

A Preliminary Report on Land Planarians from the Northern Mariana Islands (Turbellaria, Tricladida, Terricola)¹⁾

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Abstract Tentative identification of land planarians collected from 3 islands in the Mariana Islands (Anatahan Is., Alamagan Is. and Agrihan Is.) is given in the present paper, together with their photographs. Animals examined consist of 3 species in 3 genera, 3 subfamilies, and 2 families: Rhynchodemidae, Rhynchodeminae, *Platydemus*?; Rhynchodemidae, Microplaninae, uncertain genus; Geoplanidae, Caenoplaninae, *Australopacifica*.

Key words: Turbellaria, Tricladida, Terricola, Rhynchodemidae, Rhynchodeminae, *Platydemus*, Microplaninae, Geoplanidae, Caenoplaninae, *Australopacifica*?

In the spring of 1993, Kawakatsu received Mr. Taiji Kurozumi's collection of land planarians from 3 islands of the Mariana Islands for identification. Those preserved samples were collected by Mr. Kurozumi, a member of the "Expedition to the Northern Mariana Islands", conducted by the Natural History Museum and Institute, Chiba, in Cooperation with the Department of Natural Resources (the Commonwealth of the Northern Mariana Islands) and University of Guam Marine Laboratory, during the period from May to June, 1992.

Kawakatsu examined the external appearance of the animals, sketched them briefly and made measurements. At the occasion of the Seventh International Symposium on the Biology of the Turbellaria held at Åbo/Turku, Finland, in the early summer of 1993, Kawakatsu showed the sketches to Ogren. Tentative taxonomic positions based on external characters were discussed for these planarians from the northern Mariana Islands which may represent

3 species.

The purpose of the present report is to provide collection and measurement data for each land planarian sample from Anatahan Island, Alamagan Island and Agrihan Island, the northern Marianas Islands, together with specimen photographs and remarks on the external appearance. More detailed taxonomic descriptions of these species will be given in another publication after our studies based upon serial sections of animals are completed.

Study Sites, Materials and Methods

Land planarians examined were collected from 6 stations in 3 volcanic islands of the northern Mariana Islands. In the following list of localities, Kawakatsu's Specimen Lot Numbers registered in his fixing notebook according to his permanent recording system are given. Species descriptions will be given in the next section.

1. ANATAHAN Island (ca. 16°20'N and 145°

1) This paper is affectionately dedicated to the late Dr. Diva Diniz Corrêa, Professor Emeritus of Universidade de São Paulo, who passed away on April 28, 1993, at São Paulo, Brazil. She would have been 75 on her next birthday. The deceased was recognized as an authority on taxonomic studies of planarians and nemerteans in Brazil and was a respected friend of the authors. Her latest contribution was "Dr. Eveline du Bois-Reymond Marcus" published in the 1991 issue of *Hydrobiologia* (227: xxiii–xxvi; S. Tyler (ed.), *Turbellarian Biology*). We will long remember the scientific life and work of the late Dr. D. D. Corrêa (May 10, 1918–April 28, 1993).

35'E)

a) A tropical forest on the NW slope of the island, alt. 185 m (An-2) by hand-sorting; coll. Mr. T. Kurozumi on May 11, 1992. A single, sexual specimen of *Australopacifica* sp. (Kawakatsu's Specimen Lot No. 2076).

b) Near the SW coast of the island, alt. 60 m (An-3); coll. Mr. T. Kurozumi on May 12, 1992. A single, sexual specimen of *Australopacifica* sp. (Kawakatsu's Specimen Lot No. 2077) and 2 sexual worms, one of which is broken, are identified as *Microplaninae* sp. (Kawakatsu's Specimen Lot Nos. 2078 and 2079).

c) A tropical forest on the SW slope of the islands, alt. 365 m (An-4); coll. Mr. T. Kurozumi on May 13, 1992. A single, sexual specimen of *Microplaninae* sp. (Kawakatsu's Specimen Lot No. 2080).

2. ALAMAGAN Island (ca. 17°35'N and 145°35'E).

d) A tropical forest on the SW slope of the Island, alt. 365 m (Al-1); coll. Mr. T. Kurozumi on May 19, 1992. Three specimens, 2 sexual and one asexual, of *Platydemus*? sp. (Kawakatsu's Specimen Lot No. 2081).

3. AGRIHAN Island (ca. 18°30'N and 145°25'E).

e) A tropical forest on the NW slope of the island, alt. 200 m (Ag-2) by hand-sorting; coll. Mr. T. Kurozumi on May 29, 1992. A single, asexual specimen of *Australopacifica* sp. (Kawakatsu's Specimen Lot No. 2082).

f) The NW coast of the island, alt. 10 m (Ag-3) by hand-sorting; coll. Mr. T. Kurozumi on May 29, 1992. Three sexual specimens of *Platydemus*? sp. (Kawakatsu's Specimen Lot No. 2083).

The length, width and thickness of the preserved specimens (fixed with 70% ethanol) listed in the next section are described as follows: TL, total length; HML, distance from the anterior tip to the mouth; HGL, distance from the anterior tip to the genital pore; WM, width over the mouth; TB, thickness of the body at the level just anterior to the pharyngeal region.

A Tentative List of Species

Order TRICLADIDA

Suborder TERRICOLA

Family Rhynchodemidae von Graff, 1896

Subfamily Rhynchodeminae Corrêa, 1947

Genus *Platydemus* von Graff, 1896

Platydemus? sp. (Pl. Figs. A–H, I and J)

Specimen Lot No. 2081. Loc. SW slope of ALAMAGAN Is. Three specimens: TL, 13 mm; HML, 8.5 mm; HGL, 10.5 mm; WM, 1.2 mm; TB, 0.6 mm (sexual)/TL, 11.4 mm; HML, 8 mm; HGL, 9.5 mm; WM, 1 mm; TB, 0.5 mm (sexual)/TL, 7 mm (asexual).

Specimen Lot No. 2083. Loc. NW coast of AGRIHAN Is. Three specimens: TL, 11 mm; HML, 6 mm; HGL, 8 mm; WM, 1 mm; TB, 0.5 mm (sexual)/TL, 10 mm; HML, 5.5 mm; HGL, 7.5 mm; WM, 1 mm; TB, 0.5 mm (sexual)/TL, 10 mm; HML, 5.5 mm; HGL, 7.5 mm; WM, 1 mm; TB, 0.5 mm (sexual).

Remarks. The ground color of the dorsal surface is pale yellowish brown; with 4 moderately wide, longitudinal stripes of blackish brown coloration except for the head region; with 2 eyes; ventral surface with a broad creeping sole has no stripes.

Subfamily Microplaninae Pantin, 1953

Microplaninae sp. (Pl. Figs. K–R)

Specimen Lot No. 2078. Loc. SW coast of ANATAHAN Is. A single specimen: TL, 8 mm; HML, 5 mm; WM, 2 mm; TB, 0.8 mm (asexual; the sample is broken at the middle of the post-pharyngeal region). Specimen Lot No. 2079. Loc. SW coast of ANATAHAN Is.

A single specimen: TL, 25 mm; HML, 15 mm; HGL, 19 mm; WM, 3 mm; TB, 2 mm (sexual).

Specimen Lot No. 2080. Loc. SW slope of ANATAHAN Is. A single specimen: TL, 40 mm; HML, 25 mm; HGL, 34 mm; WM, 4 mm; TB, 3 mm (sexual).

Remarks. The ground color of the dorsal surface is a uniform blackish brown (with numerous black pigments); with an indistinct, middorsal longitudinal stripe of pale coloration; with 2 small eyes; areas around the eyes and the body margin have brown coloration;

ventral surface is dark grayish brown with indistinct creeping sole.

Family Geoplanidae Stimpson, 1857

Subfamily Caenoplaninae Ogren

et Kawakatsu, 1991

Genus *Australopacifica* Ogren

et Kawakatsu, 1991

***Australopacifica* sp. (Pl. Figs, S–V)**

Specimen Lot No. 2076. Loc. NW slope of ANATAHAN Is. A single specimen; TL, 7.5 mm; HML, 4 mm; HGL, 6 mm; WM, 1.5 mm; TB, 0.5 mm (sexual).

Specimen Lot No. 2077. Loc. SW coast of ANATAHAN Is. A single specimen: TL, 8 mm; HML, 4.5 mm; HGL, 6.5 mm; WM, 1.5 mm; TB, 0.5 mm (sexual).

Specimen Lot No. 2082. Loc. NW slope of AGRIHAN Is. A single specimen: TL, 5 mm; HML, 3.5 mm; WM, 0.5 mm; TB, 0.4 mm (asexual).

Remarks. The ground color of the dorsal surface is a uniform gray to grayish brown; with 3 longitudinal stripes of blackish coloration (except for the head region), *i.e.*, a wide, middorsal one and a pair of moderately wide, lateral ones; 5 to 10 small eyes are distributed on both marginal areas of the head; ventral surface with 2 narrow longitudinal stripes of a blackish brown coloration; with a broad creeping sole.

It is possible that Specimen No. 2076 (Pl. Figs. S and T) belongs to the *Kontikia* group in the subfamily Caenoplaninae on basis of external stripe pattern.

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Explanation of Plate Figures

Photographs of specimens examined are shown. Small arrow indicates the mouth; large arrow, genital pore. Scale, 1 mm.

Figs. A–H, I and J. *Platydemus*? sp. A–D: Specimen Lot No. 2081 (3 specimens from Alamagan Island). A and B, lateral views; C and D, dorso-lateral (C) and ventro-lateral (D) views. E–H, I and J: Specimen Lot No. 2083 (3 specimens from Agrihan Island). F, G and I, dorsal views; F, H and J, ventral views.

Figs. K–R. Microplaninae sp. K and L: Specimen Lot No. 2078 (a single specimen from Anatahan Island). K, dorsal view. L, ventral view. M and N: Specimen Lot No. 2079 (a single specimen from Anatahan Island). M, dorso-lateral view; N, ventro-lateral view. O and P; Q and R (the same specimen): Specimen Lot No. 2080 (a single specimen from Anatahan Island). O and Q, dorsal views; P and R, ventral views.

Figs. S–V. *Australopacifica* sp. S and T: Specimen Lot No. 2076 (a single specimen from Anatahan Island). S, dorsal view; T, ventral view. U: Specimen Lot No. 2077 (a single specimen from Anatahan Island). Lateral view. Notice small eyes located on the right-side margin of the head (white arrow). V: Specimen Lot No. 2082 (a single specimen from Agrihan Island). Dorsal view.



