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TIPULIDÆ COLLECTED BY THE UNIVERSITY OF IOWA FIJI-NEW ZEALAND EXPEDITION

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The crane-flies collected by the 1922 Expedition of the University of Iowa to Fiji and New Zealand have been submitted to the writer for determination through the kindness of Professor Dayton Stoner. The specimens, including the type of *Limonia stoneri*, have been returned to the University of Iowa. For convenience of treatment, the fauna of Fiji is considered separately from that of New Zealand, since there is no relation between the two.

FIJI

The crane-flies of the Fiji Islands are still imperfectly known, the only published papers upon them being two by the writer.¹ The fauna shows a marked endemism though clearly derived from the larger land masses lying directly to the eastward.

The present collection included three species of the tribe Limoniini, a group which is extremely abundant in number of species throughout the Oriental and Australasian Regions.

Genus DICRANOMYIA Stephens

1829. *Dicranomyia* Stephens; Cat. Brit. Ins., 2: 243.

Dicranomyia illingworthi Alexander

1914. *Dicranomyia illingworthi* Alexander, Ann. Ent. Soc. Amer., 7: 239-240.

This species was described from material taken at Nadi by Dr. James F. Illingworth. The present collection includes three specimens (1 ♂, 2 ♀) labelled "Fiji, June 1922." The species has more recently² been recorded from North Queensland.

¹ Alexander, Charles P. On a collection of crane-flies (Tipulidæ Diptera) from the Fiji Islands. Ann. Ent. Soc. America, 7: 239-246, pls. 34-35; 1914; New or little known Tipulidæ (Diptera).—VII. Australasian Species. Ann. Mag. Nat. Hist., (9) 8: 546-563; 1921.

² Alexander, Charles P. New or little-known Australian Crane-flies (Tipulidæ, Diptera). Proc. Roy. Soc. Queensland, 32: 92-109; 1920.

Subgenus THRYPTICOMYIA Skuse

1889. *Thrypticomylia* Skuse; Proc. Linn. Soc. N.S.W. (2) 4: 774.

Dicranomyia (*Thrypticomylia*) *subsaltens* Alexander

1922. *Dicranomyia* (*Thrypticomylia*) *subsaltens* Alexander; Ann. Mag. Nat. Hist., (9) 10:

This is the species that was earlier recorded as *Dicranomyia saltens* (Doleschall), from material taken by Dr. Illingworth at Nadi. Later material was received from Lautoka, collected by Messrs. Greenwood and Veitch. A study of this material revealed the specific distinctness of the species from *D. (T.) apicalis* (Wiedemann) which is now known to be distinct from *D. (Euglochina) saltens* (Doleschall) of the East Indian Islands. The present collection includes a ♂, Walu Bay, Suva, Viti Levu, June 13, 1922.

Genus LIMONIA Meigen

1803. *Limonia* Meigen; Illiger's Mag., 2: 262.

The center of distribution of the great genus *Limonia* appears to be the palæotropical region, from whence it has spread to almost all of the major land masses of the world. In the present collection, a single species was included which is herein considered as being undescribed.

Limonia stoneri, sp.n.

General coloration light yellow; pronotum darkened medially; head brownish black; legs yellow, the tips of the femora conspicuously blackened; abdominal tergites obscure brownish yellow, each with a transverse central band of dark brown, sternites dark brown.

Female.—Length about 10 mm. Described from an alcoholic specimen.

Rostrum brown; palpi dark brown. Antennæ with the scape dark brown; flagellum paler brown, the basal segments with the proximal portion yellowish. Head brownish black.

Pronotum yellow, dark brownish medially. Mesonotal præscutum and scutum yellowish, the former very narrowly and indistinctly darkened anteriorly; scutellum light yellow with a small brown spot on either side of the median line at the base; postnotum yellow, the basal median region more or less darkened. Pleura yellow. Halteres yellow, the knobs dark brown. Legs with the coxæ and trochanters yellow; femora yellow, the tips rather broadly and conspicuously blackened; tibiæ obscure yellow, the tips very narrowly darkened; tarsi obscure yellow. Wings badly injured and their characters can be defined in general terms only; general coloration pale brown, the costal region more yellowish; stigma relatively small, oval, dark brown; veins dark brown, those in the costal region more yellowish. Venation: *Sc* long, *Sc*₁ alone a little longer than the distance between the tip of *Sc*₁ and the proximal end of *Rs*.

Abdominal tergites obscure brownish yellow, with a transverse central band of dark brown across each segment; the pale apex of each segment is a little broader than the similarly colored apex; subterminal segments light yellow; sternites dark brown, the subterminal segments yellow. Ovipositor with the tergal valves relatively short and slender, the longer, straight sternal valves blackened at base.

Habitat. — Fiji (Viti Levu).

Holotype, ♀, Walu Bay, Suva, June 13, 1922 (Dayton Stoner).

The type of this interesting species is in the University of Iowa. It is named in honor of the collector, Professor Dayton Stoner.

NEW ZEALAND

The crane-fly fauna of New Zealand is now known to be an extremely rich and varied one. At the time of the signing of the armistice in 1918, the total number of species of Tipuloidea described from New Zealand was less than fifty. Since that time there has been great activity among collectors and a very considerable number of additional species have been described, chiefly by Edwards and the writer. The number of species now known from New Zealand is not less than 350 and the number will be still further augmented with additional collections. The present collection includes only 9 species but this must be considered as being a fair representation of the fauna on the wing at the time the collections were made. The published records for Auckland are very poor and the present list adds several species to the list from this Province.

Genus DICRANOMYIA Stephens

Dicranomyia ægotans Edwards

1923. *Dicranomyia ægotans* Edwards; Trans. N.Z. Inst., for 1921, 54:

Two ♂♂ from Kauri Gully, Auckland, July 18, 1922. The species has a very wide range throughout both islands of New Zealand.

Dicranomyia vicarians (Schiner)

1868. *Limnobia vicarians* Schiner; Novara Reise, Dipt., p. 46.

This is one of the commonest and best-known crane-flies in New Zealand, ranging over most of both islands. The present collection includes a specimen from "The Domain," Auckland, July 14, 1922.

Dicranomyia nephelodes Alexander

1922. *Dicranomyia nephelodes* Alexander; Ann. Mag. Nat. Hist., (9) 10: 84-85.

This recently described crane-fly has been known only from the vicinity of Ohakune, at the foot of Mount Ruapehu, where the types were taken by Mr. Harris. The present collection includes material from Kauri Gully, Auckland, taken July 15-18, 1922.

Dicranomyia cubitalis Edwards

1923. *Dicranomyia cubitalis* Edwards; Trans. N.Z. Inst., for 1921; 54:

This is another widely distributed species, occurring in both islands. The present collection includes material from Kauri Gully, Auckland, July 15, 1922.

Genus *Molophilus* Curtis

1833. *Molophilus* Curtis; Brit. Ent., p. 444.

The genus *Molophilus* is one of the largest genera in New Zealand, where the number of known species is not far from fifty.

Molophilus multicinctus Edwards

1923. *Molophilus multicinctus* Edwards; Trans., N.Z. Inst., for 1921; 54:

A specimen from Helensville, Auckland, July 17, 1922. The fly has a wide range in both islands.

Molophilus aucklandicus Alexander

1923. *Molophilus aucklandicus* Alexander; Ann. Mag. Nat. Hist., (9) 10:

This species was described from Auckland, based upon material taken by Mr. Harris. The present collection includes a ♂ from Kauri Gully, Auckland, July 18, 1922.

Genus *Amphineurus* Skuse

1889. *Amphineurus* Skuse; Proc. Linn. Soc. N.S.W., (2) 4: 802.

This large and important genus reaches its maximum of specific development in New Zealand. It is unquestionably allied to *Ormosia* of the Northern Hemisphere but must be considered as being distinct.

Amphineurus perdecorus Edwards

1923. *Amphineurus perdecorus* Edwards; Trans. N.Z. Inst., for 1921, 54:

One ♂ from Kauri Gully, Auckland, July 18, 1922. This rather uncommon crane-fly occurs in the North Island.

Amphineurus, sp., near *gracilisentis* Alexander

1922. *Amphineurus gracilisentis* Alexander; Ann. Mag. Nat. Hist., (9) 10: 563.

A large female specimen from Kauri Gully, Auckland, taken

July 15, 1922, may belong here. It is not possible to determine isolated females in many of the larger genera of Tipulidæ.

Genus TRIMICRA Osten Sacken

1861. *Trimicra* Osten Sacken; Proc. Acad. Nat. Sci. Phila., p. 290.

The genus *Trimicra* occurs on virtually all of the continents and many of the oceanic islands. There is still much doubt as to how many species are involved but the present evidence seems to indicate that virtually all of the many described species are synonymous with the first-described *T. pilipes* (Fabricius). Considerable variation in the length of the 2nd anal vein in these various so-called species makes it necessary to investigate certain of them more closely, since this character of length of the 2nd anal vein has been used as a generic and subgeneric criterion in other groups of the Eriopterini.

Trimicra inconstans Alexander

1922. *Trimicra inconstans* Alexander; Ann. Mag. Nat. Hist., (9) 9: 148, 149.

Several specimens from Helensville, July 17, 1922; one ♂ from Rotorua, vicinity of hot springs, July 31, 1922. This latter has been recorded by Professor Stoner³ as feeding on the algæ growing on the hot sand in the near vicinity of the hot, bubbling springs.

³ Stoner, Dayton. Insects taken at Hot Springs, New Zealand. Ent. News, 34: 88-90; 1923.