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Anthribid Weevils from Yucatan Collected on the Explorers Club-American Museum of Natural History Expedition, with Notes on Others of the *Brachytarsus* Complex (Coleoptera, Anthribidae)

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The state of Yucatan, in Mexico, forms the northern portion of the Yucatan Peninsula. The fauna of this state has been very inadequately studied; for example, in the weevil family Anthribidae, only three species are recorded, while 56 species are known from all of Mexico. In adjacent Guatemala, there are about 70 species, of which 59 are different from the Mexican ones. The figures serve to illustrate how little is known about each of the Central American countries. It was therefore a pleasure to receive for study the anthribids collected by Mr. John C. Pallister and Mrs. Pallister during the Explorers Club-American Museum of Natural History Entomological Expedition of 1952. The trip was financed in great part by the C. R. Vose Exploration Fund of the Explorers Club; additional funds were provided by the American Museum of Natural History.

The three species of anthribid weevils known from the state of Yucatan were all collected by Gaumer, at Temax. These were discussed by Jordan (1906) in the anthribid portion of the "Biologia Centrali-

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Americana." The specimens collected by Mr. and Mrs. Pallister were from the following five localities: Motul and Vicente Solis which are (as is Temax) in the arid northern tip of the peninsula, about 15 to 20 miles south of the coast; Chichen Itza, and Old Chichen in the south-central part of the state, about 50 miles inland, and in a transition zone between the arid coast and the humid interior; Colonia Yucatan, in the "eastern part of the State of Yucatan close to the Territory of Quintana Roo" (Pallister, 1955, p. 6), an area marked by high humidity and jungle. (A short discussion of the geography, climate, and life zones is given in Pallister, 1955).

At the present time, seven genera and nine species of Anthribidae can be recorded from Yucatan, the three species listed in the "Biologia" being different from the six collected by Mr. and Mrs. Pallister.

GENUS *PTYCHODERES* SCHÖNHERR, 1826

Rostrum with longitudinal grooves and carinae dorsally and laterally, subcylindrical at base, widened apically, antennae inserted at its apex distant from the eyes; eyes almost round, faintly truncate in front; three interocular carinae, the lateral ones sometimes very faint. The genus contains 16 species ranging from Mexico to Brazil. The single Antilles species, *Ptychoderes angulatus* Suffrian, 1877, from Cuba, has been made the type of a new genus, *Eucloeus*, by Wolfrum (1930).

Ptychoderes tricostifrons Fahraeus

Ptychoderes tricostifrons FAHRAEUS, 1839, in Schönherr, Genera et species curculionidum, vol. 5, pt. 1, p. 158. Type locality: "Mexico."

RECORDED DISTRIBUTION: Mexico: *Durango*: Ventanas. *Veracruz*: Toxpam. *Guerrero*: Mochitlan. *Yucatan*: Temax. State unknown: Bobo. British Honduras: Rio Sarstoon. Guatemala: Chacoj in Vera Paz, El Tumbador, Las Mercedes, El Reposo, Cerro Zunil, Volcan de Aitlan, Pantaleon, Zapote, Mirandilla, Rio Maria Linda. Nicaragua: Chontales. Costa Rica: Bebedero. Panama: Bugaba, Volcan de Chiriqui.

This is the only Central American species in the genus in which the roughened sculpture of the pronotum is restricted to the central depression. Other members of the genus from this area have faint raised ridges and small low tubercles scattered out beyond the central depression. The species varies greatly in size, the length (head excluded) ranging from 7 mm. to 22 mm. As in most members of the genus, males can be recognized by an oval, shallow pit filled with dense pubescence, located in the middle of the first visible abdominal sternite. Large

males have the antennae longer than the body. This relationship grades down to the smallest males which have antennae barely attaining the base of the prothorax. Females of all sizes have short antennae which reach almost to the transverse carina of the prothorax.

GENUS *ISCHNOCERUS* SCHÖNHERR, 1839

Beak longitudinally grooved and/or carinate both laterally and dorsally, widened apically; antennal insertion distant from the eyes; eyes elliptical, not truncate in front; one interocular carina; antebasal and subbasal carinae present on pronotum, the former angulate laterally; antennal club three segmented. The genus contains 12 described species which range from Maryland to Argentina.

Ischnocerus infuscatus Fahraeus

Ischnocerus infuscatus FAHRAEUS, 1839, in Schönherr, Genera et species curculionidum, vol. 5, pt. 1, p. 192. Type locality: "Mexico."

RECORDED DISTRIBUTION: United States: *Maryland*: Chesapeake Beach, Potomac River, 13 miles above Washington. *District of Columbia*. *North Carolina*: Raleigh. *South Carolina*. *Florida*: Enterprise, Bartow, Biscayne Bay, Key Largo, Key West. *Alabama*: Calvert, Mobile County. *Mississippi*: Nicholson. *Louisiana*: Baton Rouge, New Orleans. *Texas*: Victoria, Columbus, Devil's River, Brownsville. *Bahama Islands*: *Andros*. *Mexico*: *Veracruz*: San Andres Tuxtla, Toxpam, Cordova. *Guerrero*: Acapulco. *Oaxaca*: Oaxaca. *Tabasco*: Jalapa. *Yucatan*: Temax. State unknown; Almolonga, Cerro de Plumas. *British Honduras*: Belize, Rio Hondo, Rio Sarstoon. *Guatemala*: Yzabal, Panzos, Telemán, Chacoj, San Juan, and San Geronimo in Vera Paz, El Reposo, Las Mercedes. *Honduras*: San Pedro Sula. *Nicaragua*: Chontales. *Costa Rica*. *Panama*: Bugaba, Volcan de Chiriqui. *Venezuela*: Maracay (as subspecies *avis* Wolfrum, 1953).

This is by far the commonest and most widely distributed species in the genus. It can be recognized among Central American species by its oval eyes, the presence of a small tooth on the anterior margin of the prothorax immediately behind each eye, and the virtually straight, entire, antebasal carina of the pronotum which, in related species, is widely interrupted or has a mesial loop projecting posteriad and approaching the scutellum. As in the preceding species, there is striking sexual dimorphism in the length of the rostrum and the antennae. In males the antennae are almost the same as or exceed the body length; in females the antennae barely reach the shoulders. The body length (head excluded) is variable, ranging from 5.5 mm. to 11 mm.

GENUS *ORMISCUS* WATERHOUSE, 1845

Edge of eye closest to antennal cavities strongly emarginate; antennae inserted on lateral edge of rostrum, not reaching base of elytra; frons strongly convex; beak short, quadrate, sinuate or subtruncate at apex, no lateral carina from apex to antennal groove; prothorax strongly narrowed posterior to antebasal carina, the latter strongly concave (arched towards the pronotal base); lateral carina absent or very poorly developed; pygidium never twice as long as wide.

At the present time, the genus contains 59 described species distributed from southern Canada to Argentina, including the West Indies and the Galapagos Islands. All specific determinations in *Ormiscus* should be treated with caution, for the species are poorly known and difficult to separate, the genus as a whole being in very great need of study.

Ormiscus aequalis Jordan

Ormiscus aequalis JORDAN, 1906, *Biologia Centrali-Americana*, vol. 4, pt. 6, p. 365. Type locality: "Guatemala, San Geromino" (typographical error for San Geronimo).

RECORDED DISTRIBUTION: Known only from the type locality.

NEW RECORD FOR MEXICO: *Yucatan*: Chichen Itza, September 11, 1952 (J. and D. Pallister), one male.

This species falls in the group in which the males have a small apical mucro on both middle and hind tibiae; it is also one of the very few members of the genus that have a very fine lateral carina extending slightly forward from the hind angles of the prothorax. Within this latter restriction, *O. aequalis* can be recognized by the following: first segment of front tarsi about three times as long as apically broad; third elytral interspace with a faint basal callosity, not costate, not appreciably wider than interspaces 2 or 4; color of integument dark brown to almost black, palest on the legs; color of pubescence on rostrum, scutellum, frons, venter of body, and legs grayish; on dorsum of prothorax dark brown irregularly spotted with gray, the latter most condensed on the apical margin just posterior to the eyes; on elytra dark brown irregularly spotted with gray, the latter most evident in the basal halves of the scutellar interspaces just posterior to the basal callosities, and as an irregular series crossing the elytra above the apical declivity; on pygidium brown, with a thin gray border. Length (head excluded), about 2.5 mm.

Ormiscus minor Jordan

Ormiscus minor JORDAN, 1906, *Biologia Centrali-Americana*, vol. 4, pt. 6, p. 368. Type locality: "Guatemala, San Geronimo and Dueñas."

RECORDED DISTRIBUTION: Known only from the above two localities.

NEW RECORD FOR MEXICO: *Yucatan*: Vicente Solis, July 1, 1952 (J. and D. Pallister), one female.

Males of this small species are unknown. Prothorax lacking all traces of lateral carinae, sides subparallel from transverse carina to middle, then gently rounded to apex; elytra cylindrical, widening posteriorly, without costae, basal callosities barely discernible; integument so dark as to be almost black, except tibiae which have a faint reddish tinge, and elytra which are even lighter—especially on the disc where each is distinct dark red; color of pubescence on head, entire venter, legs, scutellum, and pygidium gray; on pronotum a narrow, median, longitudinal stripe gray, bordered by broad brown stripes, these in turn bordered by broader gray lateral areas, the latter each enclosing a rounded brown spot, and possibly others, the three longitudinal gray areas connected by a transverse series of gray bristles immediately in front of the transverse carina; on elytra variegated gray and brown, the latter forming humeral and basal spots, a transverse area before the middle, and heavier mottlings towards the apex. The result, under low magnification, is that the basal area of the elytra appears gray with brown spots, while the apical declivity appears brown with gray spots. Length (head excluded), 1.9 mm.

GENUS *PHAENITHON* SCHÖNHERR, 1826

Eyes large, very finely faceted, their borders emarginate on the side closest to the antennal insertions; rostrum with edges usually reflexed (upturned), sides slightly widened or angulate above the scrobes, then evenly rounded to apex which is medially excised; antennae very short, club compact, not reaching base of prothorax; the latter with transverse carina antebasal, lateral carinae present, not extending forward beyond the middle.

At the present time, the genus contains 55 species ranging from Mexico to Paraguay. Blackwelder (1947), in his catalogue of Latin American beetles, lists 57 separate species. However, three of these are synonyms, *P. guttulatus* Fahraeus, 1839, equaling *P. curvipes* (Germar), 1824, and *P. implicatum*- and *inconditum* Fahraeus, 1839, being identical with *P. semigriseus* (Germar), 1824. Also one species, *P. macu-*

latus (Fabricius), 1801, has been omitted; it was originally described as a *Hylesinus* (Scolytidae). Discussion of the above changes can be found in Jordan (1937, p. 255), except for *P. inconditus* which is synonymized in Jordan (1906, p. 359).

Phaenithon semigriseus (Germar)

Anthribus semigriseus GERMAR, 1824, *Insectorum species novae*, vol. 1, p. 177. Type locality: "Brasilia."

RECORDED DISTRIBUTION: Mexico: *Veracruz*: Toxpam, Playa Vicente. *Guerrero*: Dos Arroyos. *Oaxaca* (?): Santecomapan. Guatemala: Panzos, Chacoj, and San Geronimo, all in Vera Paz, San Isidro, Las Mercedes, Torola. Nicaragua: Chontales. Panama: Volcan de Chiriqui. Brazil. Peru. Bolivia. Paraguay.

NEW RECORD FOR MEXICO: *Yucatan*: Colonia Yucatan, August 14, 1952 (J. and D. Pallister), one female.

This variable species can be recognized within the Central American fauna by the following combinations of gray and brown pubescence. Pygidium brown, irregularly bordered by gray, at times the brown reduced to a pair of discal spots; sides of pronotum distinctly grayer than disc, usually enclosing one or more brown spots, the disc brown, enclosing many small irregular gray spots, the most constant forming a widely interrupted medial line; elytra mostly gray on basal third, then mostly brown to apical declivity, the latter bearing condensations of gray at the apex; scutellum brown; entire ventral surface gray except apex of tibiae, base and apex of first tarsal segments, and segments 2, 3, 4, and 5, all of which are brown.

A structural feature which may be useful when more species have been checked is the sinuate lateral carina of the prothorax which turns dorsally and then ventrally before disappearing. The length (head excluded) varies from 4.2 mm. to 5.8 mm. Males have each middle and hind tibia armed with a very small mucro on the inner apical margin, and females have the last visible abdominal sternite with a shallow mesial emargination.

GENUS *EUGONUS* SCHÖNHERR, 1833

In the New World anthribid fauna, only seven genera have the sides of the prothorax carinate from base to apex. These are: *Eugonus* Schönherr, 1833; *Eugonodes* Jordan, 1904; *Eucyclotropis* Jordan, 1904; *Areoderes* Schaeffer, 1906; *Anthrenosoma* Jordan, 1904; *Erotlyopsis* Jordan, 1904; and *Ambonoderes* Jordan, 1907. The genus *Eugonus*

differs from the other six in that the apex of the rostrum is interrupted by a large median hemispherical sinus. It also differs from all except *Eugonodes* by its elongate, parallel-sided, cylindrical body form.

The nine species of the genus range from Mexico to Brazil; one of these was described from Cuba, but the generic allocation seems doubtful.

Eugonus subcylindricus Fahraeus

Eugonus subcylindricus FAHRAEUS, 1839, in Schönherr, *Genera et species curculionidum*, vol. 5, pt. 1, p. 172. Type locality: "Mexico."

RECORDED DISTRIBUTION: Mexico: *Veracruz*: Toxpam, Playa Vicente. Guatemala: Yzabal, San Juan, Chacoj, Panzos in Vera Paz. Nicaragua: Chontales. Brazil.

NEW RECORD FOR MEXICO: *Yucatan*: Colonia Yucatan, July 12, 1952 (J. and D. Pallister), one male.

The identification of species of *Eugonus* is difficult because of the presence of specimens from South America that do not quite fit existing descriptions. In Central America, however, only two species are known, *E. subcylindricus* being separable from the other, *E. decorus* Jordan, 1906, by the fact that it possesses alternating dark brown and straw-colored spots on both sutural and lateral margins of the elytra, *decorus* being tessellate only on the suture. Length (head excluded), from 7 mm. to 8 mm.; additional variation is to be expected. The male of *E. subcylindricus* has a tiny apical tooth at the tip of the middle tibiae, the first visible abdominal sternite has a median, oval, naked, punctate area, and sternites 2, 3, and 4 each bear a median tuft of erect, golden bristles near their apical margins.

GENUS *EUPARIUS* SCHÖNHERR, 1823

This is the only genus of New World Anthribidae with all three of the following features: Eyes entire [except in *E. luridus* (Fahraeus), 1839], lateral prothoracic carina incomplete, and mandibles with double cutting edges. Anthribid mandibles occur in varying thicknesses, but usually each tapers to a single cutting edge on its inner border. In *Euparius*, however, the mandibles are unusually thick dorso-ventrally, so that each chewing surface has both dorsal and ventral edges separated by a concave area.

The genus is an extensive one; 56 species are listed currently, ranging from Canada to Argentina. Almost half of these occur in Brazil. None are known from the West Indies.

Euparius torquatus (Jekel)

Cratoparis torquatus JEKEL, 1855, *Insecta Saundersiana*, vol. 1, p. 127. Type locality: "Mexico."

RECORDED DISTRIBUTION: Mexico: *Veracruz*: Cordova, Toxpam, Playa Vicente. *Tabasco*: Jalapa. State unknown: Cerro de Plumas, Sierra de Durango. British Honduras: Belize, Rio Hondo. Guatemala: Yzabal, Teleman, and Panzos in Vera Paz, El Tumbador, El Reposo, San Isidro, Zapote. Nicaragua: Chontales. Costa Rica: San José. Panama: Volcan de Chiriqui.

NEW RECORDS FOR MEXICO: *Yucatan*: Old Chichen, September 14, 1952 (J. and D. Pallister), two males, six females; Colonia Yucatan, August 13, 1952 (J. and D. Pallister), one female.

Intercoxal process of mesosternum convex near the apex, but not strongly tuberculate; terminal (eleventh) antennal segment paler than segments 9 and 10; first tarsal segment mostly gray pubescent, segments 2 through 5 dark brown; pronotum with a shallow median depression from carina almost to apex, transverse carina meeting lateral carina in an acute angle which is directed laterally and posteriorly; elytral pubescence heavily tessellated on odd-numbered interspaces. Length (head excluded), from 7 mm. to 8.3 mm. Males can be recognized by the numerous small tubercles on the posterior margin of the hind femora.

The eight specimens from Old Chichen were taken under the bark of a dead log, about 4 feet above the ground. The species undoubtedly feeds on polypore fungi, for the author and Mrs. Valentine found it in numbers on *Polyporus* sp. growing on dead tree trunks in Honduras (10.5 miles southwest of Olanchito, Yoro, Honduras, August 28, 1956, B. and B. Valentine).

Euparius suturellus Wolfrum

Euparius suturalis JORDAN, 1906, *Biologia Centrali-Americana*, vol. 4, pt. 6, p. 348. Type locality: "Temax in Yucatan," *Nec E. suturalis* Jordan, 1904.

Euparius suturellus WOLFRUM, 1929, *Coleopterorum catalogus*, pt. 102, p. 91. New name for *E. suturalis* Jordan, 1906.

Euparius placidus JORDAN, 1937, *Novitates Zool.*, vol. 40, p. 255. New name, not necessary.

RECORDED DISTRIBUTION: Mexico: *Veracruz*: Toxpam. *Yucatan*: Temax. British Honduras: Rio Hondo. Guatemala: El Tumbador.

Intercoxal process of mesosternum without a subapical swelling; antennal segments 9 and 10 darker than the others; tarsi as in *E.*

torquatus (Jekel); prothorax also similar to those of that species except the median depression is just barely visible; elytra with brown and white tessellations along the suture, second interspace whitish, remainder a blend of yellow and gray interrupted by three pairs of irregular brown spots (postscutellar, median, and preapical) near the sutural margins. Length (head excluded), from 5.5 mm. to 6.5 mm. Males have a few small tubercles on the posterior margins of the hind femora.

GENUS *TRIGONORHINUS* WOLLASTON, 1861

Trigonorhinus WOLLASTON, 1861, Ann. Mag. Nat. Hist., ser. 3, vol. 7, art. 13, p. 102. Genotype: *Trigonorhinus pardalis* Wollaston, by monotypy; equals *Brachytarsus areolatus* Boheman, 1845.

Trignorrhinus GEMMINGER AND HAROLD, 1872, Catalogus coleopterorum, vol. 9, p. 2745. Emendation.

Brachytarsus of authors, in part, *nec* Schönherr, 1823. New synonymy.

Anthribulus LeCONTE, 1876, Proc. Amer. Phil. Soc., vol. 15, no. 96, p. 406. Genotype: *Anthribulus rotundatus* LeConte, by monotypy. New synonymy.

Brachytarsoides PIERCE, 1930, Proc. U. S. Natl. Mus., vol. 77, art. 17, p. 29. Genotype: *Brachytarsus griseus* LeConte, by original designation. New synonymy.

This is the first published use of the genus *Trigonorhinus* for any New World anthribid. The genus, described by Wollaston (1861, p. 102), originally contained a single species, *T. pardalis* Wollaston, from the Cape Verde Islands off the west coast of Africa. Later, Bedel (1906, p. 93) synonymized both genus and species with the Mediterranean *Brachytarsus areolatus* Boheman, 1845. Bedel was right in stating that *pardalis* and *areolatus* were the same species, but he was wrong in agreeing with previous authors who placed *areolatus* in the genus *Brachytarsus*. Actually, the Mediterranean-Cape Verde species belongs in a separate and very distinct genus, for which, thanks to Wollaston, the name *Trigonorhinus* is available. In addition to the single Old World species, *Trigonorhinus* is amply represented in the New World, where it has been called *Brachytarsus*, *Anthribulus*, and *Brachytarsoides*, the first being incorrectly applied, and the last two being synonyms of *Trigonorhinus*.

The only item in the above synonymy that requires additional discussion is the sinking of Leconte's *Anthribulus*. This genus was separated from "*Brachytarsus*" because of the absence of lateral carinae on the prothorax and the inflated form of both prothorax and elytra. These characteristics grade through *T. nigromaculatus* (Schaeffer) to *T. sticticus* (Boheman) to *T. limbatus* (Say), and so on so gradually that

there is no structural discontinuity between "*Anthribulus*" *rotundatus* and the remainder of the complex. The only unusual color feature of *rotundatus*, the fusion of the discal spots of the elytra to form a single sutural spot, is duplicated by the South American *T. zae* (Wolfrum) which in all other respects resembles *T. sticticus*. There is no color or structural feature (including the genitalia) that will separate *Anthribulus* from *Trigonorhinus*.

Most of the above information has been extracted from the author's unpublished Master's thesis (Valentine, MS). It is presented here to increase the accuracy of the present paper and to enable other workers, who have been waiting patiently, to use the name *Trigonorhinus* without charges of plagiarism.

In the New World, *Trigonorhinus* is the only genus of Anthribidae with both of the following features: The dorsal surface of the rostrum is narrowed from base to apex, and the median third of the apex extends beyond the corners, so that the center of the rostrum is appreciably longer than the sides. The Old World members of the complex (now correctly called *Anthribus* which has priority over *Brachytarsus*) can be distinguished at a glance from *T. areolatus* and the New World species by the structure of the third tarsal segments: *Anthribus* has the two apical lobes connate, *Trigonorhinus* has the two lobes separate and distinct. *Anthribus* also lacks the apical projection of the beak.

Trigonorhinus contains 39 names for species and lesser populations. Of these only 13 are valid species; the remainder represent synonyms or geographic populations of varying distinctness. The single Old World species is found in the Cape Verde Islands, Algeria, Spain, Italy, and Sicily; in the Western Hemisphere, species range from Canada to Argentina. All West Indian records appear to be misidentifications.

***Trigonorhinus strigosus* (Jordan), new combination**

Brachytarsus strigosus JORDAN, 1907, *Biologia Centrali-Americana*, vol. 4, pt. 6, p. 379. Type locality: "Mexico, Guanajuato."

RECORDED DISTRIBUTION: Known only from the type locality.

NEW RECORD FOR MEXICO: *Yucatan*: Motul, July 11, 1952 (J. and D. Pallister), one male.

The following diagnosis separates this species from all other members of the genus: Tibiae annulate gray and brown, the latter forming basal and postmedian areas; width of prothorax at hind angles contained in body length (head excluded) from 2.1 to 2.3 times; pronotal disc

with distinct longitudinal rugae; disc of each elytron with a large spot of brown pubescence contrasting sharply with surrounding shades of tan or straw. Length (head excluded), from 2.4 mm. to 3.1 mm. External sexual features are relatively obscure throughout the genus, but usually the male abdomen is slightly concave when viewed from the side, while that of the female is flat or convex.

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