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THE GENERA POLYCERA, PALIO, GREILADA AND THECACERA FROM JAPAN
(NUDIBRANCHIA-POLYCERIDAE)

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With Plate VI

Two species of the genus Polycera have hitherto been recorded from our territory:

1. Polycera fujitai Baba, 1937 Fujita-umiushi
   Loc.: Kanazawa near Yokohama; Sagami Bay; Osaka Bay; Amakusa; Toyama Bay; Shishizu, W. coast of Noto Peninsula; Tsuruga Bay.

2. Polycera japonica Baba, 1949 Okan-umiushi
   Loc.: Sagami Bay.

The genera Palio1, Greilada2 and Thecacera are here added to our list of the nudibranch fauna.

Greilada abei Baba, n. sp.
Kosode-umiushi (n. n.)
(Pl. VI, Figs. 1A–1D)

Length about 15 mm. Body limaciform, smooth above (non-tuberculate), no pallial ridge on each side. Velar papillae 6, long and digitiform. Rhinophores perfoliate, non-retractile. Branchial plumes 7, simply pinnate, non-retractile; no exo-branchial appendage on each side of the gill. Oral veil semicircular; foot-corners angulated. General body-colour translucent yellowish white, the above with black spots interspersed among the orange ones. Rhinophores and velar papillae black; gills yellowish white with black tips; sole without markings. Jaw-plates with a wing as in the genus Polycera. Radula yellow, the formula 10×2.2.0.2.2. Teeth also as in Polycera: first lateral hamate, and with a hook about half way down; second lateral larger, with a spur near the base; outer

1, 2) Or the Palio and Greilada sections of the genus Polycera (see ODHNER, 1941, p. 18).

laterals simply scale-like.

**Loc.**: Amaharashi, Toyama Bay (June 1958, 1 sp., coll. by Mr. Abe; Aug. 1959, 1 sp., coll. by Mr. Futatsuka). On shore.

The present animal by lacking the exo-branchial appendage is to be referred to the genus *Greilada*. But it may be separated from the previously known species, *G. elegans* Bergh, 1894 from the Adriatic Sea and Banyuls (see PRUVOT-FOL, 1951, pp. 34-35, pl. 3, figs. 3-4) and *G. messinensis* (Odhner, 1941) from Messina (see Odhner, 1941, pp. 7-10, figs. 5-9), by having long digitiform velar papillae and an unmistakable body-colours.

**Patio amakusana** Baba, n. sp.

Ebisu-umiushi (n. n.)

(Pl. VI, Figs. 2A-2C)

Length 12-20 mm. With 4-6 exo-branchial appendages on each side; they are slightly larger than those on the back-margins. Papillae on velum-margin 12-14. Back, sides and tail covered with small conical papillae. Rhinophores non-retractile; gills 5, tripinnate, non-retractile; oral tentacles lobiform; foot-corners angulated. General body-colour yellowish brown, somewhat darker on back and sides. Rhinophores bright orange above, yellow at tip. Gills yellowish brown. Exo-branchial appendages white; other papillae on the pallial margin and on the integument also whitish. Sole yellowish brown. Jaw-plates triangular, yellowish brown, and without a wing (genus *Patio*). Radula colourless, the formula 18-20 × 5.2.0.25, the teeth shaped as in *Potycera*. First lateral small, with a hook about half way down; second lateral larger, and with a basal spur; outer laterals scale-like.

**Loc.**: Tomioka, Amakusa (Jan. and Feb. 1937, 3 sps.). Abugashima, Toyama Bay (June 1957, 5 sps., coll. by Mr. Abe). On shores.

Our specimens agree with the Atlantic and Mediterranean species, *Patio dubia* M. Sars, 1829 = *P. lessonii* (d'Orbigny, 1837) in the body-form, in the jaws and in the radula (see especially Alder & Hancock, 1848, Fam. 1, pl. 24, figs. 1-8, *Potycera lessonii*). But they differ from it slightly in the detail of the colours (yellowish brown body-colour, bright orange rhinophores, and white appendages or papillae of the body). They are provisionally regarded here as forming a separate species.

**Thecacera pennigera** (Montagu, 1815)

Mizutama-umiushi (n. n.)

(Pl. VI, Figs. 3A-3C)
Doris pennigera MONTAGU, 1815, pp. 17-18, pl. 4, fig. 5.—England.
Theacera pennigera ALDER & HANCOCK, 1855, fam. 1, pl. 21a, figs. 1-9.—England; MARCUS, 1957, pp. 426-429, figs. 91-102.—Brazil.

Length 12-25 mm. Shape of body and colours nearly as in the Atlantic pennigera. With elevated rhinophore-sheaths. Gills 5, bipinnate, non-retractile. With a single post-branchial process on each side; it is long and conical. No pallial ridge. Integument smooth above. Foot-corners produced into short horns. General ground-colour translucent yellowish white, the back and sides scattered with yellow or orange-yellow spots in varying number; there are additional black spots interspersed among the orange ones. Rhinophores and branchial plumes whitish. Sole also whitish without markings. Jaws and radula as in the Atlantic pennigera. Jaw-plates provided each with a wing. Radula formula 10-13 x 2.2.0.2.2; first lateral hamate with a hook about half way down; second lateral larger, with a spur near the base; outer laterals simply scale-like.


Dist.: Atlantic, Mediterranean and Brazil.

There are six species of Thecacera known from the world. Our specimens are referred to pennigera as above, but they do not have the brightness of the orange spots shown in the figures of Alder and Hancock, 1855.

Acknowledgements: I wish to thank the following gentlemen for giving me opportunities to examine many of the specimens which they had collected at different places: Dr. Masao Sugiyama (Sugashima Marine Biological Laboratory, Nagoya University); Dr. Akihiko Inaba (Mukaishima Marine Biological Laboratory, Hiroshima University); Messrs. Takeo Abe and Seigoro Futatsuka (Takao Senior High School, Toyama Pref.).

REFERENCES

MONTAGU, G. 1815. Descriptions of several new or rare animals, principally marine, discovered

EXPLANATION OF PLATE VI

Figs. 1A–1D. Greilada abei. 1A. Animal from Amaharashi, Toyama Bay (June 22, 1958, length 15 mm, original fig. taken by Mr. Abe); 1B. Head and foot from below; 1C. Jaw-plates (×45), w. wing; 1D. A half-row of radula (×140), a. 1st lateral, b. 2nd lateral, c. outer laterals.

Figs. 2A–2C. Patio amakusana. 2A. Animal from Tomioka, Amakusa (Jan. 31, 1937, length 12 mm); 2B. Jaw-plates (×40); 2C. A half-row of radula (×240), a. 1st lateral, b. 2nd lateral, c. outer laterals.

Figs. 3A–3C. Thecacera pennigera. 3A. Animal from Sugashima near Toba (June 30, 1943, length 12 mm, original fig. taken by Dr. Sugiyama); 3B. Jaw-plates (×40), w. wing; 3C. A row of radula (×100), a. 1st lateral, b. 2nd lateral, c. outer laterals.
K. Baba: The Genera Polycera, Palio, Greilada and Thecera.