

NEUROPTERA FROM THE SOCIETY ISLANDS*

By

P. ESBEN-PETERSEN
SILKEBORG, DENMARK

My best thanks are due to the Pacific Entomological Survey, for the opportunity to examine the neuropterous insects collected by Mr. A. M. Adamson in the Society Islands. As the knowledge of the Neuroptera of most of the Pacific islands is very limited and fragmentary, all information regarding them is of great value.

The following species were present in the collection:

FAMILY CHRYSOPIDAE

Chrysopa oceanica Walker (fig. 1, a).

Chrysopa oceanica Walker: Cat. Neuropt. Ins., Coll. Brit. Mus., p. 238, 1853, Hawaii; Cheesman, Ent. Soc. London, Trans., vol. 75, p. 147, 1927, Society Islands; Esben-Petersen, Insects of Samoa, Neuroptera, pt. 7, fasc. 3, p. 102, pl. 3, fig. 7, 1928, Society Islands, New Hebrides.

Chrysopa V-rubrum Brauer: Reise Novara, Neuroptera, p. 39, 1866, Tahiti.

Tahiti: Papeari, altitude 600 feet, November, 1928, 1 female; Papenoo Valley, 10 kilometers from sea, altitude 150 meters, October 25, 1928, 5 females; Fataua [Fataua] Valley, altitude 1,500 feet, September 11, 1928, 1 male, 2 females; Tuauru River, 1 mile from sea, altitude 50 feet, September 5, 1928, 1 male; Hitiaa, 3 miles from sea, altitude 1,500 feet, December 20, 1928, 1 male; Adamson.

The ten specimens have the characteristic reddish V-shaped marking on front part of vertex (mentioned by Brauer), also a reddish irregular spot in center of face. Only one specimen from Hitiaa lacks the red markings on vertex and face.

Miss L. E. Cheesman has mentioned the following localities: northwest Raiatea, taken on the coast and at light, May-June, 1925; Borabora, taken on the coast and at light, May-June, 1925.

Chrysopa basalis Walker (fig. 1, b).

Chrysopa basalis Walker: Cat. Neuropt. Ins., Coll. Brit. Mus., p. 239, 1853, Loochoo Islands; Cheesman, Ent. Soc. London, Trans., vol. 75, p. 147, 1927, Tuamotus, Marquesas, Society Islands.

Chrysopa delmasi Navas: Pontific. Accad. Romana, Mem., p. 20, 1927, Marquesas.

* Pacific Entomological Survey, Publication 8, article 11. Issued June 8, 1935.

Chrysopa skottsbergi Esben-Petersen: Insects of Samoa, Neuroptera, pt. 7. fasc. 3, p. 104, pl. 3, fig. 4, 1928, Samoa, Ellice Islands.

Tahiti: Paea, altitude 600 feet, August 28, 1928, 1 specimen; Papeari [Papeavi], altitude 50 feet, November 9, 1928, over *Tradescantia*, 1 specimen; Faa, altitude 300 meters, 6 kilometers from sea, November 7, 1928, 1 specimen; Tuauru River, altitude 50 feet, 1 mile from sea, November 5, 1928, 4 specimens; Anaroi Plateau, altitude 500 meters, 12 kilometers from sea, October 31, 1928, 1 specimen; Hitiaa, altitude 1,000 feet, 4 miles from sea, November 20, 1928, 1 specimen, altitude 1,500 feet, 3 miles from sea, December 20, 1928, 1 specimen; Fautaua Valley, altitude 1,000 feet, August 23, 1928, 5 specimens, altitude 50 feet, September 6, 1928, 1 specimen, altitude 50 feet, September 7, 1928, 22 specimens; Adamson.

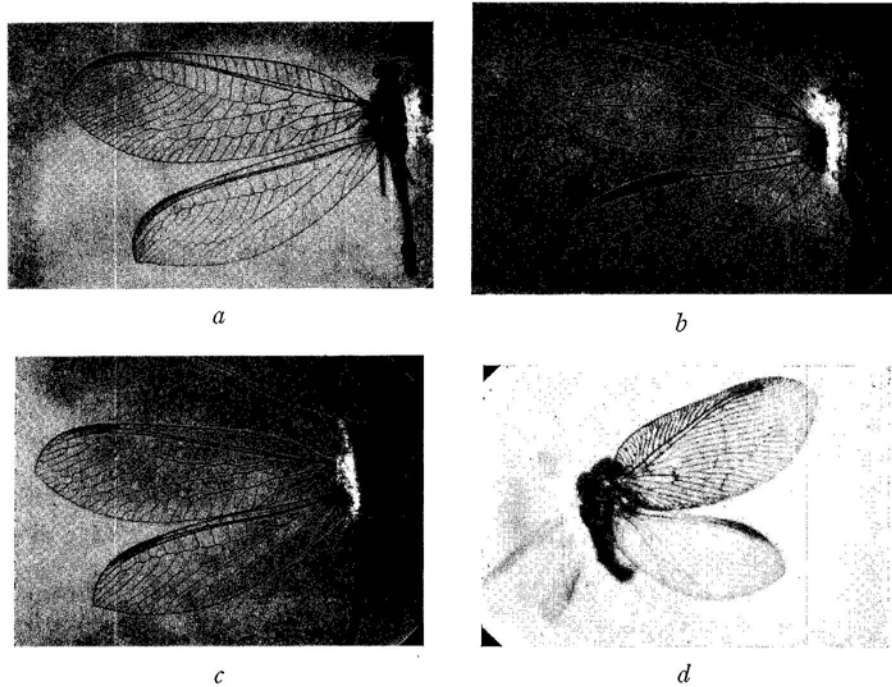


FIGURE 1.—*Chrysopa*: a, *C. oceanica* Walker, from Papenoo Valley; b, *C. basalis* Walker, left fore and hind wing; c, *C. otalatis* Banks, left fore and hind wing; d, *Austromegalomus brunneus*, new genus, new species, right fore and hind wing.

Four specimens of a chrysopid-larva from Tuauru River, altitude 50 feet, September 3, 1928, on *Hibiscus tiliaceus*, Adamson, belong undoubtedly to the species *C. basalis* Walker.

Miss Cheesman has mentioned the following localities: Raiatea, on the coast and at light, May, 1925; Borabora, very numerous, March-August, 1925.

On account of Walker's brief and incomplete description of the species, I unfortunately introduced *skottsbergi* in the Pacific chrysopid-fauna. With the kind assistance of Mr. D. E. Kimmins of the British Museum, who has compared specimens of this material with the type, it may be decided that the material listed all belongs to Walker's species.

In my description of *Chrysopa skottsbergi* I called attention to the very conspicuous and large pterostigma, especially in the hind wings. In the male, the pterostigma is more distinct and more strongly colored than in the female.

Chrysopa otalatis Banks (fig. 1, *c*).

Chrysopa otalatis Banks: Psyche, vol. 17, p. 102, 1910, Queensland; Esben-Petersen, Insects of Samoa, Neuroptera, pt. 7, fasc. 3, p. 103, pl. 3, fig. 6, 1928, Samoa.

Chrysopa lemoulti Lacroix: Soc. Ent. France, Bull., p. 119, 1923, New Caledonia.

Tahiti: Papenoo Valley, altitude 300 meters, October 26, 1928, 1 male; Fautaua Valley, altitude 50 feet, 1 mile from sea, September 6, 1928, 1 male; Faa, altitude 300 meters, 6 kilometers from sea, November 7, 1928, 1 male; Adamson.

FAMILY HEMEROBIIDAE

Genus **AUSTROMEALOMUS**, new genus

Fore wing broad, broadly rounded at apex. Costal area very broad, especially at basal half; most of costal cross veins forked; a recurrent vein present at base of the costal area. *Sc* and *R* do not coalesce at their apex. Subcostal area with three cross veins; two near base and one near apex. Numbers of branches (*Rs*) from *R* varying (4-6). Near its origin the basal *Rs* gives off two or three branches, arising from its anterior side. *M* forks opposite second subcostal cross vein. *Cu*₂ and *1A* forked; *2A* forked several times. Four rows of cross veins present in the forewing. The basal row is represented by the basal subcostal cross vein and by a cross vein between the stem of *M* and that of *Cu*₁. The median row (by Krüger named "die Gabelreihe") is represented by four cross veins: the second subcostal cross vein, a cross vein between first *Rs* and *M*₁, one between *M*₂ and *Cu*₁, and one between *Cu*₁ and *Cu*₂. The pterostigmatal row starts from the basal end of pterostigma straight across the wing, and it ends at *Cu*₁; the two posterior cross veins in the row are placed a little more towards the base of the wing than the other. The apical row begins at the apical end of the pterostigma; it is running parallel to the apical margin of the wing down to *Cu*₂, and mostly following the forks of the veins.

Hind wing somewhat narrower than the fore wing and more pointed towards apex. Costal area narrow; its cross veins simple and unforked.

Subcostal area with three cross veins, placed as in the fore wing. Five ordinary branches (*Rs*) from *R*; *M* forked near base of the wing, and *Cu*₂ only present as a fine inconspicuous unforked vein. *1A*, *2A*, and *3A* present. The basal and the median row of gradate veins only present with one or two cross veins. The pterostigmatal row indicated by one to three inconspicuous cross veins in the center of the wing. The apical series is complete. Genotype: *Austromegalomus brunneus*.

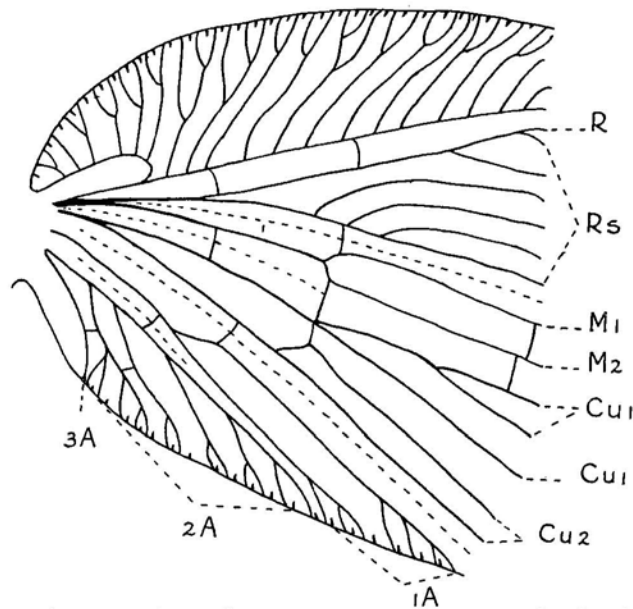


FIGURE 2.—*Austromegalomus brunneus*, new genus, new species, basal part of right fore wing, enlarged.

The new genus may be easily recognized by the peculiar forking of the basal *Rs* in the fore wing. In this respect it is allied to the Australian genus *Drepanacra* Tillyard, in which genus the apex of the wings, however, is more or less falcate. As to the shape and the venation of the wings, *Austromegalomus* has much likeness to the genus *Megalomus*, but the new genus is easily separated from that one by the unusual forking of the basal *Rs* in the fore wing.

***Austromegalomus brunneus*, new species (figs. 1, d; 2).**

Antennae brown; the three basal joints a little paler. Face and vertex yellowish brown. Thorax and abdomen brown. Prothorax about four times broader than long. Legs yellowish brown. Fore wing with a strong brownish tinge, hind wing with a fainter one. Fore wing marked with not very conspicuous brown blotches, tending to form transverse fasciae. Venation brown and very conspicuous. Pterostigma rather long and dark brown; very conspicuous in the hind wings. Body yellowish haired.

Length of fore wing 5 mm; that of hind wing 4.5 mm.

Tahiti: Fautaua Valley, altitude 1500 feet, September 11, 1928, holotype male, 2 paratype males, Adamson.

Holotype and one paratype are placed in Bernice P. Bishop Museum; the second paratype in the author's collection.

Besides the above-mentioned Neuroptera, the following species, not present in the material before me, have been found in the Society Islands.

FAMILY MYRMELEONTIDAE

Eidoleon bistrigatus (Rambur).

Myrmeleon bistrigatus Rambur: Hist. nat. Insects Névroptères, p. 391, 1842, Tahiti.

Distoleon bistrigatus, Banks, Ent. Soc. Amer., Ann., p. 43, 1910, Tahiti; Cheesman, Ent. Soc. London, Trans., vol. 75, p. 147, 1927, Tuamotus, Fakarava; Society Islands, Raiatea, Borabora.

Eidoleon bistrigatus, Esben-Petersen, Arkiv för Zoologi, Stockholm, Bd. 11, p. 15, 1918, Australia.

The species is also recorded from Hawaii and Fiji, and the author has seen it in numbers from New Hebrides (British Museum). Miss Cheesman states that it was very numerous among grass on the coast of Borabora.

FAMILY CHRYSOPIDAE

Chrysopa filosa (Fabricius).

Hemerobius filosus Fabricius: Mantissa Insect., t. 1, p. 246, 1787, Tahiti; Ent. Syst., t. 2, p. 82, 1793, Tahiti.

This species has not been met with since the time of its discovery, and the description given by Fabricius is also so brief and incomplete that it may be impossible with certainty to refer specimens to the species.

Chrysopa ramburi Schneider.

Chrysopa ramburi Schneider: Symbolae, p. 107, tab. 34, 1851, Australia; Esben-Petersen, Insects of Samoa, Neuroptera, pt. 7, fasc. 3, p. 99, pl. 3, fig. 1, 1928, Tahiti (Galathea Exp., 1845-1847); Cheesman, Ent. Soc. London, Trans., vol. 75, p. 147, 1927, Raiatea.

The species is known from several localities on the Australian continent, from Samoa, Tasmania, and Tonga. Miss Cheesman took it on northwest Raiatea on the coast and in the interior at about 1500 feet, May 1925.

Chrysopa tahitensis Navas.

Chrysopa tahitensis Navas: Soc. sci. Bruxelles, Ann., t. 38, p. 95, 1913-1914, Tahiti, Papeete.

I do not know any other records concerning this species. It seems that the species has some likeness to pale colored specimens of *C. ramburi*.

Chrysopa flaveola Schneider.

Chrysopa flaveola Schneider: Symbolae, p. 75, tab. 11, 1851, Java; Cheesman, Ent. Soc. London, Trans., p. 147, 1927, Raiatea.

I do not know of any record of this species from Australia or Polynesia. The specimens from the Society Islands and the Marquesas, collected and mentioned by Miss Cheesman, belong probably to *Chrysopa basalis*.

FAMILY HEMEROBIIDAE

Micromus species.

Micromus species: Cheesman, Ent. Soc. London, Trans, p. 147, 1927, north Tahiti.

One specimen taken at light two miles inland, March, 1925.