

Report on specimens of seamoths (Gasterosteidae: Pegasidae) deposited in the Department of Zoology, The University Museum, The University of Tokyo

Daichi Oyama^{1,2)*}, Ryutaro Aonuma³⁾, Masahiro Aizawa⁴⁾, Kazuo Sakamoto⁵⁾, Rei Ueshima^{4,6)}

¹⁾ College of Arts and Sciences, The University of Tokyo, 3-8-1 Komaba, Meguro-ku, Tokyo 153-0041, Japan

²⁾ Natural History Museum and Institute, Chiba, 955-2 Aoba-cho, Chuo-ku, Chiba 260-8682, Japan

³⁾ Department of Life science and Medical Bioscience, School of Advanced Science and Engineering, Waseda University, 2-2 Wakamatsu-cho, Shinjuku-ku, Tokyo 162-0056, Japan

⁴⁾ The University Museum, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-0033, Japan

⁵⁾ Fish Information Center and Museum, 6-6 Toyosu, Koto-ku, Tokyo 135-0061, Japan

⁶⁾ Department of Biological Sciences, Graduate School of Science, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-0033, Japan

*Corresponding author (e-mail: d-oyama@g.ecc.u-tokyo.ac.jp)

Abstract

The specimens of seamoths (Gasterosteidae: Pegasidae) deposited in the Department of Zoology, The University Museum, The University of Tokyo (ZUMT) were re-identified in the present study. In total 42 specimens in 14 lots, representing 3 species of 2 genera, *Eurypegasus draconis* (Linnaeus, 1766), *Pegasus laternarius* Cuvier, 1816 and *P. volitans* Linnaeus, 1758 were found from the collection. No types are known for the family.

Introduction

The fishes of the family Pegasidae Bonaparte, 1831, commonly known as seamoths, usually inhabit on sandy or muddy bottoms of shallow waters, and rarely collected from seaweeds floating on the seawater surface offshore (Palsson and Pietsch 1989; Senou et al. 1999; Satapoomin 2013; Senou 2013; Itou et al. 2016; Mitsui and Senou 2020; Oyama and Aizawa 2024). Seamoths are characterized by horny depressed bodies, subterminal mouths, and large, horizontal pectoral fins, which make them well adapted to a benthic lifestyle (Palsson and Pietsch 1989). The Pegasidae currently comprises eight species of two genera from tropical and subtropical zone of the Indo-Pacific (Palsson and Pietsch 1989; Fricke et al. 2024). Among those, three species of two genera, viz., *Eurypegasus draconis* (Linnaeus, 1766), *Pegasus laternarius* Cuvier, 1816, and *P. volitans* Linnaeus, 1758, are recorded from Japanese waters (Senou 2013).

To aid future taxonomic and biogeographic studies, a list of specimens of Pegasidae deposited in the Department of Zoology, The University Museum, The University of Tokyo (ZUMT) is herein provided.

Materials and Methods

Species nomenclature and identifications of ZUMT specimens generally followed Palsson and Pietsch (1989) and Senou (2013). Size of the specimens are expressed in standard length (mm; abbreviated as SL). The collection year and collector for some specimens were estimated by following Koeda et al. (2022).

Collection of Pegasidae in ZUMT

As a result of our survey, 42 specimens (in 14 lots) of three species belonging to two genera, *Eurypegasus draconis* (Linnaeus, 1766), *Pegasus laternarius* Cuvier, 1816, and *P. volitans* Linnaeus, 1758 were confirmed. No types for the family were found from the collection.

Pegasidae Bonaparte, 1831 ウミテング科
Eurypegus Bleeker, 1863 ウミテング属
Eurypegus draconis (Linnaeus, 1766) ウミテング
(Fig. 1)

JAPAN

ZUMT 1128: 31.1 mm SL, Yodomi (ヨドミ; fishing point), Sagami Bay, Kanagawa Pref., 200 hiro (尋) depth (1 hiro = 1.515 m or 1.816 m), 13 Jan. 1897, daho-nawa (だほ縄; a kind of bottom longline), coll. Uno (宇野; first name unknown).

ZUMT 5458: 44.0 mm SL, Eno-shima Island, Sagami Bay, Kanagawa Pref., 1894, donated by A. Owston on 14 Dec. 1899.

ZUMT 18756: 83.9 mm SL, Kashiwa-jima Island, Kochi Pref., 12 Mar. 1905, coll. K. Tago (田子勝彌).

ZUMT 20304: 45.2 mm SL, Wakayama Pref.

ZUMT 21842: 56.7 mm SL, Kagoshima Pref.

ZUMT 22255: 53.4 mm SL, probably near Tokyo Metropolis.

ZUMT 62233: 61.1 mm SL, Okino-shima Island, Kochi Pref., Aug. 2021, hand, coll. S. Masumoto (増本奏太).

ZUMT 68998: 8.1 mm SL, off Nakaminato, Ibaraki Pref., July 1992, donated by M. Kamogawa (鴨川 充/茨城県立太田第一高等学校).

ZUMT 69440: 37.9 mm SL, Shimizu Port, Suruga Bay, Shizuoka Pref., 0 m depth, 5 Sept. 2022, hand net, coll. R. Aonuma (青沼龍太郎).

Remarks. Oyama and Aizawa (2024) reported ZUMT 68998 as the northernmost record of *E. draconis*.

Pegasus Linnaeus, 1758 テングノオトシゴ属
Pegasus laternarius Cuvier, 1816 テングノオトシゴ
(Fig. 2)

JAPAN

ZUMT 30085: female, 69.5 mm SL, Sagami Bay, off Hayama, Kanagawa Pref., Aug. 1934.

ZUMT 34643: male, 55.1 mm SL, Kochi Pref., coll. T. Kamohara (蒲原稔治).

ZUMT 63047: male, 46.4 mm SL, Sagami Bay, off Kozu, Odawara City, Kanagawa Pref., July 1959.

TAIWAN

ZUMT 68999: 29 specimens, 64.4–89.1 mm SL, Jan. 1975, purchased at a herbal medicine store in Taipei by Y. Tominaga (富永義昭).

Pegasus volitans Linnaeus, 1758 ヤリテング
(Fig. 3)

TAIWAN

ZUMT 19707: 59.5 mm SL, coll. H. Saito (佐藤春吉/台北基隆中学校).

Acknowledgements

We are deeply grateful to the late Y. Tominaga for his dedication and efforts to the ZUMT collection. We are also grateful to H. Wada (Kanagawa Prefectural Museum of Natural History), S. Mabuchi, J. Oi, K. Seki and O. Sakai (Azabu Junior and Senior High School), S. Fujiwara, M. Fukatani, A. Inuma, S. Ito, H. Kamei, Y. Kaneko, K. Kobayashi, K. Mochizuki, N. Osakabe, M. Saito, A. Takahashi and other volunteers of ZUMT for providing curatorial assistance.

References

- Fricke, R., Eschmeyer, W. N. and van der Laan, R. (eds). 2024. Eschmeyer's Catalog of Fishes: Genera, Species, References. <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp> (electronic version accessed on 28 Nov. 2024)
- Itou, M., Koeda, K. and Motomura, H. 2016. First records of *Pegasus volitans* (Syngnathiformes: Pegasidae) from Kyushu, Japan. *Nature of Kagoshima*, 42: 113–117. (In Japanese)
- Koeda, K., Hata, H., Aizawa, M., Sakamoto, K. and Ueshima, R. 2022. History of the fish collection of the Department of Zoology, The University Museum, The University of Tokyo. *The University Museum, The University of Tokyo Material Reports*, 129: 1–24. (In Japanese with English abstract)
- Mitsui, S. and Senou, H. 2020. Distribution of *Pegasus laternarius* Cuvier, 1816 in Sagami Bay, Japan, with notes on the first record from the estuary of the river. *Natural History Report of Kanagawa*, 41: 39–44. (In Japanese with English abstract)
- Oyama, D. and Aizawa, M. 2024. Northernmost record of the seamothe, *Eurypegasus draconis*, based on a juvenile specimen from off Nakaminato, Ibaraki Prefecture, Japan. *Ichthy, Natural History of Fishes of Japan*, 50: 56–58. (In Japanese with English abstract)
- Palsson, W. A. and Pietsch, T. W. 1989. Revision of the acanthopterygian fish family Pegasidae (order Gasterosteiformes). *Indo-Pacific Fishes*, 18:1–38, pl. 1.
- Satapoomin, U. 2013. Pegasidae. P. 68. In: Yoshida, T., Motomura, H., Musikasinthorn, P. and Matsuura, K. (eds) *Fishes of northern Gulf of Thailand*. National Museum of Nature and Science, Tsukuba, Research Institute for Humanity and Nature, Kyoto, and Kagoshima University Museum, Kagoshima.
- Senou, H. 2013. Pegasidae. Pp. 608, 1906. In: Nakabo, T. (ed) *Fishes of Japan with pictorial keys to the species*, third edition. Tokai University Press, Hadano. (In Japanese)
- Senou, H., Uchino, K. and Yukioka, Y. 1999. *Pegasus volitans*. *I. O. P. Diving News*, 10 (10): 1. (In Japanese)

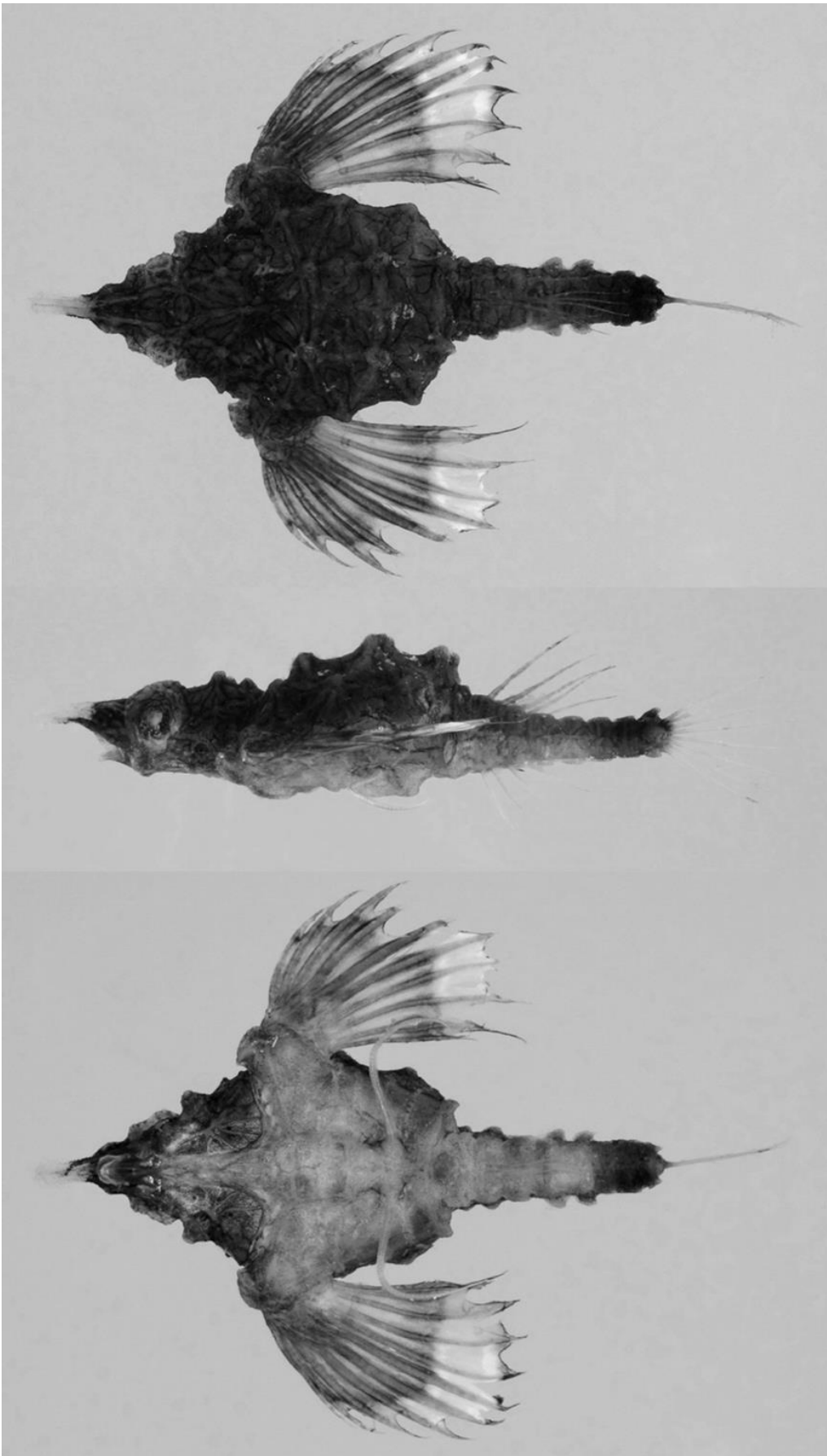


Figure 1. Dorsal (top), lateral (middle), and ventral (bottom) views of *Eurypegasus draconis* from Suruga Bay, Shizuoka Pref., Japan, in fresh condition after refrigeration (ZUMT 69440, 37.9 mm SL). Photos by D. Oyama.

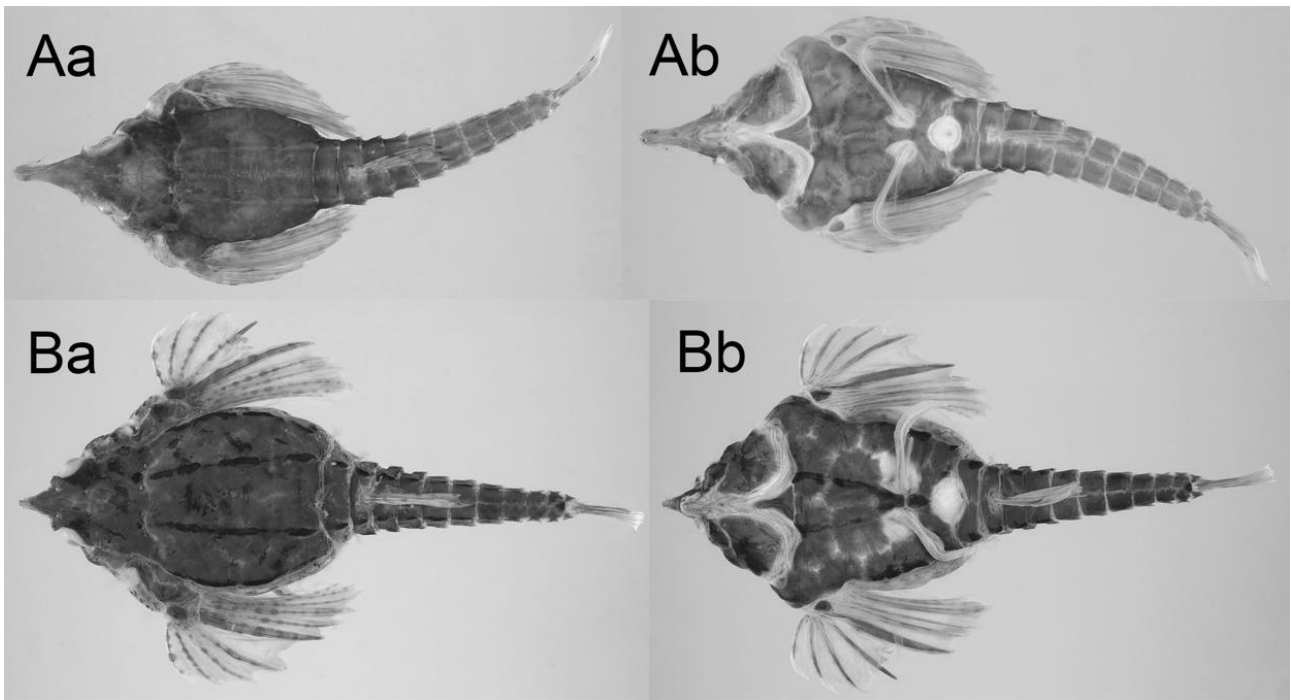


Figure 2. Dorsal (a) and ventral (b) views of preserved specimens of *Pegasus laternarius* (A: ZUMT 34643, male, 55.1 mm SL, Kochi Pref.; B: ZUMT 30085, female, 69.5 mm SL, Sagami Bay). Photos by D. Oyama.



Figure 3. Dorsal (top) and ventral (bottom) views of preserved specimen of *Pegasus volitans* from Taiwan (ZUMT 19707, 59.5 mm SL). Photos by D. Oyama.