
Pygmy cuttlefish *Idiosepius paradoxus* (Ortmann, 1888) (Cephalopoda) — first record of Idiosepiidae in Russian seas

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ABSTRACT. Photos of a pygmy cuttlefish were made in the coastal shallow water near Furugelm Island (southern Maritime Province of Russia, Japan Sea, 42°28'N, 130°55'E). The photographed specimen was identified as *Idiosepius paradoxus* (Ortmann, 1888) (fam. Idiosepiidae Appellöf, 1898). It was the first record of a species of this mostly tropical-subtropical family in the Russian seas. These animals could have entered the Russian waters as a result of the warming up of surface waters in the Peter the Great Bay during recent years.

In late August, 2001 one of the authors (A.V. R.) had engaged in a submarine photography in the Zapadnaya (Western) Bay of Furugelm Island (southern Maritime Province of Russia, southwestern part of the Peter the Great Bay, Japan Sea, 42°28'N, 130°55'E). A dwarf cuttlefish was seen in the afternoon, near the shore, swimming over the fine-grain sandy bottom with separate bushes of sea-grass *Zostera*, at the depth of about 3-4 m and temperature approximately 20-22°C. The small cephalopod leaped out of the grass and dashed away, rapidly changing the body color pattern. The cuttlefish was carefully caught and put into a bucket filled up with seawater. In order to keep the animal alive, the water was changed regularly. In the morning, after the underwater camera was ready, the small cephalopod was released. First of all, it sat on a leaf of *Zostera asiatica* (Fig. 1A). Then, it immediately grasped a mysid (opossum shrimp) (Fig. 1B) and hastily ate it, clung again to a sea-grass leaf (Fig. 1C), and after that it swam away safely. No attempt to catch the animal once again was made. Total length of animal seating on a leaf (tentacles drawn in) and when throwing on a prey (with tentacles extended) were assessed with a graduated photo-frame at 32 and 40 mm, respectively. As a result, the estimated mantle length was approximately 20-23 mm, suggesting that it was an adult specimen. No other such kind of an animal was noticed in the vicinity earlier. Among the cephalopods, only the giant North Pacific octopus *Enteroctopus dofleini* (Wülker, 1910) and one unidentified cuttlefish, supposedly *Sepiella japonica* Sasaki, 1929, were observed around Furugelm Island by A.V.R.

Identification of a cephalopod species basing solely on the photo is rather a risky business. Nevertheless, in our case, there was no doubt that the observed specimen belonged to the genus *Idiosepius* Steenstrup, 1881 (family Idiosepiidae Appellöf, 1898), and we almost sure that it was *I. paradoxus* (Ortmann, 1888). The monotypic family Idiosepiidae includes 7 species, distributed in tropics and subtropics of the Indo-West Pacific, off South Africa and Australia. Geographic range of *I. paradoxus* covers almost all shorelines of Japan, coasts of western and southern Korea and China, the Yellow, East China, and South China seas (Fig. 2). It is the only species of *Idiosepius* that inhabits the Japan Sea reaching in its distribution as far to the north as the southern Hokkaido and eastern Korea [Sasaki, 1929; Okutani, 1968, 1995; Nesis, 1987; Norman, Lu, 2000]. It is thus most likely that only this species could have migrated along the Korean coasts to the north, and reached Furugelm Island.

The Russian Maritime Province is by all means the northernmost outskirts of the species geographical range along the Asian coast. Formerly, 18 cephalopod species were reported from the Russian waters of the Japan Sea, most of which are migrants from the southern areas or from the open ocean, and only 8 could be considered as permanent inhabitants of that area [Shevtsov, Mokrin, 1998]. Our finding of *I. paradoxus* brings the total number of cephalopods reported from the Russian Economic Zone of the Japan Sea, to 19.

The pygmy cuttlefishes Idiosepiidae live very close to the shoreline, on underwater fields (meadows) of sea-grasses. These minute animals frequently appear near the surface and are usually attracted by light. It is easy to catch them and to keep in captivity. They may feel comfortable in a table aquarium even without artificial aeration, when the water is changed frequently enough, and there is a suitable substrate (sea-grass leaves). In the result, the pygmy cuttlefishes are fairly well studied. Field studies and observations in captivity provided quite a lot of data on their life-style, including habits