

# New data about distribution of the sea cucumber *Molpadia musculus* Risso, 1826 (Holothuroidea: Molpadiida: Molpadiidae) in Russian seas

Vadim G. Stepanov<sup>1,\*</sup> and Elena G. Panina<sup>1,\*\*</sup>

## Introduction

*Molpadia roretzi* (von Marenzeller, 1877) and *M. orientalis* (Saveljeva, 1933) are known to be present in the far eastern seas of Russia (Stepanov and Morozov 2014). *M. musculus* (Risso, 1826), was first recorded by Ohshima (1915) from the east coast of southern Sakhalin in Japan. The following information about *M. musculus* was recorded in 2015 during the Russian-German deep-sea expedition SokhoBio, 71st Cruise, aboard the R/V *Akademik M.A. Lavrentyev* and includes data about geographical and depth distributions, a short description of a specimen, and photos of the external appearance and of the body wall and tail ossicles.

## Date and location of collection of *Molpadia musculus* samples

11 July 2015, Russian-German deep-sea expedition SokhoBio, 71st Cruise, R/V *Akademik M.A. Lavrentyev*, 46°09.044' N – 46°08.738' N and 146°00.789' E – 145°59.512' E, depth 3305 m;

14 July 2015, Russian-German deep-sea expedition SokhoBio, 71st Cruise, R/V *Akademik M.A. Lavrentyev*, 46°37.982' N – 46°37.740' N and 148°59.934' E – 149°00.920' E, depth 3363 m;

16 July 2015, Russian-German deep-sea expedition SokhoBio, 71st Cruise, R/V *Akademik M.A. Lavrentyev*, 47°12.139' N – 47°11.803' N and 149°36.745' E – 149°37.518' E, depth 3366 m;

23 July 2015, Russian-German deep-sea expedition SokhoBio, 71st Cruise, R/V *Akademik M.A. Lavrentyev*, 46°56.854' N – 46°57.485' N and 151°04.923' E – 151°05.210' E, depth 3301–3300 m;

1 Aug. 2015, Russian-German deep-sea expedition SokhoBio, 71st Cruise, R/V *Akademik M.A. Lavrentyev*, 45°36.929' N – 45°37.861' N and 146°22.879' E – 146°21.898' E, depth 3211–3217 m.

## Description

The body of *Molpadia musculus* is barrel-shaped with a well-defined tail (see Figure 1). The specimens collected varied considerably in colour and size. Their body length was 43–70 mm, with a maximum diameter of 19–24 mm. The colour when placed in alcohol is light-grey to dark-brown. The skin is thick or thin, smooth or wrinkled. There are 10 simple tentacles.



Figure 1. External view of *Molpadia musculus*.

The ossicles of the body wall include tables with three or more perforations in the disk and a solid spire (see Figures 2 A and 2 B), fusiform rods (see Figure 2 C) and racquet-shaped plates (see Figure 2 D). Anchors were not found. Phosphatic deposits were present.

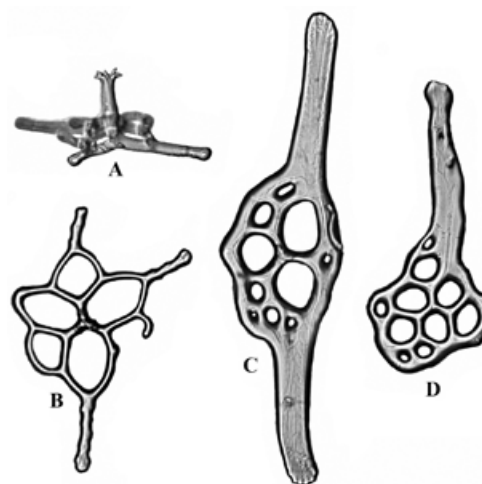


Figure 2. Ossicles of the body wall of *Molpadia musculus*. A: table, side view; B: table, top view; C: fusiform rod; D: racquet-shaped plates.

<sup>1</sup> Kamchatka Branch of Pacific Geographical Institute of Far-Eastern Branch of Russian Academy of Sciences, Petropavlovsk-Kamchatsky, Russia, 683000.

\* Email: vgstepanov@inbox.ru

\*\* Email: panina1968@mail.ru

The ossicles of the tail are fusiform rods with three or four perforations in the centre (see Figure 3).



Figure 3. Ossicles of the tail of *Molpadia musculus*.

### Distribution

*Molpadia musculus* distribution is widespread but has not been recorded in the Arctic. It has been recorded at depths of 35–5205 m. In the far eastern seas of Russia, *M. musculus* had only been found by Ohshima in the east coast of southern Sakhalin in

Japan (46°29.30' N and 145°46' E) at a depth of 1800 fathom (i.e., 3291.84 m; Ohshima 1915). In 2015, *Molpadia musculus* specimens were collected near the station indicated by Ohshima and near Urup and Simushir Islands (Kurile Islands) at depths of 3300–3366 m (see Figure 4).

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### References

- Ohshima H. 1915. Report on the Holothurians collected by the United States Fisheries steamer *Albatross* in the Northwestern Pacific during the summer of 1906. *Proceedings of the United States National Museum* 48(2073):213–291.
- Stepanov V.G. and Morozov T.B. 2014. Holothurians of the genus *Molpadia* Risso, 1826 (Molpadiida: Molpadiidae) from the shelf of Kamchatka and the Kurile Islands. *Russian Journal of Marine Biology* 40(2):88–94.

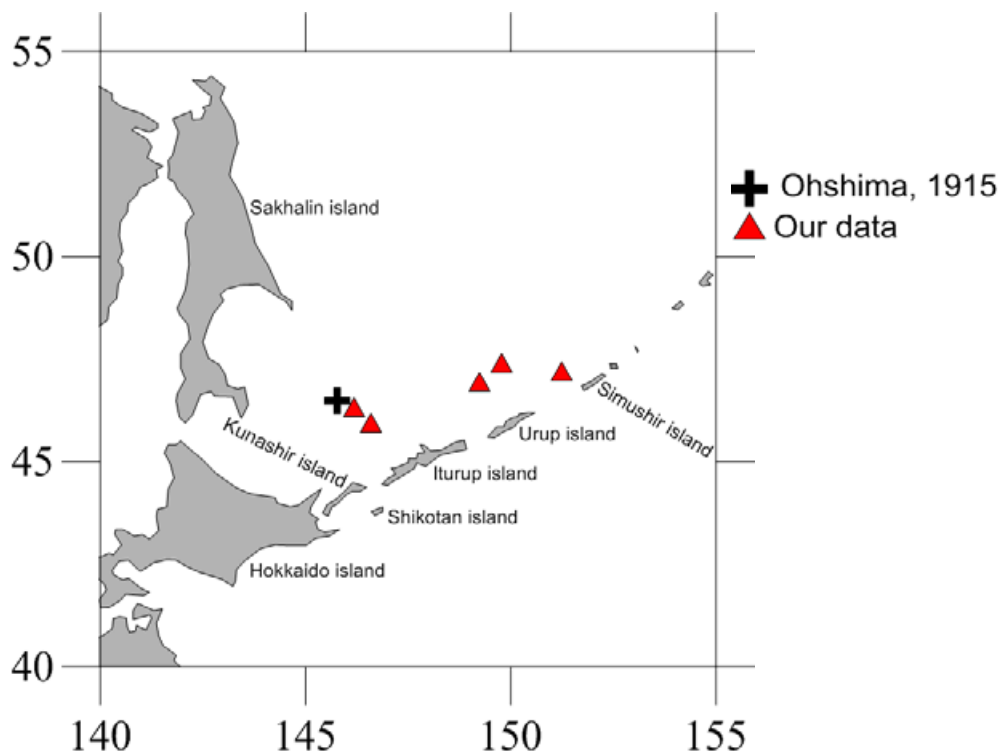


Figure 4. Distribution of *Molpadia musculus* in the Far Eastern seas of Russia.