, Florida.

DISTRIBUTION. Southern Florida and Cuba.

Cuba: 4, no further data [BM; CMNH]. 4, Havana (F. de Zayas) [author's coll.]. 2, Holquin [BM].

REMARKS. This subspecies is especially characterized by the sparse, relatively coarse punctation of the base of the elytra, and by the extent of the black maculation on the scutellum. Other characters usually present are the postscutellar pale vitta along the suture (often reduced in Cuban examples), the scutellar maculae of the elytra nearly encircling the scutellum, the broad white outline of the postmedian macula, and the obtusely angulated, strongly narrowed preapical elytral fascia.

The close relationship of the Cuban and Florida populations is another indication that the tropical elements now present in southern Florida possibly were absent during the Wisconsin Ice Age (see Dillon, *Science*, **123**, 1956, pp. 167–176).

Lagocheirus araneiformis araneiformis (Linné)

Cerambyx araneiformis Linné, 1767, *Syst. Nat.*, ed. 12: 625.

FEMALE. In this form, the punctation of the elytra is much finer and denser and that of the pronotum finer, than in *stroheckeri*. On the scutellum, the black maculation is confined broadly to the basal angles. On the elytra the scutellar maculae are greatly reduced and are to be found only adjacent to the apical angles of the scutellum; postscutellar whitish vitta absent (as it is in all the following subspecies);

lateral macula very finely and briefly margined with white posteriorly ; postmedian fascia obsolete ; preapical fascia indistinct, obtusely angulated, uniformly narrow throughout ; black tufts very fine, scarcely larger than the punctures. Antennae with segments rather distinctly uniannulate ; forth segment sometimes biannulate.

Length 17.3 mm. ; width 8 mm.

Type locality : Jamaica.

DISTRIBUTION. Jamaica and Hispaniola.

Jamaica : 2, no further data [BM ; ANSP].

Dominican Republic : 1, Higueral, Feb. 1914 [ANSP]. 1, San Francisco Mts., Sept. 15 [ANSP].

REMARKS. The Hispaniola examples approach the Cuban and Puerto Rican populations in having the elytral punctation notably coarser than topotypic specimens.

Lagocheirus araneiformis guadeloupensis Dillon, ssp. n.

MALE. Scutellum nearly as in *stroheckeri*, the basal maculae not quite so extensive. Elytra finely punctate as in the nominotype, which it also resembles in the fine black tufting ; scutellar maculae nearly as extensive as in *stroheckeri* ; disk broadly pale (almost white) pubescent from behind base to apical third ; lateral maculae outlined rather broadly behind with a fairly wide, zigzag, white line ; postmedian fascia indistinct ; preapical fascia very broad, acutely angulate at suture, lateral angulation produced forward nearly as far as sutural. Antennae very broadly uniannulate ; sixth segment with process quite long for the species, being nearly equal to the width of the segment.

Length 17-18 mm. ; width 8-8.2 mm.

Holotype : Male ; Gourbeyre, Guadeloupe [AMNH].

Allotype : Female, Guadeloupe [BM].

Paratypes : 1, Puerto Rico [CAS]. 1, Mayaguez, P. R., May (E. G. Linsley) [CAS]. 2, San Germain, P. R. [CAS].

REMARKS. The Puerto Rican examples are somewhat transitional toward the nominotype, especially in the maculation on and around the scutellum. The pale pubescence of the elytra is also not so pronounced and the preapical fascia is much narrower.

Lagocheirus araneiformis insulorum Dillon, ssp. n.

MALE. As might be expected from the many isolated populations here grouped under one name, this subspecies is poorly defined and rather heterogeneous. Pronotum with apical vittae set at about a 45° angle with the median line, nearly straight, usually not conjoined in a continuous arc. Scutellum typically entirely clouded with fuscous, sometimes with basal angles more or less broadly maculate with black. Elytra with scutellar maculae usually indistinct or wanting, sometimes as in the nominotype ; lateral maculae broadly margined behind with whitish pubescent, which only occasionally produces a zigzag line ; disk largely with brown pubescence, mixed with whitish in the postbasal impression ; postmedian fascia indistinct ; preapical fascia rather narrow, a little wider near suture, the lateral

undulation produced further cephalad than the sutural, which is vague anteriorly. Antennae with segments moderately narrowly, very prominently uniannulate, sixth segment with appendix broad, slightly shorter than width of segment.

Length 15–28 mm.; width 6–11.5 mm.

Holotype: Male; St. Vincent Is. (H. H. Smith) [BM].

Allotype: Female; Leeward side, St. Vincent Is. (H. H. Smith) [BM].

Paratypes: 1, Dominica [BM]. 2, Martinique [BM]. 2, St Vincent [BM]. 1, Bequia Is. Grenadines [BM]. 1, Mustique Isl., Grenadines [BM]. 1, Costries, St. Lucia [BM]. 3, Grenada [BM]. 3, Balthagar, Grenada [BM]. 1, Mount Gay Est., Leeward side, Grenada [BM].

Lagocheirus araneiformis fulvescens Dillon, ssp. n.

MALE. The two mainland subspecies differ from the insular and Florida forms markedly in having the postmedian dark fascia well developed, whereas the latter usually have this band lacking or obsolete. In the present form, the pronotum as well as the elytra are covered in large part with fulvous pubescence. Scutellum with basal black markings narrow, sublinear, continuing the scutellar maculae of the elytra to form a sort of vitta. Elytra basally rather coarsely and quite sparsely punctate; apical tufts large, nearly continuous forwards to base.

Length 15–20 mm.; width 6.5–11.5 mm.

Holotype: Male; British Guiana, Jan. 18, 1912 (A. F. Porter) [CMNH].

Allotype: Female; Duserre, French Guiana (G. Moberg) [USNM].

Paratypes: 3, Trinidad [BM]. 1, North Hills, Trinidad, Nov., 1916 [CMNH]. 1, Scarborough, Tobago, May 18, 1914 [BM]. 1, Para, Brazil [ANSP]. 1, Limao, Rio Surumu, Brazil, Sept. 1927 [AMNH]. 1, Demerara, British Guiana [CMNH]. 2, British Guiana [BM]. 1, Mt. Duida, Venezuela [AMNH]. 1, Llanos de Cruz Rubiera Guarico, Venez. [USNM]. 1, Selva de San Camilo [USNM]. 2, Caracas, Venez. [ANSP]. 1, Amaya Cispata Bay, Colombia, June 3 [CAS]. 2, Colombia [CAS; USNM]. 1, Villa Vieja, Colombia, Apr. 11 [CAS]. 2, San Bernardo de Viento, Colombia, Nov. 20 [CAS]. 2, Coyaima, Colima, Col. [CAS]. 1, Sabanilla, Col. [USNM]. 8, Lake Sapatoza, Chiriguana, Col. [BM]. 1, Magdalena Valley, Col. [BM]. 1, Rio Opon, Col. [AMNH]. 1, Aracataca, Col. Aug. 11 [ANSP]. 1, Minca, Col., July 31 [ANSP]. 1, Achinamiga, Peru [AMNH]. 4, Satipo, Peru [USNM; AMNH; CAS].

REMARKS. A few of the Colombian examples show some loss of the fulvous coloration, but, as a whole, there is a rather marked line of demarcation drawn at Panama between this and the following form.

Lagocheirus araneiformis ypsilon (Voet)

Cerambyx ypsilon Voet, 1778, *Cat. Col.* 2: 11, pl. 9, fig. 33; 1794, ed. Panzer, 3: 26, pl. 9, fig. 33.

Lagocheirus parvulus Casey, 1913, *Mem. Col.* 4: 304. [Syn. n.].

Cerambyx araneiformis auctorum.

MALE. From *fulvescens* this form is distinct only in having the elytra and pronotum dull greyish-brown pubescent and in the elytra punctation being fine and close-set.

Length 13–25 mm. ; width 6–12 mm.

Type locality : America septentrionale [*ypsilon*] ; Nata, Panama [*parvulus*].

DISTRIBUTION. Panama to Northern Mexico.

Panama : 5, Chiriquí [ANSP ; CAS ; USNM]. 2, La Chorrera [BM ; USNM]. 1, Trinidad Riv., May 4 [USNM]. 1, Bugaba [USNM]. 1, Cabima, May 17 [USNM]. 1, Taboga Isl., Gulf of Panama, Sept 20 [BM].

Canal Zone : 1, Gamboa [CAS]. 2, Fort Clayton, June 8 [CMNH]. 1, Paraiso, Mar. 4 [USNM]. 1, Rio Chagres, June 12 [CMNH]. 9, Barro Colorado Isl. [CMNH ; USNM ; AMNH]. 1, Ciricito [CAS]. 1, Corazal [USNM].

Costa Rica : 1, Pacayas [ANSP]. 4, Reventazon [USNM]. 1, Bebeders [USNM]. 1, San José, Nov. 5 [USNM]. 2, La Fuente, 1200 m. [CMNH]. 1, Cartago, June 9 [CAS].

Nicaragua : 1, La Libertad, Chontales [CAS]. 1, Managua [USNM].

Guatemala : 5, El Salto, Escuintala [CAS]. 1, Toconicapan [CAS]. 1, Vol. de Atitlan (Champion) [BM]. 1, Torola [BM]. 1, Piedros Negros [USNM]. 1, Capetillo, 5,000 ft. Aug. 21 [AMNH]. 3, Variedades, Sept. 1 [AMNH]. 2, San Marcos, April [CAS].

Honduras : 3, San Pedro Sula [ANSP]. 1, La Ceiba, Nov. 10 [USNM].

British Honduras : 1, Cayo [BM]. 1, Punta Gorda [CAS].

Mexico : 8, Cordoba, V. C. [CAS]. 1, Palo Gacho, V. C. [USNM]. 3, Penuela, V. C., July 15 [CMNH]. 1, Yanga, V. C. [CMNH]. 1, Merida, Yucatan [BM]. 1, Chichen Itza [CMNH]. 2, Almolonga [BM ; USNM]. 1, Trece Aguas, on *Cacao* [USNM]. 1, Cuernavaca, June [USNM]. 1, Tamazunchale, S. L. P., June 18 [CMNH]. 1, San Lorenzo, V. C. [USNM]. 4, Chiapas, 800–1,000 m. [USNM]. 1, Compostella, Nayarit, Oct. 1. [CAS].

REMARKS. From *granulatus*, described from Texas, this form is distinct in not having the elytron so rugose. In that subspecies, the basal granules are subequal in size to the punctures and the basal gibbosities are somewhat more prominent ; moreover, the white margin of the lateral macula is very extensive, occupying much of the lateral area of the elytra as far posteriorly as the preapical fascia.

Lagocheirus foveolatus Dillon, sp. n.

FEMALE. While resembling *araneiformis* in many respects, this species is not very closely related to that one. The present form may be distinguished by the elongate, parallel sided, subdepressed body. The head, pronotal lateral and discal tubercles, and much of elytra tinged with bright orange-fulvous. Pronotum with apical vittae indistinct. Scutellum apparently entirely blackish. Elytra with scutellar maculae wanting ; postbasal plaga light brown, velvety, becoming quite broad at suture ; lateral macula light brown, poorly defined, followed posteriorly by a double, white, transverse fascia extending from margin to suture, its anterior and posterior components interconnected by three or four longitudinal white lines, the posterior line accentuated by the preapical fuscous fascia ; fuscous tufts nearly absent on basal third, on remainder of surface large, rounded, outlined with white. Tarsi of all legs with first two segments light orange-brown, covered with ashy pubescence.

Antennae uniannulate beginning with third segment, the annulus becoming quite narrow on apical segments.

Head with front subplanate, about one-tenth wider than high; eye with lower lobe obliquely transverse, as tall as gena, upper lobes one-third broader than interocular space. Pronotal lateral tubercles moderate in size, with a prominent, somewhat retrorse, obtuse tooth at apex. Elytra with basal gibbosity feebly elevated, broad, carinae on entire disk obsolete; apices broadly truncate, the angles not at all prominent; punctures very coarse, becoming subfoveolate laterally on basal gibbosity. Prosternal process five-eighths as broad as a procoxal cavity, scarcely impressed on posterior half, deeply so anteriorly. Antennae with sixth segment slightly surpassing elytral apex; third segment one-fourth again as long as first; fourth distinctly shorter than third; rest strongly decreasing in length.

Length 32 mm.; width 12 mm.

Holotype: Female; Chiriquí, Panama [USNM].

REMARKS. This species is distinct from all the other members of this group in having the two basal segments of all tarsi pale; however, the mesosternal process is simple as in other related forms. Furthermore, the transverse white fascia, and the coarse punctures of the elytra are distinctive; the latter become small foveae on the posterior portion of the basal gibbosity, especially laterally.

ROGERSI GROUP

In this group the integument of the body beneath is black or virtually so, medially glabrous or very sparsely pubescent, the pubescence laterally dense and forming maculae or vittae, often of a bright colour. The mesosternal process is strongly declivous anteriorly and often impressed posteriorly, with the lateral beading rugose (as is that also of the prosternal process); in two species, *rosaceus* and *praecellens*, there is a pronounced tubercle each side of the anterior declivity. In the two species mentioned and in *rogersi* the tarsal segments are fuscous, but in the rest the tarsi are golden-yellow, at least in large part. The antennae as a rule are quite short, scarcely surpassing the apex of the elytra, but *praecellens* and *rosaceus* are exceptional in this respect too, having the sixth segment attaining the elytral apex.

Lagocheirus rogersi rogersi (Bates)

Lagocheirus rogersi Bates, 1880, *Biol. Centr.-Amer.*, Col. 5: 146, pl. 11, fig. 15.

MALE. Dark reddish-brown to piceous, densely covered with dull lead-grey or olive-grey pubescence. Head above and on front varied with pale ochraceous as is also the pronotal disk to a slight degree. Pronotum with apical vittae abbreviated, often indistinct, not oblique, basal vittae broad, short, extending just across basal sulcus. Scutellum with two tapering fuscous vittae which often are coalescent at extreme base. Elytra with postbasal plaga obsolete or wanting; lateral plaga evanescent anteriorly, elsewhere sharply defined, variably incised posteriorly, outlined behind by a fine whitish line, which bifurcates at the incision and forms a sort of prostrate letter Y, the two rami of equal width; sutural macula and post-median fascia wanting; preapical fascia broad, typically broken into an elongate

sutural portion and a subquadrate lateral macula, often indistinctly interconnected. Body beneath piceous, sparsely hoary pubescent, with transverse yellow maculae laterally on metasternum and first four abdominal segments. Tarsi fuscous, first two (and sometimes last) segments covered with ashy pubescence; femora and antennal scape covered with ashy pubescence, mottled with brown; tibiae broadly biannulated with ashy; antennae with third and fourth segments biannulated, rest uniannulated.

Head with front slightly convex, one-third again as wide as high; eye with lower lobe broadly oblong, erect, two-thirds again as tall as gena, upper lobes subequal in width to the interocular space. Pronotum gradually narrowed to apex where it is scarcely wider than an elytron; lateral tubercles small, ending in a short, subacute spine which is directed upwards and slightly forward; disk subrugose, coarsely punctate except on the five prominent tubercles, the median one being most highly elevated. Elytra with basal gibbosity rather prominent, armed at base with a large, projecting tubercle and laterally with a broad carina; disk on basal fourth granulate punctate, the granules larger than the punctures, laterally attaining middle, thence punctures simple, becoming finer apically, evanescent at apical sixth, on apical three-fifths with four prominent costae, each of which bear a number of long pointed tufts; apices separately broadly rounded. Mesosternal process slightly depressed posteriorly, anteriorly abruptly declivous, lateral beading rugose. Antennae with eighth segment attaining elytral apex; scape attaining basal sulcus of pronotum; third segment one-fifth longer than first; fourth one-eighth shorter than first; fifth and sixth much shorter, the latter with an appendix that is nearly as long as the width of the segment, broadly rounded apically, with sides parallel, and directed slightly distally, rest gradually shorter.

FEMALE. As in male but antennae only as long as body, the sixth segment without appendix; protarsi not expanded nor fringed.

Length 16–24 mm.; width 7.5–10 mm.

Type locality: Volcan de Irazu, Costa Rica.

DISTRIBUTION. Costa Rica.

Costa Rica: 2, no further data [BM]. 2, Guayabillos, Irazu, 2,200 m. (F. Nevermann) [USNM].

***Lagocheirus rogersi panamensis* Dillon, ssp. n.**

Differs from the typical form in having the pronotum, base of elytra, and sternal side-pieces distinctly ochraceous maculate, but the most striking difference is in the postmedian white fascia of the elytra. Here the posterior tine of the mark is very broad, overshadowing the anterior tine to such an extent that the whole loses its resemblance to the letter Y. In addition the fuscous vittae on the scutellum broadly fused on basal half.

Length 17–24 mm.; width 8–10 mm.

Holotype: Male, allotype female, and one paratype: Volcan de Chiriquí (Champion) [BM].

Paratype: Chiriquí, Panama [BM].

Lagocheirus rogersi hondurensis Dillon, ssp. n.

FEMALE. Very similar to the nominotypic form in having but little ochraceous pubescence on the pronotum, and to the Panama subspecies in having the scutellar vittae strongly fused at base. From both of these it is distinct in having the white pubescence behind the lateral macula irregularly arranged, not at all Y-shaped, confined largely to the lateral margin of elytron.

Length 23 mm. ; width 10 mm.

Holotype : Female ; Honduras, 1940 (W. von Hagen) [AMNH].

Lagocheirus integer (Bates)

Lagocheirus integer Bates, 1885, *Biol. Centr.-Amer., Col.* 5: 384.

MALE. Closely related to *L. rogersi* in structure and sculpturing, but differing as follows : Covered with fuscous pubescence, more or less distinctly varied with ashy or fulvous ashy on head, pronotum, base of elytra, body beneath, femora, and basal antennal segments. Scutellum fuscous except on basal angles and narrowly on sides. Elytra without dark markings except for the strongly accentuated lateral macula and a subobsolete preapical fascia, which is produced somewhat strongly forward at suture and usually divided into a sutural and lateral portion ; lateral macula narrowly and not distinctly outlined with whitish behind, the pale line feebly bifurcated, with the posterior bifurcation narrowly separated from the anterior and frequently extending to or near suture. Beneath maculate with bright ochraceous on side of prothorax, finely on mesosternal side-pieces, broadly on metasternum each side, and narrowly on sides of first four abdominal sternites. Tarsi with all segments ashy pubescent, the integument not paler than that of tibia.

Head with front broadly, feebly convex, one-sixth wider than high ; eye with lower lobe subquadrate or broadly erect, twice as tall as gena, upper lobes as broad as the interocular space. Pronotal lateral tubercles without a spine or tooth, conical, prominent ; discal tubercles quite as in *rogersi*, punctation very variable. Elytra with basal gibbosity scarcely elevated, basal tubercle only slightly more evident than carina and tufts ; disk rather finely and sparsely granulate-punctate, the granules subequal in size to the punctures, extending nearly to middle of elytra, each with six rows of fine tufts, often rather closely placed, on low carinae ; apices separately broadly rounded or subtruncate. Mesosternal process strongly but obliquely declivous before, depressed posteriorly ; lateral margins not rugose, simply punctate. Antennae with seventh segment attaining or slightly surpassing elytral apex ; scape extending nearly to basal sulcus of pronotum ; third segment one-fifth again as long as first ; fourth subequal to first ; fifth much shorter ; rest gradually decreasing in length ; sixth segment with appendix moderately short, not as long as width of segment, directed slightly distad.

FEMALE. Antennae with eighth segment attaining elytral apex ; protarsi not fringed nor dilated.

Length 12-18 mm. ; width 5.2-7.5 mm.

Type Locality : Cordoba, Mexico, herewith designated.

DISTRIBUTION. Central Mexico to Panama.

Mexico : 1, Cordoba (Sallé) [BM].

Guatemala : 5, Cerro Zunil, 4,000 ft. (Champion) [BM]. 1, Volcan de Atitlan, 3,500 ft. (Champion) [BM].

Panama : 1, Bugaba (Champion) [USNM].

REMARKS. The reduced dark maculation of the elytra, consisting only of a prominent lateral macula and an obsolete preapical fascia is, combined with the form of the mesosternum, a sufficiently diagnostic character for the recognition of this species. The dark tarsi, the low elytral gibbosity, the fairly long antennae, maculation of the scutellum, and the sculpturing of the pronotum are also characteristic.

In the single specimen from Panama the lateral maculae of the elytra scarcely contrast with the general pubescence and the scutellar dark macula is small. Furthermore the lateral tubercles of the pronotum are quite tumid, so that this form may deserve subspecific status when further material becomes available.

Lagocheirus tuberculatus tuberculatus (Fabricius)

Cerambyx tuberculatus Fabricius, 1787, *Mant. Ins.* 1 : 131. Gmelin, 1790, *Syst. Nat.* ed. 13, 1, 4 : 1819. Olivier, 1790, *Encycl. Méth. Ins.* 5 : 291 ; 1795, *Ent.* 4, 67 : 109, pl. 16, fig. 114.

Lamia tuberculata Fabricius. Fabricius, 1792, *Ent. Syst.* 1 : 273 ; 1801, *Syst. Eleuth.* 2 : 289.

Lagocheirus tuberculatus Fabricius. Gahan, 1895, *Trans. Ent. Soc. Lond.* : 130.

Lagocheirus binumeratus Thomson, 1860, *Class. Ceramb.* : 9. Bates, 1885, *Biol. Centr.-Amer.*, Col. 5 : 384.

MALE. Very similar in colour and structure to *integer*, from which form it differs chiefly as follows : Head, pronotum, and profemora usually variegate with bright ochraceous instead of ashy, rarely ochraceous ashy. Scutellum with dark macula larger, as a rule occupying all of surface except narrow basal angles and, sometimes, very narrow side margins. Elytra with lateral macula subobsolete, rarely pronounced, followed posteriorly by a narrow white line which is not bifurcated but is strongly angularly undulant, its inner portion widely remote from the macula ; sutural macula dimly present (postmedian fascia absent as in *integer*) ; preapical fascia rather distinct, broken into two elongate, broad maculae. Tarsi variable, sometimes with surface colour identical to that of tibiae, sometimes quite pale, except at apex of last segment, and usually ochraceous pubescent.

Head with front a little more strongly narrowed between eyes ; lower ocular lobes consistently erect, twice as tall as gena, upper lobes subequal to interocular space. Pronotum with lateral tubercles as in *integer*, disk with basal tubercles much more prominent than anterior ones, disk laterally more strongly tumid. Elytral basal gibbosity rather prominent, basal granule large, much more distinct than the carinae, tufts long and acute (usually) ; disk coarsely punctate, the granules pronounced, medially continuing almost to middle, punctures thence simple and strongly decreasing in size ; apices truncate. Mesosternal process slightly rugose laterally, broadly excavated. Antennae with seventh segment nearly attaining elytral apex ; scape extending only to basal third of pronotum ; third segment one-sixth longer

than first; fourth as long as first; fifth and sixth successively much shorter, the appendix of the latter distinctly longer than width of segment, projected distad but recurved at apex; remaining segments gradually decreasing in length.

FEMALE. As in male, but antennae with ninth segment attaining elytral apex, sixth segment without appendix; pronotum often not tumid laterally; protarsi not expanded or fringed.

Length 13–18 mm.; width 5.4–9 mm.

Type locality; “Jamaica” [*tuberculatus*]; Mexico [*binumeratus*].

DISTRIBUTION. Southern Mexico to Nicaragua.

Mexico: 1, Oaxaca [ANSP]. 1, Orizaba, Dec. 1905 [USNM]. 1, Chiapas, 800–1,000 m. [USNM]. 1, Misantla [BM]. 1, Toxpam [BM].

British Honduras: 4, Stann Creek Valley, Aug. 7, 1933 [BM]. 1, Rio Temas [BM]. 1, Belize [BM].

Guatemala: 3, no further data [ANSP]. 1, Alta Vera Paz, Mar. 24, on cacao [USNM]. 1, San Juan, V. P. [BM]. 1, San Isidro, 500 m. [BM].

Nicaragua: 4, Chontales [BM; USNM].

REMARKS. The type locality “Jamaica” appears to be erroneous; a careful comparison of Mexican specimens with Olivier’s figure of the type seems to indicate that the latter is probably its place of origin.

Lagocheirus tuberculatus v-album Bates

Lagocheirus v-album Bates, 1869, *Trans. Ent. Soc. Lond.*: 386; 1880, *Biol. Centr.-Amer.*, Col. 5: 145, 384, pl. 11, fig. 11.

MALE. Differing from the typical form chiefly in having the white line of the elytra much broader and in the costae being covered with ochraceous pubescence. Tarsi always pale, covered with bright ochraceous pubescence.

DISTRIBUTION. Costa Rica and Panama.

Costa Rica: 2, Hamburg Farm, Sta. Clara Prov., June 29 [USNM]. 1, Capellodas, nr. Vinas, June [USNM].

Panama: 2, Bugaba [BM]. 2, Volcan de Chiriquí, 300 ft. [BM; CAS]. 1, Boquete, July 1939 [CAS]. 1, Chiriquí [ANSP].

Lagocheirus plantaris plantaris Erichson

Lagocheirus plantaris Erichson, 1847, *Arch. Naturgesch.* 13: 144; White, 1855, *Cat. Col. Dist. Mus.* 8: 365.

Trypanidius fasciculatus White, *op. cit.*: 377, pl. 9, fig. 9 [Syn. n.].

Lagocheirus fasciculatus White. Bates, 1863, *Ann. Mag. Nat. Hist.* (3) 12: 101.

MALE. Related to *tuberculatus* but differing as follows: Pubescence of body above bright tawny-brown. Head, pronotum, femora, and first three antennal segments varied with fulvous or fulvous-ashy. Pronotum with apical vittae nearly wanting, basal vittae short, usually not extending to base of tubercles. Scutellum entirely black. Elytra with black maculae distinct, outlined posteriorly by a double whitish fascia which extends to suture, the two components of the fascia with many interconnections, that along suture quite broad; also with a common white macula

on suture at basal third, and a smaller one usually present at basal sixth; white fascia accentuated behind by the pronounced black preapical fascia, which is rather narrow suturally, gradually widening to margin, briefly interrupted at its inner third, sometimes only visible laterally. Body beneath more densely ochraceous pubescent on sides, so that the maculae are more conspicuous. Tarsi quite pale, except apex of last segment.

Head with front one-fourth wider than high, finely punctate, feebly convex, sides scarcely narrowed between eyes; eye with lower lobe nearly twice as tall as gena, oblong, suberect, upper lobes slightly narrower than interocular space. Pronotum with sides tumid, lateral tubercles rather low, nearly hemispherical, unarmed; disk strongly tumid each side so that the anterior and posterior tubercles are interconnected, the latter one prominent, median tubercle rather low; basal punctures coarse, especially anterior row, which are twice as coarse as those of disk. Elytra with basal gibbosity a little more prominent, with the lateral but without the apical carina, basal tubercle about as pronounced as in *tuberculatus*; disk rather more coarsely punctate, the granules smaller, inconspicuous (except laterally at extreme base), usually not extending posterior to basal gibbosity; apices broadly, arcuately truncate. Mesosternal process strongly depressed posteriorly, abruptly declivous anteriorly, lateral margins distinctly rugose. Antennae with seventh segment attaining elytral apex; scape extending to basal third of pronotum; third segment just one-tenth longer than first; fourth feebly shorter than first; fifth and sixth successively much shorter than fourth; rest gradually decreasing; sixth with appendix variable in width and length, usually subequal in length to width of segment, evenly rounded at apex, sides parallel.

FEMALE. Antennae with ninth segment surpassing elytral apex, sixth without an appendix; protarsi not expanded or fringed.

Length 14–20 mm.; width 6–8 mm.

Type localities: Peru [*plantaris*]; Éga, Brazil [*fasciculatus*].

DISTRIBUTION. Columbia and north-western Brazil to Bolivia.

Colombia: 1, no further data [BM]. 1, Rio Nare, Antioquia, Jan. 4, 1939 [USNM]. 1, Villa Arteaga, July [USNM].

Brazil: 1, Amazonas [BM].

Ecuador: 1, El Partidero, Dec. 1935 [BM]. 1, Napo-Paatsza, Jan. [CAS]. 9, Loja [ANSP].

Peru: 2, Rio Santiago, Nov. [AMNH]. 1, Junin, Sani Beni, Feb. [CAS]. 1, Satipo, Jauja Prov., April [AMNH].

Bolivia: 1, Buenavista, 1,700 ft., Oct. [ANSP].

REMARKS. In many ways, especially as in regard to the tarsal coloration, this species resembles *tuberculatus*. However, in the present form, the undulating white fascia of the elytra is double, with the posterior portion outlined behind by black.

***Lagocheirus plantaris indistinctus* Dillon, ssp. n.**

MALE. In many instances only slightly distinct from the typical form in having the basal angles of the scutellum pale or ochraceous pubescent. However, in well-

marked examples the elytral pubescence is uniformly dull cinereous or fuscous, with the carinae marked with ochraceous. The most important distinguishing feature is to be found in the structure of the pronotum, which is scarcely inflated. As a consequence, the lateral tubercles are usually conical, and the tubercles of the disk are more pronounced.

Length 12-18 mm. ; width 5.5-9 mm.

Holotype : Male ; Gamboa, Canal Zone, June 1944 [CAS].

Allotype : Female ; Barro Colorado Isl., Canal Zone, July [USNM].

Paratypes : 4, same data as allotype [USNM ; CMNH-3]. 1, Parais, C. Z., Mar. [USNM]. 1, Ft. Clayton [CAS]. 1, Trinidad Riv., Panama, March [USNM]. 2, Reventazon, Costa Rica [USNM].

Lagocheirus plantaris gorgonae Dillon, ssp. n.

MALE. In general most similar to the Central American subspecies, especially in having the pronotum only feebly tumid, in the pale basal angles of the scutellum and in the ochraceous lines on the elytral carinae. However, it is amply distinct in having these lines much more marked, in the more prominent lateral maculae of the elytra, and particularly in lacking ochraceous pubescence on the abdominal sternites.

Length 14-16 mm. ; width 6.5 mm.

Holotype male and allotype female : Gorgona Island, Colombia, 200 ft., at light [BM].

Lagocheirus rosaceus Bates

Lagocheirus rosaceus Bates, 1869, *Trans. Ent. Soc. Lond.* : 386.

Lagochirus rosaceus Bates. Bates, 1880, *Biol. Centr.-Amer.*, Col. 5 : 146, pl. 11, fig. 12.

Lagocheirus flavolineatus Aurivillius, 1921, *Tijd. Ent.* 64 : 52, pl. 2, fig. 10 [Syn. n.].

MALE. Dark reddish-brown, covered above by rather sparse fuscous-ashy pubescence, strongly variegated with bright ochraceous, which forms irregular lines on the pronotum and covers the costae on the elytra. Pronotum with apical vittae distinct, straight, extending directly caudad, basal vittae very broad, somewhat arcuate. Scutellum fuscous, vittate medially with ochraceous. Elytra largely dull hoary pubescent, except for the broad brown base ; postbasal plaga rather indistinct ; lateral macula conspicuous, briefly margined behind with white or rosaceous ; both the postmedian and the preapical fasciae broad and strongly undulant, especially at suture, where they are separated by a line of white or rosaceous, the former largely outlined with white or rosy ; costae strongly marked with lines of rosaceous, interrupted by prominent tufts of fuscous hairs. Body beneath nearly glabrous medially, very sparsely covered with fine hoary pubescence ; metasternum and abdominal sternites laterally transversely maculate with rosaceous. Tarsi blackish, basal two segments rosaceous pubescent. Antennae fuscous pubescent, with a faint double annulus on fourth and single ones on following segments.

Head with front tumid, very finely, sparsely punctate, one-fourth wider than high ; eye with lower lobe broad, feebly upright, nearly twice as tall as gena, upper lobes

separated by about one and one-half their width. Pronotum strongly tumid laterally and across disk, constricted at base; lateral tubercles broad, moderately prominent, armed with a large granule at apex; disk with tubercles indistinct except lateral basal ones, coarsely densely punctate except on tubercles. Elytra moderately densely granulate-punctate at base, the punctures deeper, rather coarse, from basal sixth simple, becoming much finer to apical third, thence subobsolete; basal gibbosity rather low, strongly carinate, the carina bearing a very large granule at base; costae distinctly prominent; apices obliquely subtruncate at suture. Mesosternal process depressed medially, lateral beading pronounced and distinctly finely rugose. Antennae with eighth segment surpassing elytral apex; scape attaining base of pronotal lateral tubercle; third segment one-fifth longer than first; fourth feebly shorter than first; fifth to seventh successively strongly shorter; rest subequal to seventh; sixth with appendix elongate, much longer than width of segment.

FEMALE. Pronotum scarcely tumid, lateral tubercles feebly prominent. Antennae with ninth segment surpassing elytral apex; sixth segment simple. Rest as in male.

Length 12–20 mm.; width 6–9.2 mm.

Type localities: Chontales, Nicaragua [*rosaceus*]; Colombia [*flavolineatus*].

DISTRIBUTION. From southern Mexico to Colombia, being of rare occurrence at the extremes of its distribution.

Mexico: 1, Oaxaca [ANSP].

Nicaragua: 1, no further data [BM]. 7, Chontales [BM].

Costa Rica: 4, Hamburg Farm, Reventazon, May-Aug. [USNM].

REMARKS. The character of the designs on the elytra will at once identify this species.

Lagocheirus praecellens Bates

Lagocheirus praecellens Bates, 1872, *Trans. ent. Soc. Lond.*: 209.

Lagochirus praecellens Bates. Bates, 1880, *Biol. Centr.-Amer.*, Col. 5: 146, pl. 11, fig. 13.

MALE. Differs from *rogersi* as follows: Pronotum and elytra ferrugineous covered with orange-ochraceous pubescence; the former with apical vittae usually short, nearly confined to apical margin, basal vittae indistinct except near margin. Scutellum with fuscous vittae narrow, confined to apical halves of margins. Elytra with basal plaga obsolete; lateral macula largely dull ochraceous pubescent, only slightly accentuated with dark brown on disk; pale markings ashy or whitish, broad, conspicuous, consisting of two common maculae (one at basal fifth, and one before middle), a broad, undulating postmedian fascia which is strongly recurved along suture for some distance, and an arcuate vitta on suture and apex; preapical fuscous fascia much narrower, strongly interrupted; apical lateral fuscous macula rather prominent. Body beneath scarcely at all hoary pubescent, laterally broadly vittate from prosternum to apex of fourth abdominal sternite, vitta interrupted on base of first sternite and often behind mesosternum. Antennae with segments 3–5 or 6 biannulated, rest with a single rather narrow annulus.

Head with front one-third wider than high, finely punctate, slightly tumid medially; eye with lower lobe two-thirds again as tall as gena, very broad, as is also the upper lobe, broader, retrose rather than upcurved as a rule; discal sculpturing with basal gibbosity broader, less prominent but surmounted by a more distinct crest, prolonged anteriorly to the robust basal tubercle; disk at base coarsely punctate (especially postero-laterad of basal gibbosity), the punctures distinctly larger than the granules. Antennae with sixth segment distinctly surpassing elytral apex; scape attaining basal sulcus of pronotum or nearly so; third segment half again as long as first; fourth feebly longer than first; fifth to seventh strongly diminishing in length, sixth with appendix longer than width of segment, slightly oblique; rest gradually feebly shorter. Mesosternal process rather deeply concave medially, strongly tuberculate each side anteriorly.

FEMALE. Differing from female *rogersi* as do the males. Antennae with seventh segment nearly attaining elytral apex.

Length 19–23 mm.; width 9–10.8 mm.

Type locality: Chontales, Nicaragua.

DISTRIBUTION. Known only from the type locality.

Nicaragua: 4, Chantales [BM].

REMARKS. At once distinguishable from *rogersi* by the form of the prosternal process and by the fine granulation of the elytra.

Lagocheirus cristulatus Bates

Lagocheirus cristulatus Bates, 1872, *Trans. ent. Soc. Lond.*: 209.

MALE. Dark reddish-brown to piceous, densely covered with dull ashy pubescence. Pronotum with apical vittae subobsolete, fine, strongly oblique, the pair more or less forming an arcuate line; basal vittae just attaining base of tubercles, strongly expanded to margin, with a median vitta and another each side similar in size and form. Scutellum with vittae variable in extent (possibly in relation to geography), more or less lateral and apical in position, sometimes covering most of surface except middle of apex, sometimes greatly reduced. Elytra at base vaguely, broadly blotched with fuscous, the basal plaga rarely visible; lateral macula prominent and fuscous medially, evanescent anteriorly, partially outlined posteriorly by a narrow, indistinct, ashy line; postmedian fascia indistinct or wanting; pre-apical fascia rather broad, strongly constricted at each undulation, distinct only near suture. Body beneath sparsely pubescent or subglabrous (especially on abdomen) medially; laterally densely covered with dull ashy fulvescent pubescence, which is broadly interrupted at base of first abdominal sternite and absent from fifth. Tarsi fuscous, broadly annulate apically with ashy on apex of first segment. Antennae with segments 3–5 or 6 biannulated, the rest uniannulated medially.

Head with front one-third wider than high, narrowed above, minutely punctulate; eye with lower lobe subquadrate, three-fifths again as tall as gena, upper lobe two-thirds as broad as interocular space. Pronotum with lateral tubercles robust, conical, unarmed; disk scarcely tumid, median tubercle most prominent, acute,

apical tubercles least elevated, entire surface (except in basal and apical sulcus) nearly impunctate, 3 or 4 coarse punctures occurring laterally and a very few fine ones medially. Elytra with basal gibbosity very prominent, subglobular, at base with a large, often granulated tubercle; disk densely coarsely granulate-punctate on basal fourth, the punctures and granules subequal in size, punctures thence simple, much finer to middle, on apical half subobsolete; carinae rather prominent except on gibbosity, with rows of long tufts, especially basally; apices obliquely broadly truncate. Mesosternal process slightly concave, lateral beading rugose. Antennae with eighth segment not attaining elytral apex; scape reaching to basal third of pronotum; third segment one-fourth again as long as first; fourth distinctly shorter than first; fifth to seventh successively strongly shortened; sixth with appendix rather fine, not as long as width of segment; remaining segments wanting.

FEMALE. Very similar to male but protarsi are not fringed. Antennae not quite so long as body; sixth segment simple.

Length 15-21 mm.; width 7-9.5 mm.

Type locality: Chontales, Nicaragua.

DISTRIBUTION. Southern Mexico to Nicaragua.

Mexico: 1, Misantla [BM].

Guatemala: 1, Coban [USNM].

Nicaragua: 1, Chontales (Janson) [BM].

REMARKS. While in coloration this species resembles *obsoletus*, it has no close affinities to it or to any other known species of the genus. Its large basal gibbosity will at once distinguish it.

Incertae Sedis

Lagochirus unicolor Fisher, 1947, *Mem. Soc. Cubana Hist. Nat.* 8: 38.

"FEMALE. Broadly elongate, slightly convex above, uniformly brownish-yellow, each elytron with an obsolete, narrow, oblique, whitish line along lateral margin behind middle.

"Head longer than wide and nearly flat in front, with a narrow, longitudinal groove extending from occiput to clypeus, broadly concave between antennal tubercles, which are rather strongly elevated, widely separated, and obliquely divergent; surface finely, sparsely punctate, densely, uniformly clothed with a short, recumbent, brownish-yellow pubescence; eyes separated from each other on top by three-fourths the width of upper lobe. Antenna slightly longer than body, densely clothed with short, recumbent, brownish-yellow pubescence.

"Pronotum nearly twice as wide as long, subequal in width at base and apex, widest at middle; sides parallel near base, sinuate anteriorly, with a large, triangular tooth on each side at middle; disk uneven, transversely flattened along base and anterior margin, with five obtusely rounded tubercles arranged in two transverse rows, two in front and three behind, the three posterior tubercles more strongly elevated; surface coarsely, deeply, irregularly punctate, densely clothed with short recumbent, brownish-yellow pubescence. Scutellum triangular, broadly rounded at apex, densely, uniformly pubescent.

" Elytra distinctly wider than pronotum ; sides nearly parallel from humeral angles to near the tips, which are separately broadly subtruncate, surface rather densely, coarsely, deeply punctate, densely clothed with short, recumbent, brownish-yellow pubescence ; abdomen indistinctly punctate, last visible sternite shallowly emarginate at apex ; prosternal process about one-third as wide as coxal cavity, expanded posteriorly ; femora pedunculate, strongly clavate toward apices.

" Length 18 mm., width 8 mm.

" Type locality. Barbados, British West Indies.

" Type. In the United States National Museum, No. 58123.

" Described from a single specimen found in the Wickham Collection.

" This species differs from all the other described species of *Lagocheirus* in having the upper surface of the body densely clothed with uniformly brownish-yellow pubescence, without any distinct markings except for an obsolete white line on each elytron along the lateral margin behind the middle "

***Sternocheirus* Dillon, gen. n.**

Very closely related to *Lagocheirus*, from which genus this differs as follows : Female (male unknown). Head with vertex more strongly declivous, the lower edge of anternal tubercles being scarcely above the middle of the total vertical height of head (excluding mouthparts) ; front relatively a little broader, and distinctly more strongly narrowed between eyes ; eye with lower lobe slightly wider than tall. Pronotum with lateral tubercles rather small, armed with an acicular spine ; discal tubercles comparatively feeble. Scutellum broad, sides slightly oblique, the apex evenly rounded. Elytra more elongate, covering extended fifth abdominal segment, sides subparallel, scarcely tapering ; apices together broadly rounded ; carinae wanting except on basal gibbosity, which is low and broad ; discal punctures simple except on basal sixth, where they bear feeble granules ; tufts absent, replaced by fuscous maculae which are not at all seriate except along margins. Prosternum medially with an irregular transverse, cariniform tubercle. Antennae with scape short, scarcely extending behind middle of pronotum ; third segment one-fourth longer than first ; rest gradually decreasing.

Type species : *Sternocheirus lugubris* Dillon, sp. n.

REMARKS. From *Archlagocheirus* which it resembles in the form and length of the scape, this genus differs in having the vertex less strongly declivous, the front not rugose, the pronotal disk not tumid, and in the armed prosternal process.

***Sternocheirus lugubris* Dillon, sp. n.**

Lagocheirus funestus Thomson. Bates, 1880, *Biol. Centr.-Amer.*, Col. 5 : 146 [*ex parte*].

FEMALE. Piceous, densely covered with ashy-brown pubescence. Pronotum with apical vittae indistinct, subparallel, widely separated, feebly attaining margin ; basal vittae more distinct, elongate, extending on to basal tubercles. Scutellum with a rather narrow attenuate fuscous vitta each side. Elytra with basal plaga squarely transverse, narrow, poorly defined, more or less interrupted ; lateral macula obsolete, greatly reduced, indicated primarily by the more velvety texture

of its vestiture; sutural macula large, elongate, composed of numerous small maculae; postmedian and preapical fasciae indistinct except in certain lights, the latter composed of undulating row of fuscous maculae; apical half of disk irregularly sprinkled with fuscous maculae (not tufts) which are outlined with white. Body beneath ashy pubescent, not mottled; abdomen medially finely fuscous. Femora narrowly biannulated with pale fulvous apically; tarsi entirely ashy-pubescent. Antennae fuscous, segments 1-5 biannulated with ashy, the remainder uniannulate.

Head with front one-fourth wider than high, strongly narrowed between eyes, finely punctate, not rugose; eye with lower lobe subrotund, narrower mesially, two-fifths again as tall as gena, upper lobe a little wider than interocular space. Pronotum coarsely, irregularly punctate at base and apex; disk unevenly, sparsely, rather finely punctate. Elytra not very densely punctate, the punctures on basal sixth bearing low granules, moderately coarse, becoming much finer thence to apex.

Length 23 mm.; width 9.7 mm.

Holotype: Female; Puebla, Mexico (Sallé coll.) [BM].

REMARKS. In several superficial ways, this species shows resemblance to *A. funestus* Thomson, particularly in the annulation of the femora and the maculation of the apical half of the elytra.

Archlagocheirus Dillon gen. n.

Most closely related to *Sternocheirus*. From that genus it is distinct in having the vertex more strongly declivous, with the lower edge of the antennal tubercle placed well below the middle of the total head height; front three-fifths again as wide as high in both sexes; rugosely punctate especially in the male; eye with lower lobe distinctly transverse, tapering mesially, in females sometimes subquadrate, always small, not so tall as the gena. Pronotum with central portion of disk abruptly and strongly tumid, particularly in the female; lateral tubercles prominent to a greater or lesser extent, armed with an acute spine. Scutellum often truncate or retuse at apex, rarely rounded. Elytra with costae obsolete, quite apparent on basal gibbosity; apices feebly truncate or rounded together. Prosternum simple, unarmed; mesosternal process gradually declivous anteriorly, medially broadly tumid, the tumescence low. Antennae with eighth segment attaining elytral apex in male, distinctly shorter than body in female.

Type species: *Lagocheirus funestus* Thomson.

REMARKS. The strongly declivous vertex, the markedly transverse front, the sculpturing of the pronotum, the declivous mesosternal process, the small eye, and the very shortened antennae in the female are especially diagnostic.

Archlagocheirus funestus (Thomson)

Lagocheirus funestus Thomson, 1865, *Syst. Ceramb.*: 545.

Lagochirus funestus Thomson. Bates, 1880, *Biol. Centr.-Amer. Col.*, 5: 146.

MALE. Black, covered with fine fuscous pubescence. Pronotum with apical vittae often wanting, always indistinct, strongly oblique, confined to anterior

discal tubercles; basal vittae also indistinct or wanting, apparently confined to basal margin; disk often with a series of fulvous or ashy markings across base and apex which vary greatly in position and shape, usually four markings are in each transverse row. Scutellum uniformly fuscous, rarely a little paler medially. Elytral markings often indistinct; basal plaga transverse; lateral macula accentuated on disk and anteriorly with darker pubescence, rarely narrowly outlined with whitish posteriorly; sutural macula continuous with the postmedian fascia, which is confined to the sutural half of disk, rather broad; preapical fascia subobsolete, narrow, strongly undulant; disk sprinkled with rounded fuscous maculae (not tufts) which are often narrowly outlined with white, in basal impressions and medially often, and postmedially rarely, with irregular inconstant markings of whitish or fulvous, occasionally quite broadly so. Body beneath as above, sometimes with irregular maculae of ashy or fulvous laterally. Femora biannulated with fulvous near apex, the annuli much interrupted; tibiae often ashy-annulate at middle; tarsi fuscous, the first two segments often sparsely ashy-pubescent. Antennae biannulate with ashy on first four segments, uniannulate on rest.

Head with front finely sparsely punctate, rugose; eye with lower lobe one-sixth shorter than gena, upper lobes separated by twice their width; vertex behind eye coarsely and deeply punctate. Pronotum with lateral tubercles usually prominent, armed with a long, acute spine at apex; disk tumid in an area that includes the five prominent tubercles, apically and basally coarsely punctate, rest of surface between tubercles somewhat rugosely punctate. Elytra with basal gibbosity feeble, outlined posteriorly by a broad arcuate impression, bearing two rather prominent carinae; basal granule large, projecting; disk basally often rugose, on basal fourth finely granulate-punctate, the punctures thence simple and finer, evanescent apically, carinae obsolete. Antennae with eighth segment attaining elytral apex, scarcely fimbriate beneath; scape reaching to middle of pronotum; third segment one-fourth again as long as first; rest gradually diminishing in length, sixth with a long, curved, tufted appendix at apex.

FEMALE. As in male, but front not rugose; eye with lower lobe often subquadrate. Pronotum with disk only slightly tumid; lateral tubercles less prominent. Antennae distinctly shorter than body; third segment scarcely longer than first; sixth simple.

Length 24–30 mm.; width 9–12 mm.

Type locality: Mexico.

DISTRIBUTION. Known only from central Mexico.

Mexico: 1, no further data [ANSP]. 3, Cacaloapan, Puebla, 5500 ft. July 5, 1941, on cactus (H. S. Dybas) [CMNH]. 6, Cuernavaca, on *Opuntia* [USNM-2; TAM-4].

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