A new species of scaleworm, *Eunoe hydroidopapillata*, collected off the eastern coast of Kamchatka (Polychaeta: Polynoidae: Harmothoinae)

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Eunoe hydroidopapillata sp. n. is described from two specimens collected off the eastern coast of Kamchatka from stony bottom at the depths 120 and 176 m. It differs from all known species in the unusual morphology of the elytra. These bear a soft, long, branched macropapilla (about 2 mm long) at the inner margin. A deep, oval or bean-shaped cavity with thin smooth bottom is present near the outer edge of elytra. The surface of elytra is covered with numerous spines and papillae of very various sizes and morphology.

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The new species is described from two specimens. One of them was identified by Levenshtein (1966) as *Eunoe depressa* Moore, 1905 and deposited in the collection of the Zoological Institute of the Russian Academy of Sciences, St.Petersburg (ZIN). Another one was found in the course of examination of the material collected in 1988 by the expedition of the Kamchatka Institute of Ecology and Environment of the Far East Branch of the Russian Academy of Sciences, Petropavlovsk-Kamchatsky (KIE). The worms are preserved in 70% alcohol.

Eunoe hydroidopapillata sp. n.
(Figs 1-9)

Eunoe depressa (non Moore, 1905): Levenshtein, 1966: 14 (partim).

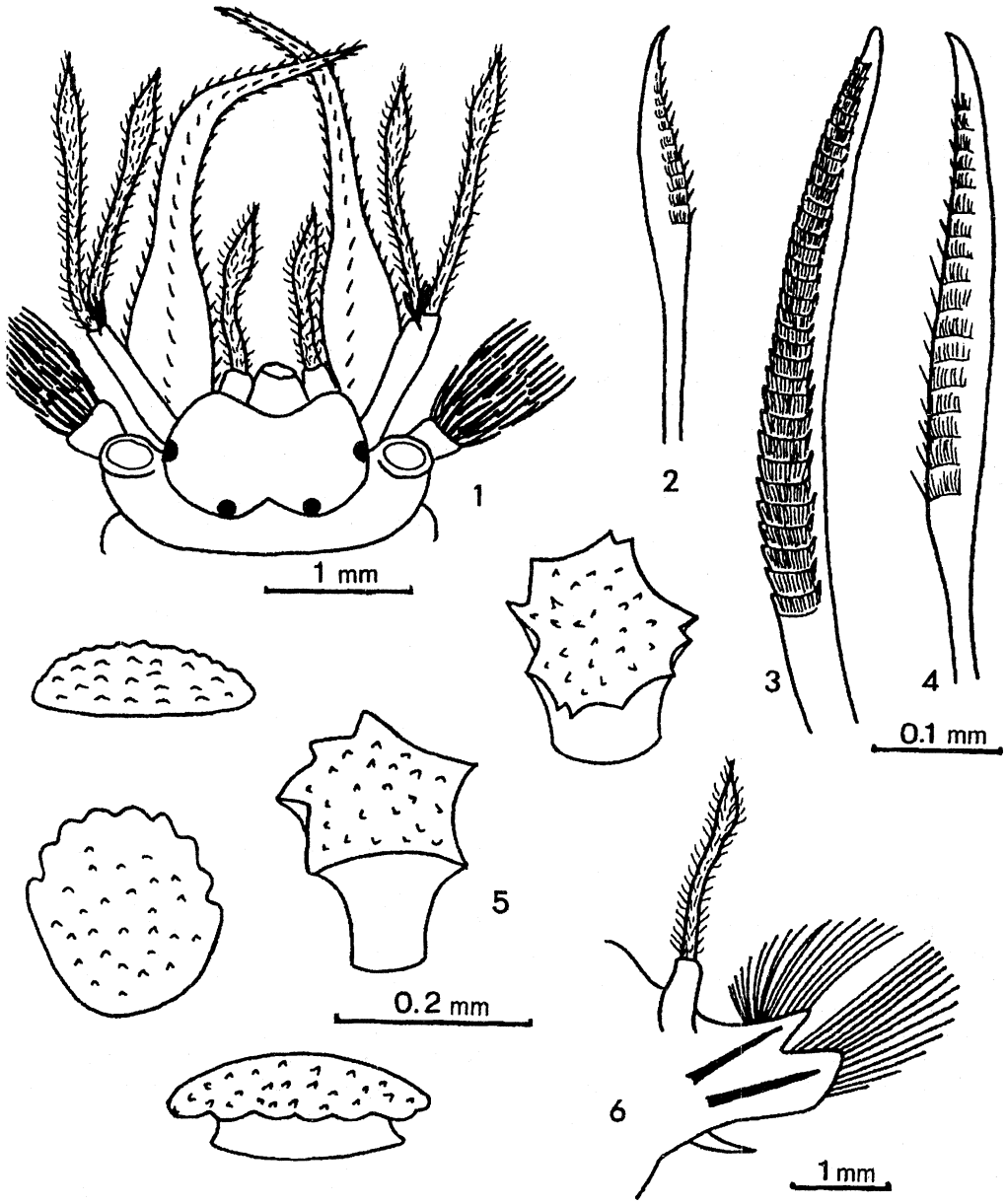
Holotype. ZIN, No. 1/44393, anterior region of the body (18 setigers), 19.VIII.1950, 5th voyage of R.V. "Vitjaz", st. 528, 54° 46′ N, 167° 08′ E, depth 120 m, stones and pebbles, trawl, coll. L.A. Zenkevich.

Paratype. KIE, No. 1/2490, anterior region of the body (24 setigers), most of elytra missing, 28.V.1988, voyage of "Nazarovsk", st. 118, 52° 53.6′ N, 160° 09.5′ E, depth 176 m, stones, dredge, coll. A.V. Rzhavsky.

Description. Length of fragments 12 mm (holotype) and 19 mm (paratype).

Prostomium (Fig. 1) deeply bilobed, with indistinct cephalic peaks. Two pairs of medium-sized eyes arranged in a trapezium: the first pair laterally in the widest part of prostomium, the second one near the posterior edge. Median antenna missing in both specimens. Lateral antennae somewhat swollen distally, with filamentous tip, covered with short soft papillae. Tentacular cirri (missing from holotype) similar to lateral antennae, but somewhat longer. Palps stout, tapered, with 6 longitudinal rows of small papillae. Dorsal cirri (Fig. 6) longer than chaetae, somewhat swollen distally, with filamentous tip, covered with long soft papillae. Ventral cirrus of 2nd setiger as dorsal cirri, but covered with short papillae. Other ventral cirri (Fig. 6) short, pointed and smooth.

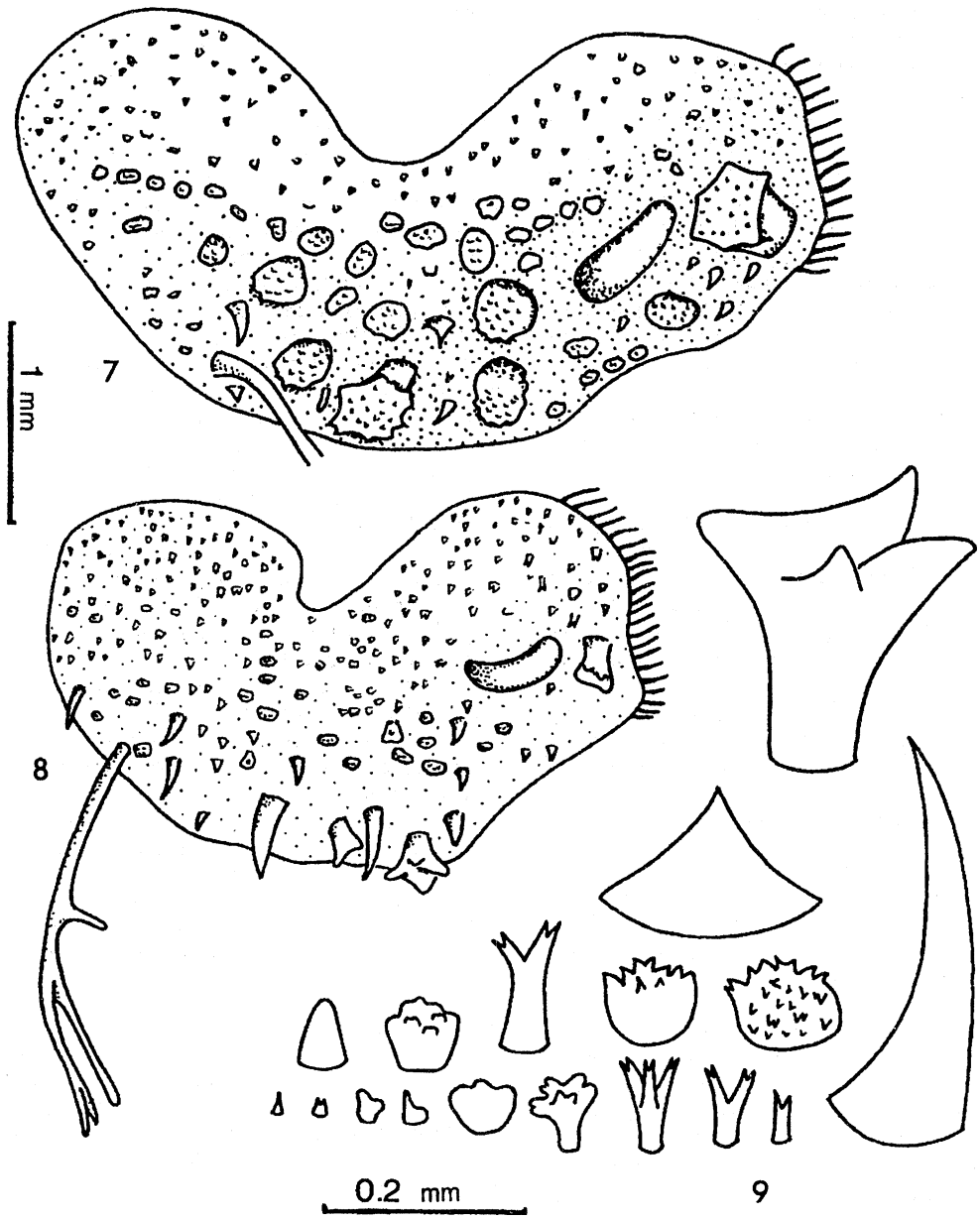
Body of preserved specimens mainly colourless, with brownish or yellowish spots near cirrophores and elytrophores. Cerato-phores of median and lateral antennae yel-



Figs 1-6. *Eunoe hydroidopapillata* sp. n. **1**, prostomium of paratype, median antenna missing; **2**, smallest neurochaeta; **3**, notochaetae; **4**, largest neurochaeta; **5**, some kinds of macropapillae observed in paratype only; **6**, parapodium from the median region of body.

lowish; lateral antennae and tentacular cirri brownish basally up to the swollen region and colourless distally; dorsal cirri may have brownish spots. Dorsal tubercles absent.

Number of elytra pairs not counted because the specimens are incomplete. Elytra on setigers 2, 4, 5, 7 and alternate segments to the end of fragments. Elytra (Figs 7, 8) large, overlapping, covering dorsum, bean-shaped, thick, smaller in anterior region. There is a short but distinct fringe on the outer edge of each elytron and sometimes a rudimentary one posteriorly.



Figs 7-9. *Eunoe hydroidopapillata* sp. n. 7, elytron from the median region of paratype, long branched macropapillae shown incompletely; 8, elytron from the anterior region of holotype; 9, variation of spines and papillae from holotype elytron.

Appearance and size of elytral papillae very different. Especially characteristic is one soft, long, dichotomously branched macropapilla (about 2 mm long) near the middle of outer margin of elytron (Fig. 8). The attachment of papillae relatively firm, but they may be missing without any trace in the place of attachment. Most of the holotype elytra have such a kind of papilla, but in the paratype they are mostly missing. These papillae are very similar to small hydroid fragments.

Variation of spines and papillae is shown in the Figs 5, 7-9. Anterior region of elytra

covered with numerous small spines with 1-2 tips. Posteriorly they become larger and change their morphology. More typical are: (1) spines with 2-3 large branches, each split terminally; (2) mace-shaped spines with 3-4 bifurcated obtuse teeth; (3) wart-shaped, oval or irregular papillae, smooth or covered in different degree with pointed or bifurcated obtuse teeth. Near the posterior edge and sometimes in the central part, there are 10-15 large spines and macropapillae of different shapes: conical, spine-shaped, widened distally with 2-4 teeth, mushroom-shaped with star-shaped or wave-edged cup covered with teeth, circular or oval warp-shaped with toothed surface. These spines and macropapillae are dark brown or semi-transparent amber-coloured. Teeth on the surface of macropapillae often not visible under dissecting microscope. Number, frequency of occurrence and even presence or absence of every type of macropapillae is very different in both specimens, as well as in elytra of each specimen. In general, large spine-shaped and distally widened macropapillae (Figs 8, 9) are more typical of the holotype, in which warp-shaped reach only intermediate size and mushroom-shaped macropapillae were not observed. Elytra of paratype with more numerous warp-shaped papillae and macropapillae (Figs 5, 7) and most of them have various mushroom-shaped macropapillae (Figs 5, 7).

Near the outer edge of elytron, in front of the place of its attachment, a deep, oval or bean-shaped cavity with a thin smooth bottom is present. This "sac" is located in the space between the parapodium to which the elytron is attached and the one on the following segment. Parapodia (Fig. 6) biramous, with conical neuropodium and notopodium. Numerous golden notochaetae somewhat shorter than neurochaetae, but jut out from elytra. Chaetae usual for *Eunoe*: notochaetae thick, slightly curved, with numerous spinous rows and short, bare, blunt tip (Fig. 3); neurochaetae somewhat widened distally, with numerous spinous rows and hooked, monodentate, bare tip (Figs 2, 4). Notochaetae at base of tentacular cirri similar to shortest notochaetae.

Pharynx not extended and not examined, as well as pygidium which is missing from both specimens.

Comparison. E. hydroidopapillata differs distinctly from all other species of *Eunoe* in having long branched macropapillae and deep cavity on elytra. Mushroom-shaped macropapillae are also unusual and unknown in other *Eunoe* species, though not obligate. Other types of macropapillae may occur in many species of *Eunoe*, but not all together. So, in our opinion, there is no reason for detailed comparison of the new species with numerous species of *Eunoe* bearing either type of similar macropapillae.

Etymology. The species is named because of the unusual, long, branched papillae similar to hydrozoan fragments.

Remarks. Both specimens were incomplete and we could not count the number of setigers and pairs of elytra, but nevertheless the new species is a distinct "*Harmothoe*" sensu lato. The absence of bidentate hooked neurochaetae let us to recognize it as *Eunoe* and distinguish from the genera *Lagisca* and *Harmothoe* sensu stricto.

The hydroid-shaped long macropapillae and deep cavity on elytra are recorded in *Eunoe* for the first time, and we do not know any Harmothoinae with such features. However it is possible that some known *Eunoe* have such a kind of macropapillae, but these were missed (see above) or confused with hydrozoans which really can overgrow the elytra of Polynoidae (Uschakov, 1982). As to the cavities on elytra, we can suppose that these function as brood chambers, though incubating of embryos under elytra is usual in *Eunoe* (Uschakov, 1982).

Ecology. The worms were collected from stony bottom at the depths 120 and 176 m.

Distribution. Off the eastern coast of Kamchatka.

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