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Carabidae of the Society Islands and Rapa (Coleoptera)[1]

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INTRODUCTION

This paper is a report on the Carabidae collected by the Mangarevan Expedition in southeastern Polynesia in 1934. It deals with species from the Society Islands and a few from Rapa. The collection includes 60 individuals comprising 12 species, of which four species from high altitudes in Tahiti are new and are described below. The types of the new species are stored in Bishop Museum; paratypes are in the British Museum. In order to make this report as complete as possible, I include hitherto unpublished records of Carabidae collected on the islands of Tahiti and Rapa by C. L. Collenette and Miss L. E. Cheesman of the St. George Expedition in 1925.

Very little has been written on the Carabidae of the Society Islands. Leon Fairmaire in his "Essai sur les Coléoptères de la Polynésie" (Rev. Mag. Zool., pp. 43, 277, 1849) recorded nine species from Tahiti, six of which were described by C. H. Boheman (Eugenies Resa, p. 16, 1858), and two by J. Redtenbacher (Reise Novara, III, p. 19, 1867).

I wish to express my thanks to Monsieur René Oberthur for his kindness to me during a visit to Rennes, where I was able to examine the types of species described by Fairmaire, to Dr. O. Lundblad and Dr. P. A. Roman of the Stockholm Museum for the loan of the three types of Boheman, and to Dr. K. Holdhaus of Vienna for the loan of the types of the two species described by Redtenbacher.

[1] Mangarevan Expedition Publication 23.

FAMILY CARABIDAE

SUBFAMILY HARPALINAE

TRIBE BEMBIDIINI

Tachys sexguttatus Fairmaire, 1849.

Tachys quadrillum Schaum, 1860, new synonym.

Tahiti: Papeete, Blue Lagoon, taken at light on seashore, March 1, 1934, one example collected by E. C. Zimmerman.

Since the example agrees exactly with the description given by Fairmaire, and was obtained at the type locality, I have no hesitation in referring it to the above species. I have, however, been unable to verify this identification by comparison with the type, as I did not succeed in finding this in the collections of Monsieur René Oberthur at Rennes or at the Musée d'Histoire Naturelle, Paris, although at Rennes I saw examples of the original series of other species described by Fairmaire in the same paper. The example also proves to be identical with *Tachys quadrillum* Schaum, a species widely distributed from India to New Guinea and Samoa. I have, therefore, established the synonymy.

TRIBE NOMIINI

Thriscothorax altiusculus, new species (figs. 1, *a*; 2, *a*).

Length, 5.75-6.3 mm. *Color,* piceous to black, slightly aeneous; antennae, mandibles, palpi, tarsi, and margins of prothorax and elytra rufo-testaceous; first interval of elytra sometimes paler than the remainder; legs brown, paler at knees; ventral surface reddish brown. *Head,* with a groove on each side, limited by a ridge laterally, running back from the clypeus to a point between the supraorbital setae. *Prothorax,* length 1.26-1.5 mm.; greatest width (middle) 1.51-1.96 mm.; width across apex 1.05-1.96 mm.; width across base 0.98-1.19 mm.; sides without sinuation near base; smooth; convex; punctured across the base; side margins wide (approximately 0.1 mm.) and sharply reflexed; one seta on each side at the widest point; posterior angles completely rounded and without setigerous punctures; median line very faint. *Elytra,* length 3.6-4.2 mm.; greatest width 2.45-2.87 mm.; oval, moderately convex; margins strongly reflexed; striae clearly impressed and feebly punctured in the anterior third; intervals flat, the third with two setigerous punctures; seventh stria faint except at apex; scutellar striole with four punctures. Hind wings vestigial.

Tahiti: Mount Aorai Trail, 4,500-6,000 feet, Sept. 14, 15, 1934, seven examples collected on *Freycinetia* by E. C. Zimmerman.

Thriscothorax constrictus, new species (figs. 1, *b*; 2, *b*).

Length, 3.85 mm. (type). *Color,* piceous to black; slightly aeneous, shin-

ing; mandibles, palpi, antennae, and legs testaceous; ventral surface reddish brown. *Head*, eyes small and not as prominent as in most species. *Prothorax*, length 0.83 mm.; greatest width (at one third of length from apex) 1.08 mm.; width across apex 0.73 mm.; width of base 0.65 mm.; cordate; posterior angles rectangular; disc convex; margins very narrow, reflexed; base depressed, with

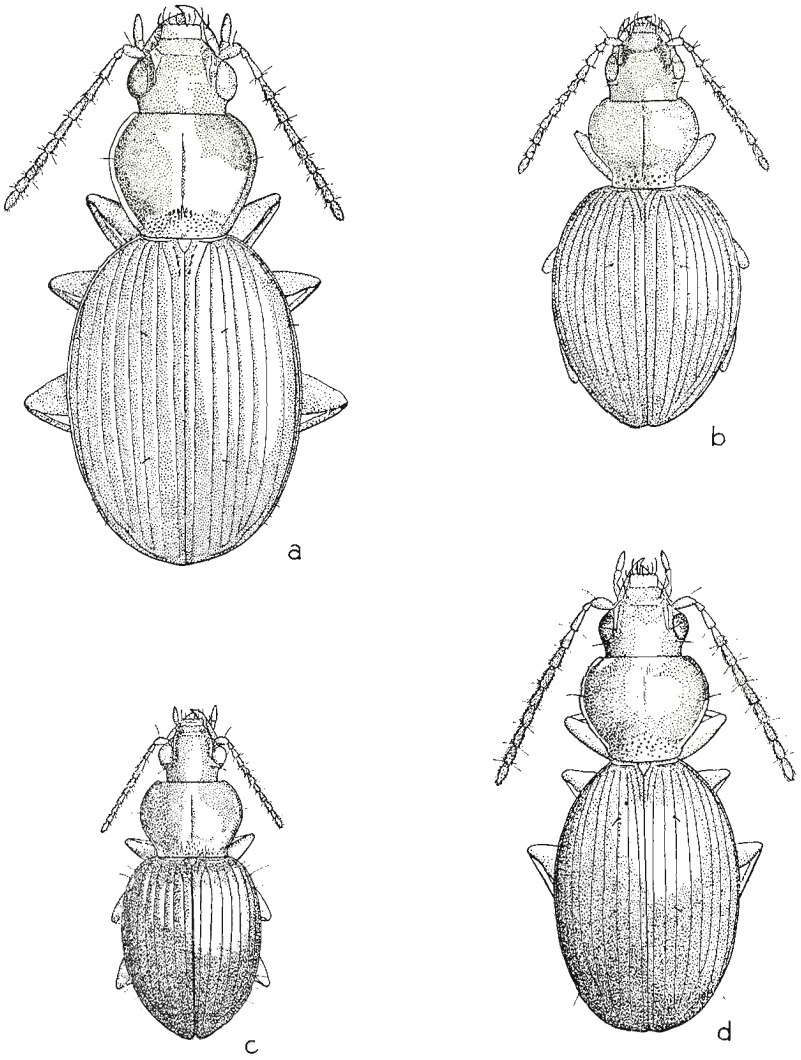

FIGURE 1.—New species of *Thriscothorax*: *a*, *T. altiusculus*; *b*, *T. constrictus*; *c*, *T. minutus*; *d*, *T. bryobius*.

a few large punctures; median line only slightly impressed. *Elytra,* length 2.35 mm.; median width 1.91 mm.; broadly oval and very convex; margins reflexed; striae clearly impressed, unpunctured; intervals slightly convex, the third intervals with a single puncture; stria 7 obvious throughout its length; hind wings vestigial.

Tahiti: Mount Aorai Trail, 3,500-4,500 feet, Sept. 13, 15, 1934, two examples taken by beating moss on trees and shrubs by E. C. Zimmerman.

Thriscothorax minutus, new species (fig. 1, *c*).

Length, 3.6 mm. (type). *Color,* head and prothorax aeneous-black; elytra aeneous-brown; mandibles, palpi, legs and antennae testaceous, the antennae becoming darker toward their apices; ventral surface reddish brown. *Head,* eyes moderately prominent; anterior supraorbital setae and punctures absent. *Prothorax,* length 0.8 mm.; greatest width 1.12 mm.; width at apex 0.72 mm.; width at base 0.79 mm.; cordate; posterior angles very slightly acute, almost rectangular; disc moderately convex; lateral margins very narrow, reflexed; base depressed, somewhat rugose, and with a few obsolete punctures; median line slightly impressed. *Elytra,* length 2.08 mm.; greatest width 2.24 mm.; broadly ovoid, moderately convex, falling off steeply at the sides from the sixth stria; margins narrow, reflexed; striae impressed, without punctures except for a few at the apex and base of stria 8; stria 7 obvious throughout its length; intervals flat, unpunctured; hind wings vestigial.

Tahiti: Mount Aorai Trail, 3,500 feet, Sept. 16, 1934, five examples taken on sand at edge of pond by E. C. Zimmerman.

Thriscothorax bryobius, new species (figs. 1, *d*; 2, *c*).

Length, 4.8 (type)–5.4 mm. *Color,* reddish brown to dark brown; head and prothorax usually darker than the elytra; margins of prothorax and elytra testaceous; mandibles, palpi, antennae, and legs testaceous; ventral surface reddish brown. *Prothorax,* length 1.08 (type)–1.26 mm.; greatest width 1.3 (type)–1.44 mm.; width at apex (type) 0.87 mm.; width at base (type) 0.68 mm.; cordate, with sides slightly sinuate near the base; posterior angles obtuse and rounded; lateral margins narrowly reflexed; surface moderately convex with the median line slightly impressed; base depressed, with only a few obsolete punctures. *Elytra,* length 3.06 mm.; greatest width 2.05 mm. (type measurements); oval, convex, margins narrowly reflexed; striae less deeply impressed than in the other species, with faint punctures spaced by three or four times their diameters; intervals flat; the third interval with two setigerous punctures placed approximately 0.7 mm. and 1.82 mm. from the base; stria 7 very faint and not set on a carina apically. The whole surface shows well defined microsculpture, formed of transverse spaces giving the elytra a matt surface, in contrast to the shining head and prothorax.

Tahiti: Mount Aorai Trail, 5,500-6,300 feet; Sept. 15, 1934, four examples taken by beating moss on trees and shrubs by E. C. Zimmerman.

TRIBE HARPALINI

Selenophorus pyritosus Dejean, 1829.

Tahiti: Papeete, March 1925, six examples taken at light by St. George Expedition; April 1927, three examples collected by L. H. MacDaniels; Moara, Papeari, March 16, 1925, one example collected by G. P. Wilder; mouth of Fautaua Valley, March 13, 1934, two examples taken under boards by E. C. Zimmerman; Arihiri, Pare, March 1934, three examples taken by E. C. Zimmerman; Papeete, Blue Lagoon, March 1, April 8, 1934, ten examples taken at light by E. C. Zimmerman.

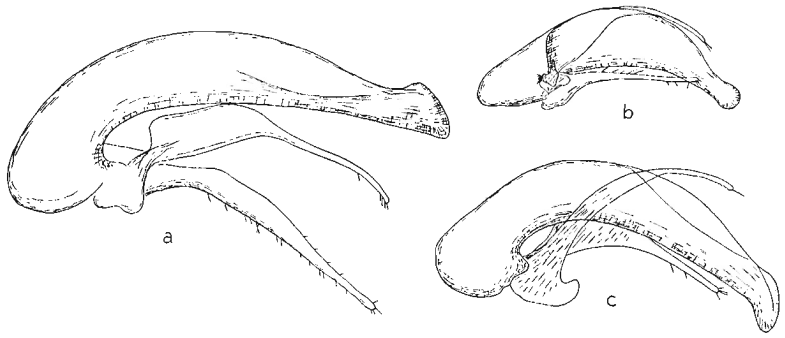

FIGURE 2.—Male genitalia of species of *Thriscothorax*: *a*, *T. altiusculus*; *b*, *T. constrictus*; *c*, *T. bryobius*.

Raiatea: 1926-27, five examples collected by J. W. Moore.

Tuamotu Islands: Makatea, 1932, one example collected by G. P. Wilder.

All the above examples differ from the typical Central American form in having the foveae of the fifth striae of the elytra somewhat smaller. As, however, this appears in a few examples from Central America, there is no justification for separating the island form. I am indebted to Dr. F. van Emden for pointing out this fact.

Acupalpus vestigialis Erichson.

Stenolophus dingo Castelnau.

Tahiti: Papeete, Blue Lagoon, Papeari, Tiupi Bay, March-May, 1934, six examples collected by E. C. Zimmerman; April 26, 1925, one example collected by L. E. Cheesman.

Distribution: Java, Mentawei Islands, New Guinea, Australia.

TRIBE CHLAENIINI

Chlaenius flagiguttatus MacLeay var. **guttatus** Escholtz, 1829.

Tahiti: Apirimaue Valley near Tiupi Bay, Papeari, May 4, 1934, one example taken on sand by stream by E. C. Zimmerman.

Distribution: Philippine Islands, New Guinea, New Caledonia.

TRIBE PERIGONINI

Perigona nigriceps Dejean, 1831.

Tahiti: Papara, Feb. 10, 1927, two examples collected by G. P. Wilder; Tiupi Bay, Papeari, April 28, 1934, one example taken beneath fallen coconuts by E. C. Zimmerman.

Distribution: cosmopolitan.

TRIBE AGONINI

Agonum bothriophorus Redtenbacher, 1867.

Agonum (*Anchomenus*) *cooki* (Sloane), 1894, new synonym.

Rapa: April 11, 1925, two examples taken at light by C. L. Collenette.

Distribution: Tahiti; Queensland; Samoa.

Colpodes monticola (Fairmaire), 1849.

Anchomenus raptor Redtenbacher, 1867, new synonym.

Tahiti: Fautaua Valley, 2,500 feet, March 13, 1925, three examples taken at light by C. L. Collenette; May 1927, one example collected by L. H. MacDaniels; east slope of Mount Orofena, 4,500 feet, Sept. 22, 1934, two examples collected by F. R. Fosberg.

Raiatea: 1926-27, one example collected by J. W. Moore.

Rapa: April 11, 1925, one example taken at light by C. L. Collenette; northeast ridge of Mount Perahu, 1,300-1,700 feet, July 15, 1934, one example taken in dead *Cyathea* fronds by E. C. Zimmerman.

Distribution: previously known only from Tahiti.

I have seen the type of this species in the collection of Monsieur René Oberthur at Rennes. It is identical with the type of *Anchomenus raptor* Redtenbacher.

Colpodes anachoreta (Fairmaire), 1849.

Colpodes castaneus Boheman, 1858, new synonym.

Tahiti: east slope of Mount Orofena, 4,500 feet, Sept. 22, 1934, one immature example collected by F. R. Fosberg.

Distribution: known only from Tahiti.

The type of this species which I saw at Rennes is identical with that of *Colpodes castaneus* Boheman.

TRIBE LEBIINI

Endynomena pradieri (Fairmaire), 1849.

Tahiti: Papeari, Tiupi Bay, April 27, 1934, one example collected by E. C. Zimmerman.

Raiatea: 1926-27, one example collected by J. W. Moore.

Distribution: India, Ceylon, Cochin China, Tonkin, Sumatra, Philippine Islands, Cocos Islands, New Hebrides, Samoa, Ellice Islands, Marquesas, Hawaiian islands, Tonga Islands, Fiji islands.

The total number of species of Carabidae now known to occur in the Society Islands is 17. The remaining five species not recorded here are *Colpodes eremita* (Fairmaire), *Callida insularis* Boheman, *Lebia bembidioides* Fairmaire, *Lebia insularis* Boheman, *Plochionus pallens* Fabricius. I have examined the types of *Callida insularis* Boheman and *Lebia insularis* Boheman. Both of these species are undoubtedly natives of Central America. *Callida insularis* Boheman appears to be the same as *Callida sanguinicollis* Dejean, a species which occurs in Brazil, Colombia, Chiriqui (Panama), and Trinidad. New synonymy: *Callida sanguinicollis* Dejean, 1839
= *Callida insularis* Boheman, 1858.

According to Chaudoir (Soc. Nat. Mosc., Bull. **44**: 83, 1871), *Lebia insularis* Boheman is either a *Dianchomena* or a true *Lebia* of the *analis* group. Examination of the type shows that it belongs to the *Lebia* group, and from the pattern of the elytra and the parallel striation of the head it appears to be most closely allied to *Lebia rugifrons* Dejean. I have been unable to identify it with any known species from South or Central America, although it belongs to a small group of species restricted to the southern United States and Central America. I have been informed by Dr. Roman, of the Stockholm Museum, that several species described from material collected by the Eugenie Expedition and labeled "Taiti" have been found to be Brazilian. It is noteworthy that, although the types of *Lebia insularis* and *Callida insularis* are labeled "Taiti", the localities given in the original descriptions are "Insulae Taiti et Honolulu." Finally, if the types were actually taken on Tahiti, it is rather surprising that they

have not been obtained since. These facts cast a doubt on the truth of the locality given for these two species, and I therefore think it advisable to withdraw them from the list of Tahitian Carabidae.

Of the 15 species, to which the list has now been reduced, seven are at present known only from Tahiti; *Colpodes monticola* Fairmaire is found on the islands of Tahiti, Raiatea, and Rapa, while the remaining seven have evidently been introduced in relatively recent times. Of these, four have been introduced from the Oriental and Papuan regions, one from Central America, and two are cosmopolitan.

The 15 species can hardly be regarded as representative of the whole carabid fauna, so that few useful deductions can be made concerning the relationships of the fauna. Nevertheless the presence of species of *Thriscothorax* in Tahiti is of considerable interest as this genus is otherwise known only from the Hawaiian islands. The closely related *Mecyclothorax* is also known from the Hawaiian islands, while winged species occur in Australia. Since there are many species of these genera known from the Hawaiian islands, it seems probable that further collecting in the Society Islands will reveal many new forms there.