

ANTHRIBIDAE OF GUAM

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This paper is the result of my study of the Anthribidae of Guam, collected mostly by Mr. O. H. Swezey and Dr. R. L. Usinger in 1936. It contains eight species, three of which are described as new.

As far as I know, the only species of Anthribidae heretofore recorded from Guam are *Araecerus fasciculatus* (De Geer) and *Jordanthribus planifacietus* Zimmerman. So far as Anthribidae are concerned, Micronesia is unknown ground. The collection made at Guam is a welcome addition to our knowledge of the faunas of Oceania.

Little can be said at present concerning the faunistic affinities of the anthribid fauna of Guam, as endemic species are few. Because five of the eight species are found elsewhere, four of them having a wide distribution, it is possible that the three species which I have described as new are not truly endemic species. Only further collecting will solve this problem. There is little doubt, however, that the Guam Anthribidae will prove to be derived from the islands to the south and west. There are, I believe, no Anthribidae found in Guam of economic importance that are not found elsewhere, hence Guam is probably not to be regarded as a center of origin of anthribids of importance to agriculture. The two species of *Araecerus* are probably the only species that might cause damage to crops.

CHECK LIST

1. *Jordanthribus planifacietus* Zimmerman. Guam, Society, Austral, and Mangareva Islands.
2. *Jordanthribus conspersus*, new species. Guam.
3. *Notioxenus fulgidus*, new species. Guam.
4. *Melanopsacus parvulus*, new species. Guam.
5. *Mauia subnotatus* (Boheman). Indo-Pacific.
6. *Araecerus fasciculatus* (De Geer). Almost cosmopolitan.
7. *Araecerus vieillardii* (Montrouzier). Oceania.
8. *Araecorynus cumingi* Jekel. Guam and the Philippines.

KEY TO THE GENERA

1. Antennae inserted on the front of the head at the inner dorsal corners of the eyes, the first segment much longer than the second.....**Jordanthribus.**
Antennae inserted at the sides or front of the base of the rostrum at the lower edge of the eyes, the first segment shorter or not distinctly longer than the second..... 2
- 2(1). Interscrobial area as broad or broader than the interocular area; antennae inserted below the middle of the eye and distinctly more on the side of the rostrum than on the front of the rostrum.....**Mauia.**
Interscrobial area slightly or conspicuously narrower than the interocular area; the antennae inserted near the inner lower corners of the eyes and more on the front than the side of the rostrum..... 3

- 3(2). First hind tarsal segment about as long as 2 to 4 inclusive.....**Araecerus**.
 First hind tarsal segment much shorter than the three following segments
 together, usually not longer than 2 plus 3..... 4
- 4(3). Body, in the Guam species, bare and shiny above; dorsal prothoracic carina
 curving forward to the sides and distant from the base at the sides, not
 angulate at the sides and without a distinct lateral carina.....**Notioxenus**.
 Body pubescent; dorsal prothoracic carina reaching the sides close to the
 base and there conspicuously angulate and with a distinct lateral carina.... 5
- 5(4). Less than 2 mm. long; lateral prothoracic carina straight, not reaching the
 middle, not upturned at the apex; first fore tarsal segment slender, fully
 twice as long as broad.....**Melanopsacus**.
 More than 4 mm. long, lateral prothoracic carina reaching the middle and
 there slightly curved upward; first fore tarsal segment short and broad,
 as broad as long.....**Araecorynus**.

Genus **JORDANTHRIBUS** Zimmerman, 1938

KEY TO THE SPECIES

- 1[♂] Males 2
 Females 3
- 2(1). Side margins of the rostrum continuously concave between the middle and
 apical expansion and not at all expanded at the apical third of the distance
 between the top of the head and mandibles and with the margin not ele-
 vated; antennae with the third segment simple and without an apical
 prolongation.....**J. planifacietus** Zimmerman.
 Side margins of the rostrum very conspicuously elevated into a flange at one
 third of the distance between the top of the head and base of mandibles, the
 flange making a lateral expansion that is almost as broad as the apical
 part; third antennal segment with a conspicuous terminal hooklike ventral
 prolongation about one third as long as the third segment.....
**J. conspersus** Zimmerman.
- 3(1). Front of head and rostrum obviously slightly convex from side to side; sides
 of rostrum not sharply separated from dorsum; pygidium one third
 broader than long.....**J. planifacietus** Zimmerman.
 Front of head and rostrum broadly and conspicuously flattened, not at all
 transversely convex; sides of rostrum shallowly concave and sharply
 separated from the dorsum by a rather vague dorso-lateral carina; pygi-
 dium but slightly broader than long.....**J. conspersus** Zimmerman.

Only these two species of the genus are known; *J. planifacietus* is the genotype.

1. **Jordanthribus planifacietus** Zimmerman, B. P. Bishop Mus., Occ. Papers
 14(13) : 237, figured, 1938 (fig. 1, *a, b*; pl. 1, *B*).

This species is smaller and conspicuously paler in color than is *J. conspersus*. The more salient differences are summed up in the synoptic table, and a detailed description is given in the paper cited above. Length, 1.75-2.25; breadth, 0.8-1.0 mm.

Seven specimens representing both sexes of this peculiar species were collected at Machanao by Usinger, June 5, 1936; five of them were from dead leaves of a fallen tree, the other two were beaten from dried leaves of fallen

branches; 22 specimens from the National Museum were found by Oakley on *Pandanus* leaves, Dec. 30, 1938, no. 38-9035.

In southeastern Polynesia I found this species on dead banana leaves and coconut fronds and swept it from low herbage. Its widespread distribution indicates that the species has been artificially spread by commerce.

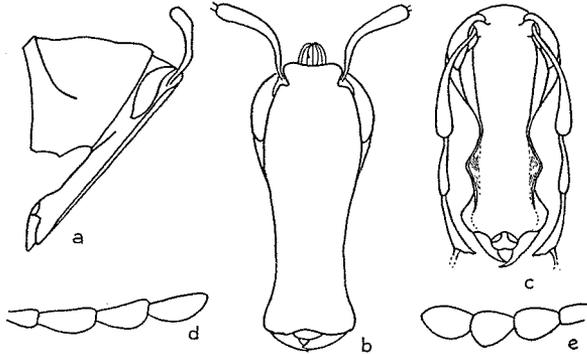


FIGURE 1.—a, side view of prothorax, head, and rostrum, and b, front view of head and rostrum of *Jordanthribus planifacietus* Zimmerman; c, front view of head and rostrum of *J. conspersus* Zimmerman; d, antennal club of *Araecerus fasciculatus* (De Geer); e, antennal club of *A. vieillardii* (Montrouzier).

2. *Jordanthribus conspersus*, new species (fig. 1, c; pl. 1, A).

Female: derm yellowish, infusate, with dorsum confusedly infumated with yellowish and fuscous patches; pubescence grayish white.

Head with vertex convex and making a rounded angle with front which is flattened continuously with rostrum; crown finely punctate, front set with rather large, comparatively coarse, shallow subconfluent punctures; pubescence hairlike, that on front finer and longer than that on crown; cheeks concave; eyes reniform, the distance between their dorsal apices slightly less than the length of an eye (12:15). *Rostrum* slightly shorter, from ventral angulation with head to apex of mandibles, than head; conspicuously and continuously flattened above with front of head, sides making an angle with dorsum, sculpture and pubescence as that on front of the head, greatest distal breadth twice as broad as distance between tops of eyes. *Antennae* with first segment sinuous, as long as 2 plus 3, 2, 3, and 4 subequal in length, 4 as long as 5 plus half of 6, 5 to 8 each successively very slightly smaller, almost subequal in length, segments 9 and 10 subequal in length, elongate-triangular, 11 elongate-oval, almost as long as 10 plus half of 9. *Prothorax* strongly transverse (2.7:1.7), disk slightly, transversally depressed just beyond middle, shallowly and densely punctate, each puncture bearing a sharp, conspicuous seta; lateral carina forming a continuous curve with dorsal carina, not quite reaching middle of side. *Elytra* slightly less than three fourths as broad as long, two and three fourths as long as prothorax, subparallel-sided in basal two thirds, with a shallow depression at basal third of each elytron; striae well impressed, punctures distinct; intervals broader than striae, not punctate; pubescence prostrate, similar to but somewhat shorter than that on prothorax. *Legs* with fore tibiae as long as fore femora, first fore tarsal segment one third as long as a fore tibia. *Sternum* with fore coxae separated by half the diameter of a fore coxa, mid and hind coxae equally separated by a distance half again as broad as separation of fore coxae; metasternum between mid and hind coxae slightly broader than a metacoxa at trochanter, shallowly

punctate; pubescence broader and condensed on pleurae. *Venter* shallowly and densely punctate throughout, pubescence abundant, but not dense; fifth ventrite as long as four plus half of three. *Pygidium* as broad as long, as long as ventrite four plus five, shallowly punctate, rather densely pubescent, apex broadly rounded. Length, 3.0 mm.; breadth, 1.5 mm.

Male: differs from female principally in structure of the rostrum and antennae; rostrum about one fourth longer than ventral angulation of head to apex of mandibles than head, about one fourth as thick at base as long, continuously flattened with head from tops of eyes to apex, sides suddenly explanate beginning at half the distance between lower edge of eye and base of mandibles, margin raised and flangelike and making sides conspicuously angulate (see fig. 1, C), broadest part of angulation more than one fourth broader than base, but slightly narrower than greatest apical breadth of rostrum; front of head with conspicuous, long, dense hair from antennal tubercle to base of rostrum, without a series of long, coarse, conspicuous, erect setae between antennae; antenna with first segment strongly arcuate, not quite as long as 2 plus 3, 2 about as long as 3, 3 somewhat longer than 4, with its lower edge produced into a strong hook at apex fully twice as long as breadth of base at 4, lengths of following segments as follows: (4, 1.4) (5, 1.4) (6, 1.3) (7, 1.1) (8, 1.0) (9, 0.9, 0.4 broad at apex) (10, 0.7, 0.4 broad at apex) (11, 0.9, 0.4 broad at middle).

Holotype female and one female paratype collected from *Citrus* at Inarajan, by Swezey, May 7, 1936, in Bishop Museum; allotype male collected by Fullaway and labeled "Island Guam" no. "1133" to be deposited in the National Museum.

This species may be separated from its congener, *Jordanthribus planifacietus*, by its larger size and darker coloration as well as by the characters given in the key.

Genus NOTIOXENUS Wollaston, 1861

This genus has a discontinuous, predominantly tropicopolitan distribution. Only one species, the southeastern Polynesian *Notioxenus cylindricus* Jordan (1933), is known from the entire Pacific region east of Guam. Two species have been described from Japan, and it is probable that many undescribed species are to be found in the regions to the south and west of Guam.

3. *Notioxenus fulgidus*, new species (pl. 1, F).

Derm shiny black, with legs and antennae yellowish and variably infuscated; without dorsal vestiture.

Head usually entirely concealed from above by prothorax, densely punctate, interstices narrower than punctures; clothed, excepting crown, with long, coarse, shaggy, anteriorly inclined hair in male, evidently clothed only with fine inconspicuous setae in female; crown and front evenly convex; interscrobial area three fourths as broad as interocular area; eyes about three fourths as broad as interocular area. *Rostrum* slightly and evenly arcuate distally, distance between lower margin of scrobe and apex shorter than first antennal segment; mandibles with a small antemedian tooth. *Antennae* reaching backward only to about middle of prothorax, first segment about one seventh shorter than second, slightly broader at base than apex, 2 clavate, arcuate, but slightly shorter than 3 plus 4 plus 5 which are subequal in size, 5 as long as 6 plus half of 7, 7, 8 and 9 each successively slightly shorter; segments 9, 10, and 11 forming a rather compact asymmetrical club, 9 and 10 triangular, truncate at apex, almost straight on inner side, but slanting out rapidly to form acute angles with apical margins on outer side, 9 slightly longer than 10, as long as broad, 10 somewhat shorter

and broader than 11 which is ovoid, articulation between segments being near inner sides, thus marking emarginations between segments much deeper on the outer than inner sides. *Prothorax* large and bulky, slightly longer than broad, distinctly broader than elytra (3:2.7), strongly and evenly convex dorsally, slanting downward toward apex, apical margin two fifths lower than summit which is at basal third, straightly and broadly expanding from base to dorsal carina, which is but slightly arcuate, thence strongly arcuate to apex, distinctly more broadly arcuate behind than beyond middle; dorsal carina less than one sixth from base at its middle, continued forward in a slight curve on sides to a point above and slightly beyond anterior edge of coxal cavity; dorsum densely and evenly punctate, punctures of moderate size, their interstices not broader than their diameters. *Elytra* slightly more than one seventh longer than broad, only one seventh longer than prothorax, base truncate and well margined, slightly rounded on sides; punctures similar to, or somewhat coarser than those on pronotum, arranged in rows, striae sometimes impressed on sides near base; setae in punctures extremely small, almost invisible. *Legs* with hind femora somewhat more broadly expanded below and more compressed than others; fore tibiae as long as fore femora; first fore tarsal segment less than one fourth as long as a fore tibia, lobes on third segment long, slender and free, fourth segment slender and projecting well beyond third, claws with a minute subbasal tooth. *Sternum* with prosternum coarsely reticulate and distinctly punctate, fore coxae separated by not more than a fifth of the diameter of a coxa; mesocoxae almost as widely separated as breadth of a metacoxa; metasternum minutely setose, not more than one third as broad between mid and hind coxae as a metacoxa at trochanter. *Venter* finely reticulate, finely setose, indistinctly punctate, usually longitudinally concave in male and convex in female, fifth ventrite almost as long as four plus three. *Pygidium* vertical, reticulate, minutely punctate and setose, well margined, about one fourth broader than long in female, but as long as broad in male. Length, 1.25-1.75 mm.; breadth, 0.6-0.75 mm.

Holotype male and three paratypes collected on Orote Peninsula, May 24, 1936, by Swezey, the holotype and one paratype from *Pipturus*, the other two paratypes from "*Ficus* small leaf"; allotype and seven paratypes collected by Usinger at Piti, May 22, 1936; five paratypes from the same locality collected by Swezey as follows: one from *Glochidion*, Aug. 18; one found in a garden, Oct. 7; one from dead orange twigs, Oct. 9; one from dead breadfruit branch, Oct. 27; one swept from bamboo, Oct. 29; and one collected by Swezey from *Citrus* at Inarajan, May 17; holotype and allotype in Bishop Museum.

According to Jordan, this species is evidently allied to *Notioxenus tomicoides* Sharp, 1891, from Japan, but it is longer and has the apical half of the elytra less strongly punctate and the abdomen not coarsely punctate as on *N. tomicoides*.

This small species is perhaps the most easily recognized of the known Guaman Anthribidae. Its large prothorax together with its bare, shiny black derm make it conspicuous among the other species which are pubescent and not shiny.

4. *Melanopsacus parvulus*, new species (pl. 1, *E*).

Male: derm piceous to black, appendages yellow; rather evenly and thinly clothed with prostrate golden hair above, pubescence not forming patterns.

Head coarsely reticulate, indistinctly punctate, pubescence short and sparse; eyes almost straight on scrobal side, about one fifth higher than broad; interocular area almost twice as broad as height of an eye; inner margin of scrobes not distinctly ele-

vated but with a minute lateral convexity above insertion of antennae, interscrobial distance hardly more than half as broad as narrowest interocular breadth. *Rostrum* continuously sculptured with head, as long from insertion of antennae to lateral apical angulation as interscrobial breadth. *Antennae* with first segment rather vaguely spindle shaped, but one side more inflated than the other, second segment as long as first, rather evenly expanded from base to apex which is almost twice as broad as base, as long as 3 + 4 + 5, fourth segment evidently slightly shorter than 3 or 5, 5 somewhat longer than 6, 6-8 subequal in length, but each successively slightly thicker; segments of club rather symmetrical, entire club as long as preceding five segments, segments subequal in size and shape, first two about as broad as long, terminal one slightly longer. *Prothorax* about one third broader than long, subhemispherical in outline; densely and minutely punctate; dorsal carina antebasal throughout, very slightly posteriorly concave at middle, lateral angle with lateral carina very slightly more than 90 degrees; lateral carina straight or just perceptibly concave, ending at about one third distance from extreme base to apex of side. *Scutellum* minute, punctiform, hardly discernible. *Elytra* one seventh longer than broad, twice as long as prothorax, very slightly arcuate on sides from base to apical third, thence broadly rounded, each elytron individually slightly convex at base; punctures arranged in regular striae rows, intervals broader than punctures; humeral callosities almost obsolete. *Pygidium* very slightly broader than long, side margins straightly convergent distally, apex rounded, half as broad as base; minutely and indistinctly punctate. *Sternum* with prosternum coarsely reticulate, densely punctate on sides, slightly shorter between coxal cavity and fore margin than a coxa; mesosternum and metasternum reticulate but not obviously punctate, metasternum not quite as long between mid and hind coxae as a hind coxa at trochanter. *Venter* reticulate but evidently not punctate; finely setose. Length, 1.25 mm.; breadth, 0.7 mm.

Holotype male, to be deposited in the United States National Museum, labeled "Island Guam, 1425" collected by Fullaway. One paratype—an immature specimen, yellow throughout, collected at Agat from *Hernandia*, May 31, 1936 by Usinger—is in Bishop Museum.

This minute species is about one half a millimeter smaller than Jordan's *minutus* or *pusillus* and is probably the smallest member of the genus thus far described. Its size—together with its antebasal dorsal pronotal carina, the structure of its antennae, head, and venter—and the nature of the sculpture will serve to distinguish it.

Genus MAUIA Blackburn, 1885

This genus contains three species. In addition to the widespread genotype listed herein, one species has been described from Papua and one from the Malay Peninsula.

5. *Mauia subnotatus* (Boheman) (pl. 1, G).

Araecerus subnotatus Boheman, *Eugenies Resa*, 116, 1859.

Mauia satelles Blackburn, *Roy. Soc. Dublin, Trans.* III, 3: 195, 1885.

Contexta murina Jordan, *Deutsche Ent. Zeitsch.*, 78, 1902.

This species might be confused with small, narrow specimens of *Araecerus*, but the interscrobial area is broader than the interocular area rather than being narrower as in *Araecerus*. The elytra are usually conspicuously tessellated with

patches of pale and dark, rather coarse squamules. Length, 2.5-3.5 mm.; breadth, 1.0-1.5 mm.

Three specimens of this species were collected by Swezey on Guam as follows: one specimen from the dry leaf of a large taro at Agana, May 4, 1936; one specimen from *Thespesia populnea* at Umatac, May 28, and one specimen from the seed cluster of a palm (*Coccothrinax?*), Yigo, Nov. 13. The National Museum sent the following, all taken by Oakley: four in roof of thatched house, Sept. 10, 1937, and one labeled "Hong Kong China, Guam 416, II-20-38, with Philippine Clipper, 38-8993."

This species is widespread in the Pacific and in the Old World tropics. It frequents dead leaves, twigs, and branches of many plants.

Genus **ARAECERUS** Schoenherr, 1826

This genus is predominantly Indo-Australian. The two species found in Guam have become very widespread and are readily carried by commerce. They jump rapidly when disturbed.

KEY TO THE SPECIES

- Segments of the antennal club strongly asymmetrical, each almost straight on one side and strongly convex on the other (fig. 1, *d*), second antennal segment usually only about half as long as the third; mesocoxae and fore tibiae of male unarmed.....**A. fasciculatus** (De Geer).
 Segments of the antennal club almost symmetrical, each rounded on either side (fig. 1, *e*), second antennal segment about three fourths as long as the third; mesocoxae of the male with a conspicuous conical tooth; fore tibiae of the male armed below with a small but rather strong apical mucro and usually with numerous variable teeth and longer, hairlike pubescence than dorsally.....**A. vieillardi** (Montrouzier).

These two species are closely allied, and greatly resemble one another. They can be separated only after detailed examination.

6. **Araecerus fasciculatus** (De Geer), (fig. 1, *d*).

Curculio fasciculatus De Geer, Mem. Ins. 5: 276, table 15, fig. 2, 1775.

(See Coleopterorum Catalogus for detailed synonymy.)

This species has been distributed to such an extent by commerce that it is now almost cosmopolitan. It is a pest of coffee, cocoa, nutmeg, and other products. It is approximately equally represented with *A. vieillardi* in Guam, where the following specimens were collected: four specimens collected by Usinger: one at Yona, May 12, 1936, one at Barrigada from *Crotalaria*, June 12, two on Mount Alifan, from breadfruit, May 21; 14 specimens collected by Swezey: one from Dededo, May 19, one from a cornfield at the same locality, Aug. 11, one at Inarajan from rice, July 25, one from Piti, July 31, one at Barrigada, from sunflower, Nov. 25, and nine from the seed cluster of a palm (*Coccothrinax?*); and four specimens collected by D. T. Fullaway.

7. **Araecerus vieillardii** (Montrouzier), (fig. 1, *e*; pl. 1, *C*).

Urodon vieillardii Montrouzier, Soc. Ent. France, Ann., 873, 1860.

This is a variable, common, and widespread species in Oceania. Its range is extended westward to the Philippines and eastward to Mangareva. Specimens range in size from 2 to 4 mm.; small males often have the teeth on the inner sides of the tibiae obsolete.

Twenty-one specimens from Guam are before me. Five specimens collected by Usinger as follows: one at Inarajan, May 6, 1936; two, at Tarague, from *Messerschmidia* (*Tournefortia*), May 17; two at Mount Alifan, one from dead breadfruit, May 21, the other May 26. Fifteen specimens collected by Swezey as follows: three at Santa Rosa Peak, from dead corn stalks, May 19; three at Piti from fallen breadfruit, May 23; two from Orote Point, May 24; one at Tumon from *Barringtonia speciosa*, May 30; one at Agat, from *Hernandia*, May 31; one from Agana, June 26; one at Machanao, from *Piper guahamense*, Aug. 6; one from Piti, Aug. 17, and two from seed cluster of a palm (*Coccothrinax?*). I have seen another specimen collected by D. T. Fullaway.

Genus **ARAEOCORYNUS** Jekel, 1855

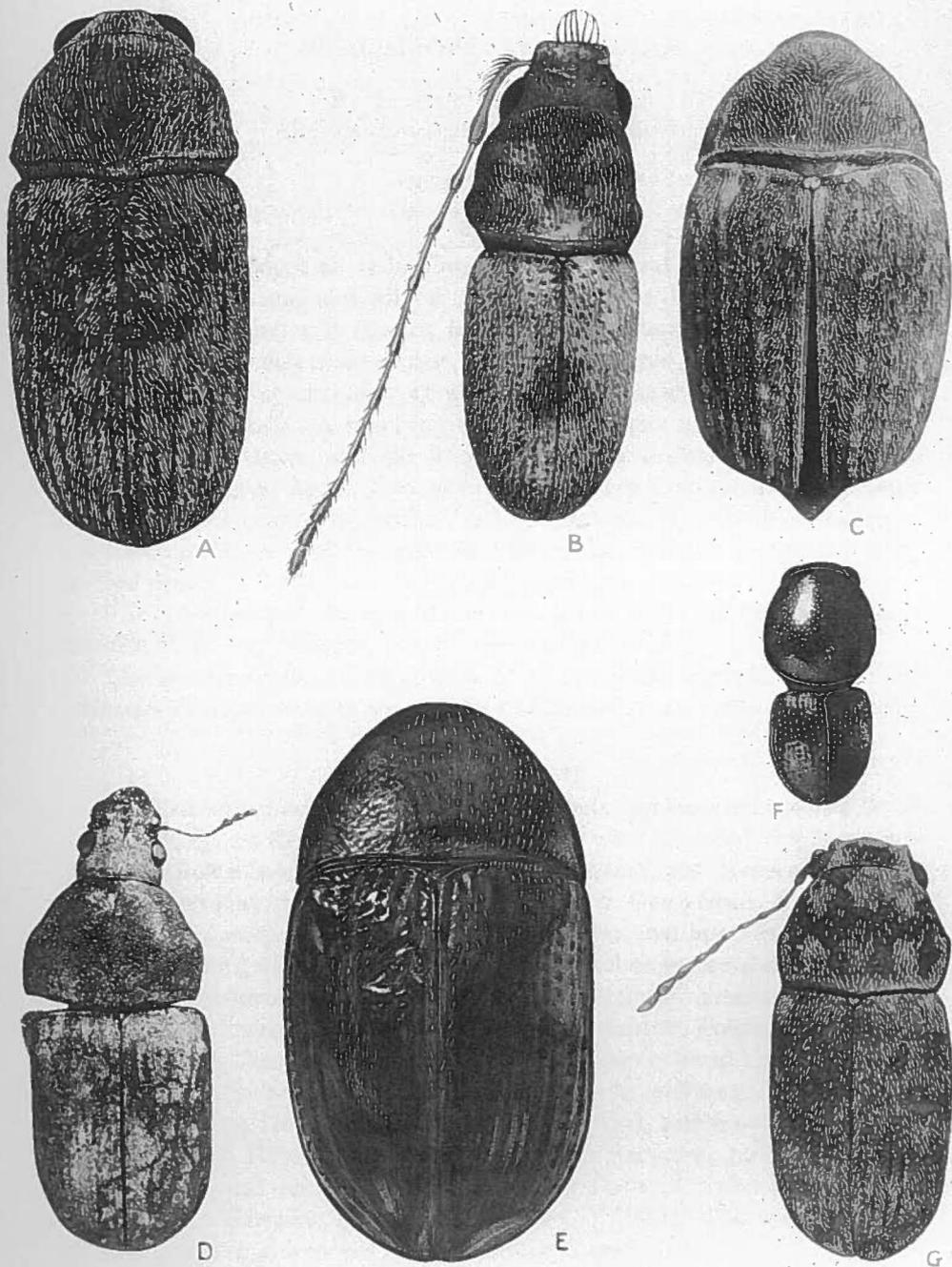
This genus is closely allied to *Araecerus*, but the upturned lateral prothoracic carina and the broad first fore tarsal segment will readily separate it from *Araecerus*.

The genus is a small one and its members inhabit the Indo-Malayan and Austro-Malayan subregions.

8. **Araecorynus cumingi** Jekel, Ins. Saund. 1: 152, table 1, figs. 6a-6b, 1855, (pl. 1, *D*).

Three specimens of this species were collected at Guam as follows: one at Tumon, from *Barringtonia*, May 30, 1936, and one at Inarajan, "ex pago" by Swezey, June 8; and one specimen collected by Fullaway.

This species resembles a giant *Araecerus vieillardii* or *A. fasciculatus*. Insofar as I know, this is the first record of the occurrence of the species outside the Philippine Islands, where it is endemic.



A, *JORDANTHRIBUS CONSPERSA*, FEMALE; B, *J. PLANIFACIETUS*, MALE; C, *ARAECERUS VIEILLARDI*; D, *ARAECORYNUS CUMINGI*; E, *MELANOPSACUS PARVULUS*; F, *NOTIOXENUS FULGIDUS*; G, *MAUIA SUBNOTATUS*. (E IS FROM A WASH DRAWING BY M. E. POOR, THE OTHERS ARE FROM PHOTOGRAPHS MADE BY W. TWIGG-SMITH.)