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A NEW *ARGOPISTES* FROM TAHITI, MARKING A RANGE EXTENSION FOR ENDEMIC LEAF BEETLES IN OCEANIA (COLEOPTERA: CHRYSOMELIDAE)[1]

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Abstract: Leaf beetles are poorly represented or absent from the native faunas of isolated oceanic island groups in the Pacific. The Society Islands were without verified records of endemic chrysomelids until an *Argopistes* was discovered recently on Tahiti. This species is here described, keyed, and figured. The key includes most of the Pacific island species.

The discovery recently of an endemic alticine on Tahiti, Society Islands, marks a new extension to the natural range for Chrysomelidae on oceanic islands in the Pacific. This alticine, a new species of *Argopistes* described below, was collected by Professor Jean Gourvès from Mt Marou, high on a summit ridge in native rain forest. Thus far, only 2 specimens have been taken. Gourvès (1976: 59) briefly discussed the biotope and included a figure of Mt Marou.

The 3 principal islands of Samoa had appeared to be the remotest outposts for native chrysomelids on oceanic islands (Gressitt 1957: 241; Zimmerman 1942: 290), although some confusion lingered concerning the Society Is (Gressitt 1961: 73). Earlier, several species were thought to be normal faunal components of Tahiti, but they were actually from South America. These were among the chrysomelids described last century by Boheman and Fairmaire, which were collected at or near "Taiti" [Paita] on coastal Peru.[3] All of the chrysomelids from Paita described by these authors will be listed in Gourvès & Samuelson (1979). Most recently, however, chrysomelids were thought to be absent from the native faunas of all the islands beyond Samoa (Gressitt 1971: 19; Samuelson 1973: 152); thus the new alticine from Tahiti is a significant find.

Pacific island species of *Argopistes* remain incompletely resolved taxonomically. Part of the difficulty is because types of 4 species from Lifou, Loyalty Is, have not been found and their status remains unclear. Also, some species tend to be rare and are

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3. cf. Smith, R. F. & J. F. Lawrence, 1967, Univ. of California Publ. in Entomol. 45: 1–174. The significance and locations of "Insulae Puna et Taiti" are discussed on page 8 and to further clarify the position of the latter, the addition "in Peru" could be inserted after "Paiti" on line 11. On page 34, under *Diabrotica amoenula* Boheman, both localities are reported as Ecuadorian, but only the former is so. Samuelson (1973) also cited the latter locality as Ecuadorian and, thus, the citations for both *Longitarsus insularis* (Boheman) and *Crepidodera bicolor* Boheman should be corrected to "Peru" or "Peruvian" on pages 3, 9, 11, and 56.

poorly represented in collections—this of course may change once larval hosts are found. The map (FIG. 1) is based on extant specimens rather than species from the literature and treats, as the key does, all of the species, named or not, that I have seen thus far.

The key supersedes the one in Samuelson (1973: 68). Aedeagal diagnoses are included even though most aedeagi were illustrated in the above-cited article. Interocular index = narrowest distance between eyes/length of the eye × 100.

KEY TO PACIFIC ISLAND SPECIES OF *Argopistes*

1. Body form ovate, subelongate: 0.7× or less as broad as long 2
   Body form hemispherical, subcircular: more than 0.7× as broad as long 3
2. Elytral serial puncture rows substriate and conspicuous, with serial punctures distinctly larger than interstitial punctures; metatibial spine far-exceeding apex of tibia; aedeagus robust with preapex convexly broadened before abruptly narrowing to briefly produced extremity [dorsum yellow-testaceous, sometimes fuscescent in part; length 2.35–2.65 mm—Norfolk I] ..... **armipes**
   Elytral serial puncture rows evident but not very conspicuous, with serial punctures slightly larger than interstitial punctures; metatibial spine just attaining apex of tibia; aedeagus slender beyond bulbous base, feebly broadened to preapex, then narrowed obliquely and subacuminately to briefly rounded extremity [dorsum piceous; length 2.1–2.25 mm—Solomons: Guadalcanal] ..... **obrieni**
3. Metatibial spine not or slightly exceeding apex of tibia; elytral puncture rows 8 and 9 (lateral-most discal rows) with punctures tending to be larger than punctures of other rows and interstices; interocular index < 30 4
   Metatibial spine exceeding apex of tibia by 0.25 its length or more; elytral puncture rows 8 and 9 with punctures tending not to be larger than punctures of other rows and interstices; interocular index usually > 30 but sometimes as low as 26 (in *A. kraussi*) 6
4. Elytron with outline of lateral margin rather evenly convex along apical 0.3 5
   Elytron with outline of lateral margin sinuate or flattened along apical 0.3; aedeagus gradually narrowed apically with sides straight to briefly rounded apex [dorsum largely red-testaceous or black with large reddish area on elytron; length 3–4 mm—E Asia, Japan, Bonin Is] ..... **coccinelliformis**
5. Elytron with outline of lateral margin rather evenly convex from humeral angle to apex, producing rather broadly convex form apically; pronotum with lateral margin slightly convex; anterior angle region about 0.25× as long as lateral margin; aedeagus convexly narrowed preapically to produced apex [dorsum dark red-fuscous to piceous or yellow-testaceous becoming pitchy orange-testaceous laterally; length 3.3–3.6 mm—Fiji: Viti Levu; Ovalau; Lau Group] ..... **arnetti**
   Elytron with outline of lateral margin not evenly convex, somewhat flattened and narrowed behind middle, producing less broadly convex form apically; pronotum with lateral margin moderately convex; anterior angle region about 0.33× as long as lateral margin; aedeagus briefly broadened preapically with small emargination on each side before subacute extremity [dorsum piceous; length 2.7–2.85 mm—Loyalty Is: Lifou] ..... species A
6. Interocular index < 40, commonly 35 or less; aedeagus slightly and convexly broadened behind middle, then obliquely to subacuminately narrowed to angulate briefly rounded extremity ... 7
   Interocular index 40 or more; aedeagus various 9
7. Elytron broadest near basal 0.4 or middle; elytral puncture rows 8 and 9 evident 8
   Elytron broadest near basal 0.25–0.3; elytral puncture rows 8 and 9 not or barely discernible [dorsum bicolorous: partly dark fuscous to piceous, elytron orange-testaceous with sutural and lateral margins plus longitudinal discal area dark; length 2.75–3.15 mm—New Caledonia, Isle of Pines] ..... **kraussi**
8. Elytron evenly convex along middle *a*) pronotum and most of elytron piceous, apex of elytron

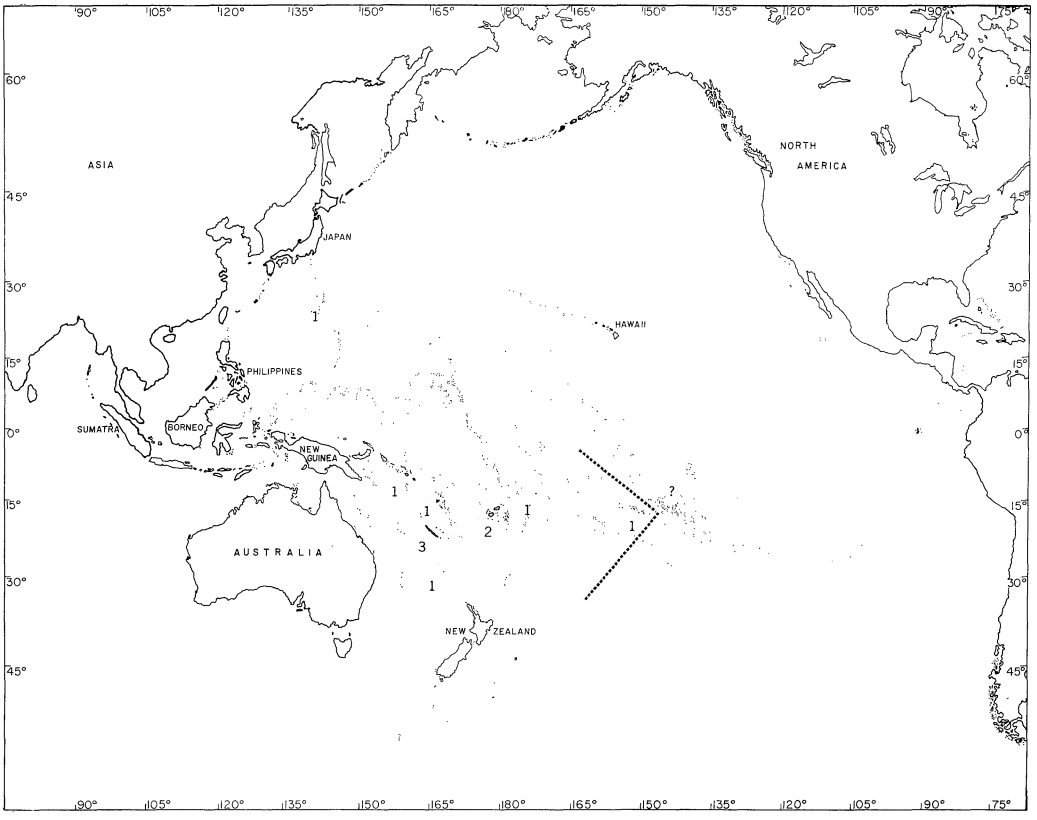

FIG. 1. Distribution of *Argopistes* on Pacific islands. Darkened circles and triangles represent the occurrence of species and accompanying numbers indicate the number of species. Nearly all species are endemic to their island group, but not all are described or assigned. Of the unassigned species, 1 may be twice-counted should populations in Fiji and the New Hebrides prove to be conspecific. The species from the Bonin Is also occurs in Asia. Other species from Australia, New Guinea, Asia and adjacent islands are not included. The dashed line approximates the farthest natural penetration of Chrysomelidae on oceanic islands in the Pacific; this line could shift again when islands beyond become adequately studied.

briefly paler; length 2.95 mm—Fiji: Viti Levu; *b*) pronotum orange-testaceous, elytron darker, fuscous to red-testaceous; length 2.85–3.15 mm—Fiji: Lau Group and Moala; *c*) pronotum orange-testaceous, elytron pale with dark fuscous areas basally and behind middle; length 3.25 mm—New Hebrides: Espiritu Santo] ..... species B

Elytron sinuate behind middle [dorsum dark fuscous; length 2.75 mm—?New Caledonia] . species C

9. Metafemur with surface finely granulate; aedeagus moderately broadened beyond middle and obliquely narrowed to briefly rounded extremity [dorsum yellow-testaceous or dark fuscous; length 2.75–2.85 mm—Society Is: Tahiti] ..... **gourvesi, n. sp.**

Metafemur with surface smooth, shining; aedeagus slightly and gradually broadened to beyond middle and then obliquely narrowed to produced elongate extremity [dorsum dark fuscous to piceous, sometimes with large circular orange-testaceous area on basal 0.6 of elytron; length 3.1–3.3 mm—Samoa: Savaii to Tutuila and Aunuu] ..... **insularis**

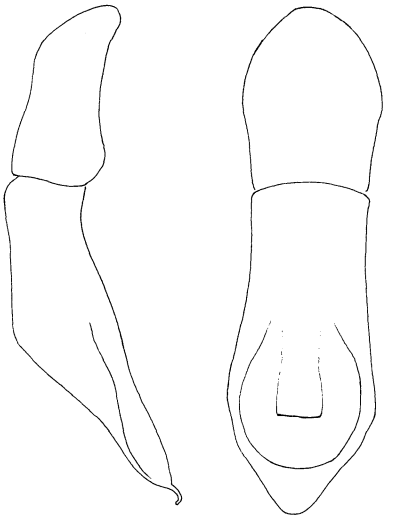

FIG. 2. *Argopistes gourvesi,* n. sp., aedeagus: lateral and dorsal views.

Argopistes gourvesi Samuelson, **new species** FIG. 2

Holotype ♂. Form subcircular, hemispherical. Dorsum, antenna, pro- and mesolegs yellow-testaceous; head, venter fuscous to piceous, thoracic sterna darkest; metafemur largely fuscous with apex becoming paler, yellow-testaceous; remainder of metaleg paler, yellow-, orange-testaceous. Length 2.85 mm; breadth 2.35.

Head: frons triangular, surface flattened, granulate with shallow large punctures along side and fine carina medially extending to interantennal space; interantennal space 0.75× as broad as transverse diameter of antennal socket; orbit 0.6× as broad as antennal socket; interocular space moderately narrowed above; interocular index 40; gena about 0.45× as deep as eye; postantennal swellings subquadrate, slightly swollen and separated medially by fine line; vertex with surface finely granulate; supraorbital punctures placed near inner margins of eyes above postantennal swellings. *Antenna* extending to about basal 0.25 of elytron; 3rd segment much smaller than 4th; intermediate segments gradually thickened to apices; apical segments robust, ± flattened. *Prothorax* broadest at posterior angles, base slightly narrower than elytra at humeral angles; pronotal index 49; anterior angle slightly produced, convex; side feebly convex; base bisinuate, median lobe broadly convex before scutellum; disc finely punctate, punctures commonly 0.6–0.7× as large as interspaces; interspaces finely granulate. *Elytron* 2× as long as broad; broadest near basal 0.4; side rather strongly convex and slightly more abruptly narrowed at apical 0.25; epipleuron vertically inflexed, continued to apex; humerus broadly but feebly swollen; discal serial puncture rows largely obscured by confused interstitial punctures; central and lateral puncture rows ± evident; serial row 9 with punctures about 2× as large as transverse interspaces; adjacent interstitial punctures not of uniform size but often about 1× as large as interspaces; interspaces smooth. *Ventral surfaces* largely granulate; abdomen with intercoxal carinae ± well-developed, becoming slightly more approximate posteriorly. *Legs*: metafemur strongly flattened, about 1.5× as long as broad, surface granulate; metatibial spine exceeding apex of tibia by 0.3 its length; relative lengths of metafemur, -tibia, -tarsus are 64:34:32; basitarsus distinctly longer than remainder. *Wing* fully developed. *Aedeagus* about 3.65× as long as breadth near middle; form as figured; ventral surface with fine median carina extending from postbasal region to preapex; aedeagal length 0.21 mm.

♀. Unknown.

Paratype ♂. Similar to holotype, but darker in color: body surfaces largely dark fuscous; antenna, pro- and mesolegs fulvous; metafemur dark fuscous with apex paler; remainder of metaleg pitchy to yellow-

testaceous. Body length 2.75 mm; breadth 2.25; interocular index 40; gena 0.45× as deep as eye; pronotal index 48; pronotal punctures commonly 0.7–1× as large as interspaces; aedeagus 3.55× as long as breadth near middle; aedeagal length 0.19 mm.

Holotype ♂ (BISHOP 11,455), SOCIETY IS: Tahiti: Mt Marau, 1450 m, X.1976, J. Gourvès collector; paratype ♂, same locality, 1400–1450 m, 20.IX.1977, Gourvès (Coll. Gourvès).

Remarks. Possibly most closely related to *A. insularis* (Maulik) from Samoa, which it resembles in external facies including smaller eyes and broader interocular space. Other Pacific island congeners of similar hemispherical form tend to have lower interocular indices, being larger- and closer-eyed. The new species distinctly differs from *A. insularis* by having the aedeagus more broadly and obliquely narrowed apically.

Life history information is essentially lacking for Pacific island species. However, *A. coccinelliformis* Csiki, which reaches the Bonins from Asia, is thought to be the species which J. L. Gressitt associated with leaf mines in privet from China (Gressitt & Kimoto 1963: 812). Other Oriental and Ethiopian species have also been associated with oleaceous hosts; accordingly, one might initially investigate such plants for leaf mines throughout the range of *Argopistes* on Pacific islands.

LIST OF PACIFIC ISLAND SPECIES OF *Argopistes*

armipes (Lea)—1926, Trans. R. Soc. S. Australia **50:** 80 (*Sphaerophyma*)—Norfolk I.
arnetti Samuelson—1973, Pac. Insects Monogr. **30:** 71—Fiji Is.
coccinea (Montrouzier)—1861, Ann. Soc. Entomol. France ser. 4, **1:** 302 (*Dibolia*)—Loyalty Is.
coccinelliformis Csiki—1940, *in*: Junk, Coleopterorum Catalogus **25**(169): 524 (new name for *coccinelloides* Baly, 1874, nec Suffrian, 1868)—Asia, Japan, Ryukyu Is, Taiwan, Bonin Is.
dichroa (Montrouzier)—1861: 302 (*Dibolia*)—Loyalty Is.
gagates (Montrouzier)—1861: 301 (*Dibolia*)—Loyalty Is.
gourvesi Samuelson—new species—Society Is.
insularis (Maulik)—1929, Insects of Samoa, part 4, fasc. 3: 202 (*Sphaerophyma*)—Samoa.
kraussi Samuelson—1973: 70—New Caledonia.
obrieni Samuelson—1967, Pac. Insects **9**(1): 146—Solomon Is.
thomassini (Montrouzier)—1861: 301 (*Dibolia*)—Loyalty Is.

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