Introduction

The senior author described a new species of sea snake, *Leioselasma czeblukovi* based on two female specimens [holotype ZISP 1980 (Fig. 1) and paratype (ZISP 1981)] collected from the Arafura Sea by Prof. V.P. Shuntov in February 1968 (Kharin, 1984). Two years later a new species, *Hydrophis geometricus*, was described based on three specimens (one male-holotype W AM 76484 and male and female-paratypes W AM 76481, 73663) from the sea around Dampier (Western Australia) collected by N.N. Sinclaire in March 1981 (L. Smith, 1986). Later *H. geometricus* was recognized as a junior subjective synonym of *L. czeblukovi* by Rasmussen and Smith (1997).

Subsequently two more adult females were found in the collections of ZMFESU (III6523/251) and TINRO (R7). The first specimen was collected in northwestern Australian waters at 20º00' S and 116º00' E, and the second at 11º15' S and 141º19'E (Kharin, 2005). Thus, all *L. czeblukovi* findings confined to the Western Australian coast.

Thus, the discovery of this species in the northeast of Papua New Guinea by G. Duncker in 1900 [Lesson Island; Sepik Province, ZMH R03403 (formerly 3272) (Fig. 2)], is of particular note. Smith (1926: 54) listed the sea snake specimen ZMH R03403 (formerly 3272) together with the now lost holotype of *H. pachycercos* Fischer, 1856 as *Hydrophis belcheri* (Gray, 1849). This specimen, however, does not belong to the species described by Gray (1949) but the new *Leioselasma czeblukovi* Kharin, 1984 and thus represents an additional record in New Guinean waters. The holotype of *H. pachycercos* is still not assigned to any recent species. As proposed by David and Ineich (1999) the type locality “New Guinea” of *Hydrophis belcheri* is wrong. Unfortunately, the species composition of sea snakes of Sepik Province has not been studied to any extent. *Enhydrina zweifeli* Kharin, 1985, the most unique species of its genus, which was long considered monotypic, remains to be known only from the unique holotype from the Sepik estuary. A single record of the Polynesian sea krait *Pseudolaticauda schistorhynchus* (Kharin and Hallermann, 2009) was recently described from the region (Bertrand Island). Investigation of herpetological species diversity in this region will certainly result in many interesting findings.

In the process of preparing a monograph on the “Sea snakes of the world”, the first author could not present the results of morphological and osteological investigations of *Leioselasma czeblukovi*. Our report is devoted to the description of this species and its distribution. Besides, we considered it necessary to list the basic morphological data on all known specimens of this rare and little-known species based on our published data.
Material and methods

Specimens used in the present study are housed in the collections of the Zoological Institute of the Russian Academy of Sciences (ZISP, Russia), Pacific Fisheries Research Center (TINRO-center, Russia), Zoological Museum of the Far Eastern State University (ZMFESU, Russia), Zoologisches Museum, Universität Hamburg (ZMH, Germany), and Western Australian Museum (WAM). Measurements and counts follow M. Smith (1926) with some alterations as described below. Scale rows were counted directly around the body (according to Thomas, 1976). The minimum and maximum number of rows are given in table 1 so that they can be compared with the counts in M. Smith (1926).

Systematic account

Leioselasma czeblukovi Kharin, 1984 (Fig. 2)


Description. Maxillary bone not extending anteriorly beyond the palatine. Anterior part of maxillary not arched upward, the tip of the fang projecting conspicuously below a straight line connecting the tips of the solid teeth. Tooth rows of moderate length. Maxillary teeth II + 7, palatine – 6, pterygoid – 15, dentary – 16. Palatine without triangular flange for the maxillary and with rounded sinuation on the lateral border to fit against the anterior medial maxillary process of the quadrate bone, that extends downward and backward. Sphenoid excluded from the margin of the anterior orifice of the cavum epipetricum (= optic fenestra) by the parietal bone. Number of trunk vertebrae: 177, tail vertebrae: 35.

Heart position 40,6 % of SVL from snout. Areolar part of tracheal lung extending to between two and two-and-one-half head-lengths from head, with membranous but not areolate forward continuation.

Anterior part of the body is almost cylindrical, gradually compressing; posterior part of the body belt-shaped, with flat and high tail. Head moderately large, narrow, passing into a very thick neck. The neck gradually passes into the body. Head shields are regular and symmetrical. Premaxillary large, pentagonal, slightly longer than wide. Nasals quadrangular, contacting each other at a suture. Nostrils located on the dorsal surface of the head. Prefrontal shields small, pentagonal, contacting each other at a suture. Suture between the nasal shields is four times longer than that between the prefrontal shields. Supraorbital shields are large and hexagonal and contact the preorbital, prefrontal, frontal, parietal, and upper postorbital shields. Frontal is large and hexagonal. The parietal shields are the largest. The suture between the
New record distribution of *Leioselasma czeblukovi*

pattars is 1.4 times longer that between the nasals and more than five times longer than the suture between the prefrontal shields. At the base of the suture between the parietals there is a large scale. There is one preorbital and two postorbital shields. There are three large anterior temporal shields on the left side and two plates on the right side (three shields on both sides). Eye diameter is almost equal to the distance from the eye to the edge of the mouth. There are seven supralabials: the 1st is the smallest and contacts the premaxillary and nasals; the 2nd connects the nasal, prefrontal and preorbital; the 3rd links prefrontal and eye; the 4th – eye (on the right side) and eye and lower postorbital (on the left side); the 5th – lower postorbital (on the right side) and lower postorbital and lower anterior temporal (on the left side); the 6th on the right side is split into two shields and touches lower postorbital and lower anterior temporal; on the left side it is linked to the lower anterior temporal; the 7th shield contacts the lower temporal. There are 8 infralabials, the first two are in contact with sublingual shields, which are well developed and in contact with each other. A series of small elongated scales lies behind and below

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**Figure 2.** *Leioselasma czeblukovi* (ZMH R03403): The dorsal (1) and ventral sides (2); scales of the midbody (3); head: the lateral (4), ventral (5) and dorsal (6) sides.
Table 1. Comparison of external characters in all known specimens of *Leioselasma czeblukovi*. n: number of specimens and sex; f: females, m: males.

<table>
<thead>
<tr>
<th>Type of <em>Leioselasma czeblukovi</em></th>
<th>n</th>
<th>SVL/tail</th>
<th>SVL/neck/body</th>
<th>Scale rows neck/body</th>
<th>Ventrals/Subcaudals</th>
<th>Maxillary teeth</th>
<th>Premaxillae</th>
</tr>
</thead>
<tbody>
<tr>
<td>WMN 76481, 76484 (after L. Smith, 1986)</td>
<td>2 females</td>
<td>97-36-55/59</td>
<td>34-35</td>
<td>35-36</td>
<td>6-7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Synthesis of characters</td>
<td>1 male</td>
<td>36-55/59</td>
<td>34-35</td>
<td>35-36</td>
<td>6-7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*color pattern with pentagonal markings on flanks.

+ From the species description of *Hydrophis geometricus* (Smith, 1986) and in the following paper (Rasmussen, Smith, 1977) there are no data on SVL. and tail., and only TL of the greatest specimen are adduced (Smith, 1986).

third and fourth infralabial. The mental is moderate in size and triangular in shape. The sublinguals are large. The shields of the first pair touch each other at a suture; in the second pair the plates are somewhat larger and separated by a large scale.

In the first quarter of SVL body scales are imbricating, more posteriorly they become hexagonal in shape and tile without overlapping each other. On the neck the scales are smooth; scales on the anterior quarter of the body have a weak keel consisting of 2–4 small tubercles. By the middle part of the body the tubercles are developed into stout spines. There are 33-57-34 scales (around the neck - middle of the body – one head length before cloaca). Ventralis are elongated, with a clearly pronounced transverse keel, posteriorly part they bear 1–2 weakly developed tubercules. There are 306 ventrals and 45 subcaudals; the ventrals are almost twice as large as the surrounding scales of the body. There are four anal shields adjacent to each other; the posterior one, located at the edge of the anal opening is the largest.

The coloration of the body (in alcohol) is grayish white, with two rows of dark grey pentagonal spots separated from each other by thin bands. In the upper row, running along the spinal column, there are 37 large hexagonal spots. On the tail, the spots are not pronounced. There are 36 spots in the second row, that are weakly developed, significantly smaller than the spots of the first row, and arranged along the flanks. The head is brown. In the posterior one-third of the body and along the lower edge of the tail the coloration is indistinct.

The length of body from the tip of the snout to the anterior margin of the cloaca opening is 837 mm. The tail is 90 mm long.

Distribution. This specimen is from near Lesson Island, Papua New Guinea.

Other records of *Leioselasma czeblukovi* are from waters of Northwest Australia (see Fig. 3).

Remarks

Iskandar, &. Colijn (2001) listed in their checklist the distribution range of *L. czeblukovi* as restricted to the Arafura Sea, Australia, neglecting the rage of the former *Hydrophis geometricus* from northwest of Port Dampier, Western Australia, although they recognized the synonymy of the both. The new record of *Leioselasma czeblukovi* in north New Guinean waters is about 2000 km north-east of the previously known distribution. Some sea snakes taxa e.g. *Pelamis platura* have relatively wide, even worldwide, distributions, but our knowledge on the dispersion of most sea snake taxa is extremely poor. Most of the findings are derived from sea fishing or the scientific investigation of sea-fishes. The specimen described herein was collected by the late curator of Ichthology of the Zoological Museum Hamburg, Dr. Georg Duncker, during a sailing trip around the world. Duncker left the ship in Kokopo (Herbertshöhe, Deutsch-Neuguinea), East New Britain Province, Papua New Guinea to make several trips to adjacent regions of Indo- Australian Archipelago on his own initiative.

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References


Figure 3. A map of findings of all specimens of the Leioselasma czeblukovi: 1. ZIN 1980, 1981 (types of the Leioselasma czeblukovi); 2. WAM 76484, 76481, 73663 (types of the Hydrophis geometricus); 3. TINRO R7; 4. ZMFESU III6523/251; 5. ZMH R03403 (our data).

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