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<td>Author(s)</td>
<td>Baba, Kikutaro</td>
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<tr>
<td>Citation</td>
<td>PUBLICATIONS OF THE SETO MARINE BIOLOGICAL LABORATORY (1960), 8(1): 71-74</td>
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<tr>
<td>Issue Date</td>
<td>1960-05-30</td>
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<td>URL</td>
<td><a href="http://hdl.handle.net/2433/174700">http://hdl.handle.net/2433/174700</a></td>
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<tr>
<td>Type</td>
<td>Departmental Bulletin Paper</td>
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Kyoto University
THE GENERA GYMNODORIS AND NEMBROTHA FROM JAPAN (NUDIBRANCHIA-POLYCERIDAE)

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With Plate V

The two genera (Gymnodoris and Nembrotha) have recently been discussed by MACNAE (1959, pp. 354-355). The hitherto recorded members of them from our territory and the adjacent waters are as below:

1. Gymnodoris bicolor (ALDER & HANCOCK, 1864) = G. citrina (BERGH, 1877); G. japonica (BABA, 1930); G. maculata STIMPSON, 1855½ Kinuhada-modoki
   Loc.: Sagami Bay; Toba and Sugashima; Kii; Osaka Bay; Inland Sea of Seto; Amakusa; Asamushi; Sado I.; Toyama Bay; Togi Kazanashi, W. coast of Noto Peninsula; Tsuruga Bay; ? Takarajima I. (Tokara group of S. Kyushu).
   Dist.: E. Africa and Indian Ocean; N. Caledonia; Palau Is.

2. Gymnodoris alba (BERGH, 1877) Akaboshi-umiushi
   Loc.: Tateyama Bay; Sagami Bay; Sugashima near Toba; Kii.
   Dist.: Indian Ocean; Philippines.

3. Gymnodoris inornata (BERGH, 1880) Kinuhada-umiushi
   Loc.: Tateyama Bay; Sagami Bay; Kii; Osaka Bay; Amakusa; Nagasaki.
   Dist.: E. Africa and ? E. Indies.

4. Gymnodoris striata (ELiOT, 1908) Kinsen-umiushi
   Loc.: Inland Sea of Seto; Amakusa; Toyama Bay.

5. Gymnodoris okinawae BABA, 1936 Okinawa-kinuhada-umiushi (n.n.)
   Loc.: Okinawa (Riukiu) Is. (Ishigaki-jima).

6. Gymnodoris subflava BABA, 1949 Usuginu-umiushi
   Loc.: Sagami Bay; Kii; Inland Sea of Seto.

1) Contributions from the Seto Marine Biological Laboratory, No. 347.
2) Originally known from Okinawa (Riukiu), but not fully described. See MACNAE, 1959?, p. 354.
3) Our specimens from Japan appear to constitute a light colour variety of the typical striata, which occurs in the Suez Canal, Red Sea and New Caledonia. See BABA, 1937, pp. 216-218, figs. 1-2.

7. *Nembrotha gracilis* Bergh, 1877 Ryugu-umiushi  
*Loc.*: Sagami Bay; Kii.  
*Dist.*: Philippines.

8. *Nembrotha luteolineata* Baba, 1936 Ishigaki-ryugu-umiushi (n.n.)  
*Loc.*: Okinawa (Riukiu) Is. (Ishigaki-jima).

9. *Nembrotha sagamiana* Baba, 1955 Sagami-ryugu-umiushi  
*Loc.*: Sagami Bay.

This paper contains the following three species new to Japan.

*Gymnodoris nigricolor* Baba, n. sp.  
*Sumizome-kinuhada-umiushi* (n.n.)  
(Pl. V, Figs. 1A–1B)

Very distinct in colouring and in the shape of the radula teeth. Length 4 mm. Body smooth. Gills small, consisting of 9 plumes arranged in a semicircle open behind. Back and sole uniformly bluish black; rhinophores and gills also bluish black. Radula formula $22 \times 7\cdot8\cdot10\cdot1\cdot7\cdot8$. First lateral broad and tricuspidate (the median cusp sharp, the lateral cusps blunt). Next laterals pyriform.

*Loc.*: Misaki, Sagami Bay, on 2 m bottom mud (Nov. 1956, 1 sp., coll. by the Biological Laboratory, Imperial Household).

The black colouring of this species is somewhat unusual in the genus *Gymnodoris*.

*Gymnodoris subornata* Baba, n. sp.  
*Hime-kinuhada-umiushi* (n.n.)  
(Pl. V, Figs. 2A–2C)

Especially marked by having a small, more or less rudimentary radula. Colouring somewhat as in *G. inornata* (Bergh, 1880). Body always small, 6–10 mm long; smooth, or sometimes with minute conical tubercles on the pallial margin; gills small, formed of 3–8 plumes set in a semicircle; whole body surface deep orange-red, rhinophores and gills also orange-red. Radula always small, the representative formula being $16 \times 6\cdot10\cdot1\cdot6$. (Seto specimen). First lateral very small, or missing altogether. Next laterals roughly hamate, each with a straight hook.

The Genera Gymnodoris and Nembrotha from Japan

Nembrotha limaciformis Eliot, 1908

Nishiki-ryugu-umiushi (n. n.)

(Pl. V, Figs. 3A–3D)


The animal in bright colouring is like a species of Gymnodoris, but it has the radula type of Nembrotha. Length 18–20 mm. Body smooth. Gills 3–5, bipinnate. Oral tentacles lobiform. General colour a deep saffron-red, the back and sides flecked with yellowish white or entirely plain; rhinophores saffron-red, sometimes having a subapical purple spot; gills yellowish white tipped always with purple. Sole uniformly saffron-red. No labial armatures. Radula formulae in three specimens collected: 8×5.1.1.5, 8×5–6.1.1.5–6, and 12×6.1.1.6. Central tooth subquadrate, without hooks; first lateral large, simply hamate; outer laterals scale-like.

Loc.: Seto, Kii, on shore (June 1951 and May 1954, 3 sps., coll. by Mr. Yamamoto).

The purple spots on the rhinophores and on the gills are distinctive in this species, but they are not described in the closely allied form, N. divae Marcus, 1956, from Brazil.

Acknowledgements: I am greatly indebted to the following gentlemen by whom many of the specimens have been offered me for examination: Dr. Hirotaro Hattori (Biological Laboratory of the Imperial Household); Mr. Torao Yamamoto (Seto Marine Biological Laboratory of the Kyoto University); Mr. Takeo Abe (Takaoka Senior High School of Toyama Pref.).

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EXPLANATION OF PLATE V

Figs. 1A–1B. Gymnodoris nigricolor. 1A. Animal from Misaki, Sagami Bay (Nov. 27, 1956, length 4 mm, original fig. taken by the Biological Laboratory, Imperial Household); 1B. A half-row of radula (×260), a. 1st lateral, b. outermost laterals.

Figs. 2A–2C. Gymnodoris subornata. 2A. Animal from Seto, Kii (May 7, 1954, length 6 mm); 2B. A half-row of radula in the same specimen (×350), a. 1st lateral, b. outermost laterals; 2C. A half-row of radula in the specimen from Toyama Bay (×250), letters as before.

Figs. 3A–3D. Nembrotha limaciformis. 3A. Animal from Seto, Kii (June 22, 1951, length 18 mm), body saffron-red with yellowish white markings; 3B. A half-row of radula in the same specimen (×95), a. central tooth, b. 1st lateral, c. outer laterals; 3C. Animal from Seto (May 6, 1954, length 20 mm), body uniformly saffron-red without markings; 3D. Radula teeth in the same specimen (×60), a. central tooth, b. 1st lateral.
K. Baba: The Genera Gymnodoris and Nemrotha from Japan.