

**Revision of the scaleworm genus *Eulagisca* McIntosh
(Polychaeta: Polynoidae) with the erection of the subfamily
Eulagiscinae and the new genus *Pareulagisca***

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Abstract.—A new subfamily of Polynoidae, *Eulagiscinae*, is established for *Eulagisca* McIntosh, to include the type species *E. corrientis*, *E. gigantea* Monro, *E. puschkini* Averincev, and two new species, *E. uschakovi* and *E. macnabi*, all from the Antarctic and Subantarctic regions, and the new genus *Pareulagisca* for *P. panamensis* (Hartman), new combination, from the central Pacific Panama region.

McIntosh (1885) described *Eulagisca corrientis* from deep water in the South Atlantic and South Indian Oceans. Monro (1939) described some large polynoids from the deep Antarctic as *E. gigantea*. Hartman (1939) added *E. panamensis* from shallow water of Pacific Panama, and Averincev (1972) added *E. puschkini* from shallow water in the Antarctic Davis Sea. The prostomia resemble those of the members of the subfamilies Lepidonotinae Willey, 1902 and Lepidastheniinae Pettibone, 1989, by having the lateral antennae inserted on anterior extensions, on the same level as the ceratophore of the median antenna, or subterminally, without distinct ceratophores. The parapodia differ from those of both subfamilies by having the notopodia and neuropodia well developed, with projecting digitiform acicular lobes, rather than projecting acicular lobes lacking. The elytra of some specimens, identified as *E. gigantea*, and some new material, showed some differences and are referred to two new species: *E. uschakovi* and *E. macnabi*.

Some distinctive characters of species of *Eulagisca*, and not shown by *E. panamensis*, referred herein to the new genus *Pareulagisca*, include the following: long palps of the prostomium with six longitudinal

rows of papillae; prominent conical facial tubercle on the upper lip, ventral to the ceratophore of the median antenna; tentaculophores of segment I, lateral to the prostomium, with projecting digitiform acicular lobe and group of long setae; and 15 pairs of elytra (16 pairs in *P. panamensis*).

In addition to the collections in the National Museum of Natural History, Smithsonian Institution (USNM), the specimens covered herein are deposited in the following Museums: Natural History Museum, London (BMNH); Natural History Museum of Los Angeles County (LACM-AHF); Zoological Institute Academy of Sciences, Leningrad (ZIASL); Zoological Museum, Hamburg (ZMH); Zoologisk Museum, Universitet i Oslo (ZMUO).

Family Polynoidae Kinberg, 1856
Eulagiscinae, new subfamily

Diagnosis.—Body elongate, with segments moderate in number (up to 41). Elytra and bulbous elytrophores 15 (*Eulagisca*) or 16 (*Pareulagisca*) pairs, on segments 2, 4, 5, 7, alternate segments to 23, 26, 29, 32 (33). Elytra large, oval, with or without papillae, microtubercles, macrotubercles and globular vesicles or papillae. Dorsal cirri, on non-elytrigerous segments, with

cylindrical cirrophores posterodorsal to notopodia, with distal styles; dorsal tubercles, in line with elytraphores, bulbous or indistinct. Prostomium bilobed, with paired palps and three antennae; median antenna with large ceratophore in anterior notch of prostomium, with distal style; lateral antennae inserted terminally or subterminally on anterior extensions of prostomium, without distinct ceratophores; two pairs of eyes. First or tentacular segment not visible dorsally; tentaculophores lateral to prostomium, each with dorsal and ventral tentacular cirri, similar to median antenna, with or without digitiform acicular lobe and numerous or single setae; with or without distinct facial tubercle on upper lip. Second or buccal segment with nuchal fold, first pair of elytra and elytraphores, biramous parapodia, and ventral buccal cirri, longer than following ventral cirri. Biramous parapodia with both noto- and neuropodia with prominent projecting digitiform acicular lobes and numerous noto- and neurosetae. Noto- setae of one kind, stout (*Eulagisca*) or two kinds: stout and slender, capillary (*Pareulagisca*). Ventral cirri short, tapering. Pharynx with two pairs of jaws and eleven pairs of dorsal and ventral papillae (not examined in *Pareulagisca*). Pygidium with pair of anal cirri.

Remarks.—The prostomia of the Eulagiscinae agree with the Lepidastheniinae and the Lepidonotinae in having the lateral antennae inserted terminally or subterminally, without distinct ceratophores, and disagreeing with the Harmothoinae having distinct ceratophores and inserted ventrally. The nuchal folds on the second or buccal segment in Eulagiscinae are distinctive. The biramous parapodia, with both rami having prominent digitiform acicular lobes and numerous noto- and neurosetae in Eulagiscinae, differ from the other subfamilies.

Key to the Genera and Species of the Subfamily Eulagiscinae

1. Elytra 16 pairs, on segments 2, 4, 5, 7,

- alternate segments to 23, 26, 29, 32, 33. Elytra without tubercles and border or surface papillae (Fig. 5G). Prostomium with long palps, without 6 longitudinal rows of papillae (Fig. 5A). Tentaculophore of segment I without projecting acicular lobe, with single seta (Fig. 5A); facial tubercle weakly developed. Noto- setae of two kinds: 1) stout, acicular, smooth or with faint spinous rows (Fig. 5D); and 2) slender, capillary, smooth or with few spines (Fig. 5E)
. *Pareulagisca*, n.gen.: *P. panamensis* (Hartman 1939), n. comb. (Fig. 5A–G)
- Elytra 15 pairs, on segments 2, 4, 5, 7, alternate segments to 23, 26, 29, 32. Elytra variable. Prostomium with long palps with 6 longitudinal rows of papillae (Fig. 2A) Tentaculophores of segment I with projecting digitiform acicular lobe and group of long setae; with prominent conical facial tubercle (Fig. 2A). Noto- setae of one kind, stout, with long spinous regions, tapering to blunt tips (Figs. 1C, 2C, 3C, 4D)
. *Eulagisca* McIntosh 1885. 2
2. Neurosetae tapering to sharp tips (Fig. 3D; Averincev 1972, pl. 13:9–11). 3
- Neurosetae tapering to slightly hooked tips (Figs. 1D, 2D, 4E) 4
3. Elytra with sharply pointed tubercles and globular vesicles with few to numerous terminal spines (Fig. 3E)
. *E. uschakovi*, new species (Fig. 3A–E).
- Elytra without border or surface papillae; with numerous microtubercles on anterior part (Averincev 1972, pl. 13:8)
. *E. puschkini* Averincev, 1972 (pl. 13:8–12).
4. Elytra with border papillae (Figs. 1E, 4F) 5
- Elytra without border papillae; surfaces with conical microtubercles, larger conical tubercles, and globular vesicles (Fig. 2F)
. *E. gigantea* Monro, 1939 (Fig. 2A–F)
5. Surface of elytra with conical papillae on anterior part (Fig. 1E)
. *E. corrientis* McIntosh, 1885 (Fig. 1A–E)
- Surface of elytra with conical microtubercles and larger spiny tubercles (Fig. 4F)
. *E. macnabi*, new species (Fig. 4A–F).

Genus *Eulagisca* McIntosh, 1885
Type species.—*Eulagisca corrientis* McIntosh, 1885, by monotypy. Gender, feminine.

Diagnosis.—Body rather large, wide, flattened, slightly tapering anteriorly and more so posteriorly, with segments up to 41. Elytra and bulbous elytriphores 15 pairs, on segments 2, 4, 5, 7, alternate segments to 23, 26, 29, 32. Elytra large, covering dorsum, easily detached, with or without microtubercles, macrotubercles, bulbous vesicles, and fringes of papillae. Dorsal cirri with cylindrical cirrophores and long styles on non-elytrigerous segments; dorsal tubercles bulbous. Prostomium bilobed, with paired long palps each with six longitudinal rows of papillae, and three antennae; median antenna with ceratophore in anterior notch of prostomium, with long style; lateral antennae inserted on anterior extensions of prostomium, on same level as median antenna, without distinct ceratophores; eyes 2 pairs, large, laterally on middle of prostomium, nearly contiguous. First or tentacular segment indistinct dorsally; tentaculophores lateral to prostomium, each with projecting digitiform acicular lobe, group of setae, and long dorsal and ventral tentacular cirri. Prominent conical facial tubercle ventral to ceratophore of median antenna. Second segment with semilunar nuchal pad and nuchal fold covering posterior part of prostomium, first pair of elytriphores, biramous parapodia, and long ventral buccal cirri lateral to ventral mouth. Parapodia biramous, with numerous golden setae. Notopodia well developed, with prominent digitiform acicular lobes; neuropodia with long digitiform presetal acicular lobes and shorter rounded postsetal lobes. Notosetae numerous, stouter than neurosetae, with long spinous regions, tapering to blunt tips; neurosetae more numerous and finer than notosetae, with long spinous regions, tapering to rather long bare tips. Ventral cirri short, subulate. Pharynx with two pairs of chitinous jaws and 11 pairs of dorsal and ventral papillae. Pygidium with pair of anal cirri. Nephridial papillae short, cylindrical, beginning on segment VI.

Remarks.—As indicated by Benham

(1921:45), McIntosh's choice of *Eulagisca* for *E. corrientis* was a poor one, since it differs in so many ways from *Lagisca*, including the type of the prostomium, parapodia, and elytra.

Eulagisca corrientis McIntosh, 1885

Fig. 1

Eulagisca corrientis McIntosh, 1885:91, Fig. 1, pl. 13:fig. 4, pl. 7A:figs. 3, 4,

Not *Eulagisca corrientis*.—Benham, 1921:43, pl. 6:figs. 36–38, pl. 7:figs. 39–42.

[?] *Eulagisca corrientis*.—Monro, 1930:48, fig. 11a–e (no elytra); 1936:90 (no elytra).

Not *Harmothoe corrientis* (?).—Augener, 1932:19. (= *Harmothoe* sp.).

Not *Eulagisca corrientis*.—Stiller, 1996:30, pl. 4:figs. 1–5.

Material examined.—South Atlantic: off east coast of South America, south of Buenos Aires, 37°17'S, 53°52'W, 1097 m, green sand, *Challenger* Sta. 320, 14 Feb 1876, syntype (BMNH 1885.12.1.71). South Indian Ocean: Between Kerguelen and Heard Islands, 52°04'S, 71°22'E, 274 m, coarse gravel, *Challenger* Sta. 150, 2 Feb 1874, syntype (BMNH 1885.12.1.83).

Remarks.—The species is somewhat doubtful, since it was based on two syntypes, a smaller complete specimen but without elytra, from *Challenger* Sta. 320, and an anterior fragment of a larger specimen with two elytra, from Sta. 150. There is a possibility that the two syntypes belong to different species but the type material does not allow one to clarify this point. Monro (1930:48) examined McIntosh's type specimens and referred some specimens from off the South Shetlands to *E. corrientis*, but without elytra and thus doubtful. Monro (1936:90) added a record from off the Falkland Islands, but the specimen also lacked elytra. Stiller (1996:30) added *E. corrientis* from the eastern Weddell Sea. It does not agree with the two syntypes in the BMNH.

The specimens described as *E. corrientis*

by Benham (1921:43) appear to be a mixture of *Eulagisca* species and need to be reexamined. The specimen that Augener (1932:19) questionably referred to *Harmothoe corrientis* was examined from the Olso Museum (ZMUO); it is in poor condition, the prostomium is harmothoid and different from that of *Eulagisca*; it is referred to *Harmothoe* sp.

Description.—Incomplete syntype with 19 segments, 29+ mm long and 24 mm wide with setae. Smaller complete syntype with 35 segments, 34 mm long and 16 mm wide with setae. Dorsum with brown pigmentation. Elytra and bulbous elyrophores 15 pairs, in usual arrangement (McIntosh 1885: pl. 13, fig. 4). Elytra subreniform, surface with soft conical papillae and long delicate clavate papillae near posterior and lateral borders (Fig. 1E). Dorsal cirri with cylindrical cirrophores and papillate styles extending beyond setae; dorsal tubercles nodular.

Bilobed prostomium wider than long, with long papillate palps and three antennae; median antenna with large ceratophore in anterior notch, with style missing; lateral antennae inserted on anterior extensions of prostomium, with rather long styles with subterminal enlargements and filamentous tips; two pairs of large closely approximated eyes on lateral sides; tentaculophores lateral to palps and prostomium, each with projecting digitiform acicular lobe and four setae directed anteriorly, and dorsal and ventral tentacular cirri, similar to lateral antennae; prominent conical facial tubercle ventral to ceratophore of median antenna (Fig. 1A; McIntosh 1885: pl. 13, fig. 4). Segment II with large semilunar nuchal fold, first pair of large elyrophores, biramous parapodia and long ventral buccal cirri (Fig. 1A; McIntosh: pl. 13 fig. 4).

Biramous parapodia with notopodia and neuropodia about equal in size, both with projecting acicular lobes; notopodia rounded basally, with projecting acicular lobes on lower sides; neuropodia subconical with projecting presetal acicular lobes and short-

er rounded postsetal lobes (Fig. 1B; McIntosh 1885: fig. 1). Notosetae numerous, forming radiating bundle of four lengths, slightly stouter than neurosetae, short, slightly curved and longer, straight, with long spinous regions, tapering to short bare tips (Fig. 1C; McIntosh 1885: pl. 7A fig. 3). Neurosetae numerous, forming fan-shaped bundle, with long spinous regions, tapering to slightly hooked bare tips; upper ones more slender and upper few with delicate secondary tooth (Fig. 1D; McIntosh 1885: pl. 7A fig. 4). Ventral cirri slender, with few papillae, tapering, extending slightly beyond basal part of neuropodia (McIntosh 1885: fig. 1).

Distribution.—South Atlantic and South Indian Oceans, in 274–1097 meters.

Eulagisca gigantea Monroe, 1939

Fig. 2

Eulagisca gigantea Monroe, 1939:103 (part), Fig. 4a–d, f–h (not e), Sta. 30 only.—Uschakov, 1962:174 (part), Sta. 283, pl. 9E, G, H (not F); 1966:174 (part), Sta. 282, pl. 9E, G, H (not F) (English translation).—Hartman, 1967:21 (part, not Sta. 1003).—Not Averincev, 1972:131 (= *E. uschakovi*, new species).—Not Desbruyères, 1976:85, pl. 1: figs. a–c (= *Eulagisca*, new species?).—Hartmann-Schröder & Rosenfeldt, 1990: 91 (part), pl. 1:3–5 (not 1, 2).—Not Still-er, 1996:30, pl. 10:figs. 1–5. (= *E. uschakovi*, new species).

Material examined.—Antarctic: Off Princess Elizabeth Land, 66°48'S, 71°24'E, 540 m, British, Australian, New Zealand, Antarctic Research Expedition Sta. 30, 27 Dec 1929, lectotype (BMNH 1941.3.3.16, largest of three syntypes of *E. gigantea*).

Drake Passage, between South America and Antarctica, 56°06'S, 66°19'W, 384–494 m, *Eltanin* Sta. 740, 18 Sep 1963, 1 specimen (USNM 57466, ident. by Hartman 1967). South Shetland Islands, 61°25'S, 56°30'W, 300 m, *Eltanin* Sta. 993, 13 Mar 1964, 1 specimen (USNM 57467, ident. by

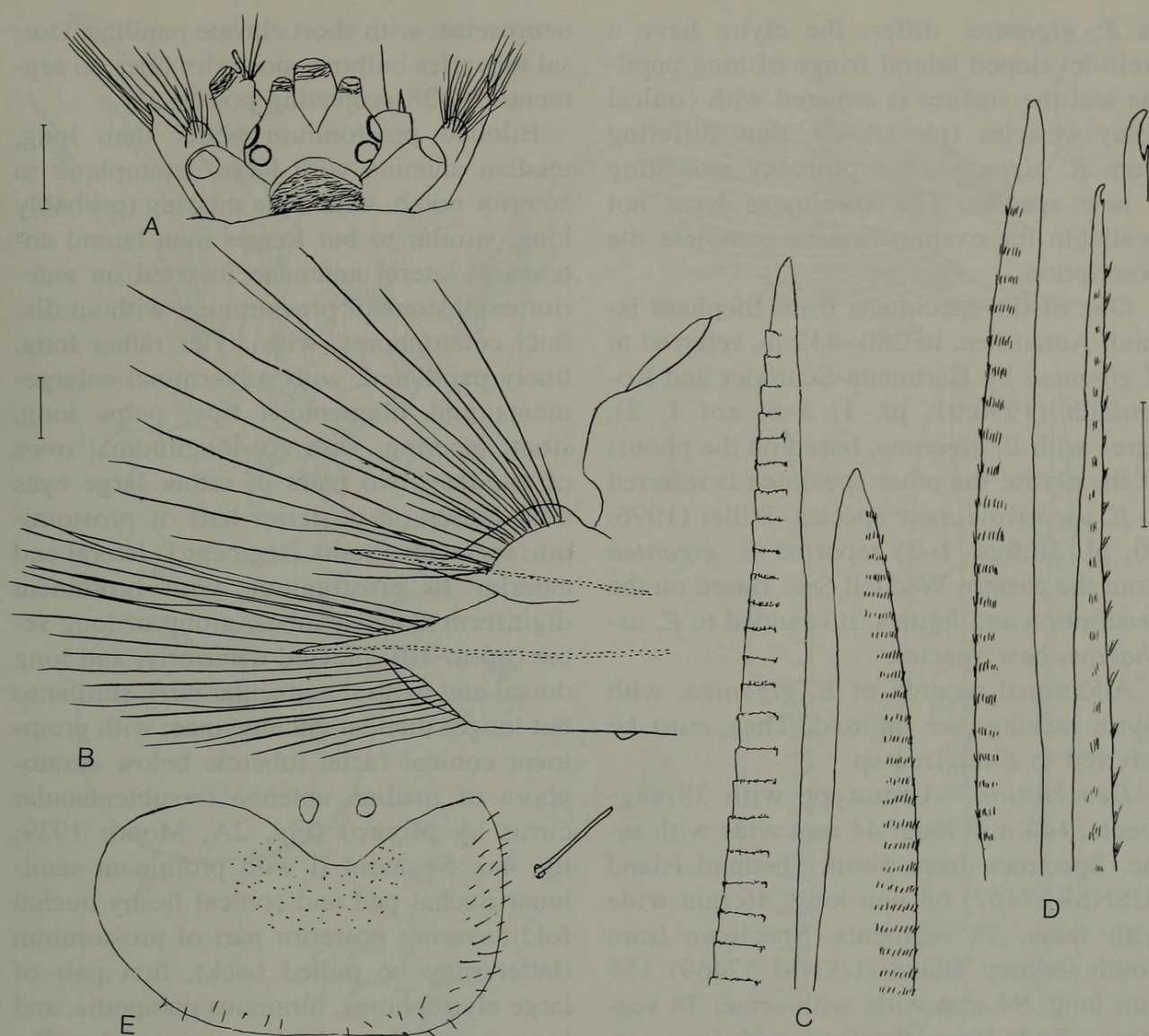


Fig. 1. *Eulagisca corrientis*, A–D, syntype from Sta. 320 (BMNH 1885.12.1.71); E, syntype from Sta. 150 (BMNH 1885.12.1.83): A, Dorsal view of anterior end, right tentaculophore damaged; missing: styles of median and lateral antennae, palps, and tentacular cirri; B, Right elytrigerous parapodium, anterior view, aciculae dotted, style of ventral cirrus missing; C, Tips of long and short notosetae; D, Middle and upper neurosetae, with detail of tip, E, Right elytron, with detail of papillae. Scales = 1.0 mm for A; 0.5 mm for B; 0.1 mm for C,D; E (not to scale).

Hartman 1967). South Orkney Islands, 60°50'S, 42°55'W, 298–302 m, *Eltanin* Sta. 1082, 14 Apr 1964, 1 specimen (USNM 57469, ident. by Hartman 1967). 59°53'S, 32°19'W, 523–671 m, *Islas Orcada* Cruise 1876, USARP Sta. 130, 25 Feb. 1976, 1 specimen (USNM 74575).

Remarks.—The type material of *Eulagisca gigantea* Monro (1939) consists of three syntypes. They proved to be a mixture of at least two species. The largest syntype from Sta. 30, with the elytral tubercles and

vesicles as on Fig. 4c, d and not Fig. 4e by Monro (1939), was selected as the lectotype. The next largest syntype from Sta. 107, with elytral tubercles as shown on Fig. 4e, was selected as the holotype of *E. uschakovi*, new species. The smallest syntype from Sta. 39, which lacked elytra, was selected as a paratype of *E. uschakovi*, based on the similarity of the neurosetae.

The two specimens from the Continental plateau off Kerguelen, in 172–262 m, described and figured by Desbruyères (1976)

as *E. gigantea*, differ: the elytra have a well-developed lateral fringe of long papillae and the surface is covered with conical spiny vesicles (pl. 1A–C), thus differing from *E. gigantea*, and probably indicating a new species. The specimens were not available for examination to complete the description.

One of the specimens from Elephant Island, Antarctica, in 280–432 m, referred to *E. gigantea* by Hartmann-Schröder and Rosenfeldt (1990:91, pl. 1; 3–5, not 1, 2), agree with *E. gigantea*, based on the photos of the elytra; the other specimen is referred to *E. uschakovi*, new species. Stiller (1996: 30, pl. 10:figs. 1–5) reported *E. gigantea* from the eastern Weddell Sea. Based on the description and figures, it is added to *E. uschakovi*, new species.

Additional records of *E. gigantea*, with elytra lacking, are omitted. They must be referred to *Eulagisca* sp.

Description.—Lectotype with 38 segments, 148 mm long, 44 mm wide with setae. Specimen from South Shetland Island (USNM 57467) 68 mm long, 46 mm wide with setae, 38 segments. Specimen from South Orkney Island (USNM 57469) 155 mm long, 94 mm wide with setae, 38 segments. Body large, flattened, with long parapodia (parapodia and setae longer than body width). Body colorless except for traces of brown transverse bands, with golden setae.

Fifteen pairs of elytra, on bulbous elytraphores, large, thick, subreniform, covering dorsum, darker along posterior border, without border papillae (Fig. 2F; Monroe 1939: fig. 4b). Surface of anterior part of elytra with numerous conical microtubercles, middle part with larger sharply pointed conical tubercles and posterior part with curved conical tubercles (rarely 2-pronged), some smaller spines, and soft globular vesicles, dotted yellowish distally (Fig. 2F; Monroe 1939: fig. 4c, d, not e; Uschakov, 1966: pl. 9E, not F). Dorsal cirri with cylindrical cirrophores, bulbous on posterior basal parts, with styles extending to end of

neurosetae, with short clavate papillae. Dorsal tubercles bulbous, posterior ones on segments 33–38 projecting posteriorly.

Bilobed prostomium wider than long, median antenna with large ceratophore in anterior notch, with style missing (probably long, similar to but longer than lateral antennae); lateral antennae inserted on anterior extensions of prostomium, without distinct ceratophores, with styles rather long, finely papillated, with subterminal enlargements and filamentous tips; palps long, stout, tapering, with six longitudinal rows of papillae; two pairs of rather large eyes with lenses on posterior half of prostomium; tentaculophores (segment I) lateral and anterior to prostomium, with prominent digitiform acicular lobes, group of long setae (up to 10) directed anteriorly, and long dorsal and ventral tentacular cirri, similar to but longer than lateral antennae; with prominent conical facial tubercle below ceratophore of median antenna (=subtentacular cirrus by Monroe) (Fig. 2A; Monroe 1939: fig. 4a). Segment II with prominent semilunar nuchal pad and conical fleshy nuchal fold covering posterior part of prostomium (latter may be pulled back), first pair of large elytraphores, biramous parapodia, and long ventral buccal cirri, inserted basally, similar to tentacular cirri (Fig. 2A; Monroe 1939: fig. 4a).

Biramous parapodia with small subconical notopodia with projecting acicular lobes; larger neuropodia with subtriangular presetal acicular lobes and shorter subconical postsetal lobes (Fig. 2B; Monroe 1939: fig. 4f). Notosetae numerous, forming radiating bundle, about as stout as neurosetae, of three lengths, some shorter, curved, some about as long as neurosetae, stout, acicular, with long spinous regions, tapering to bare entire tips (Fig. 2B, C; Monroe 1939: fig. 4g; Uschakov 1962: pl. 9G). Neurosetae numerous, forming fan-shaped bundle, with long spinous regions and rather long, slightly hooked entire bare tips; upper ones more slender, with longer spinous regions (Fig. 2D, E; Monroe 1939: fig. 4h; Uschakov

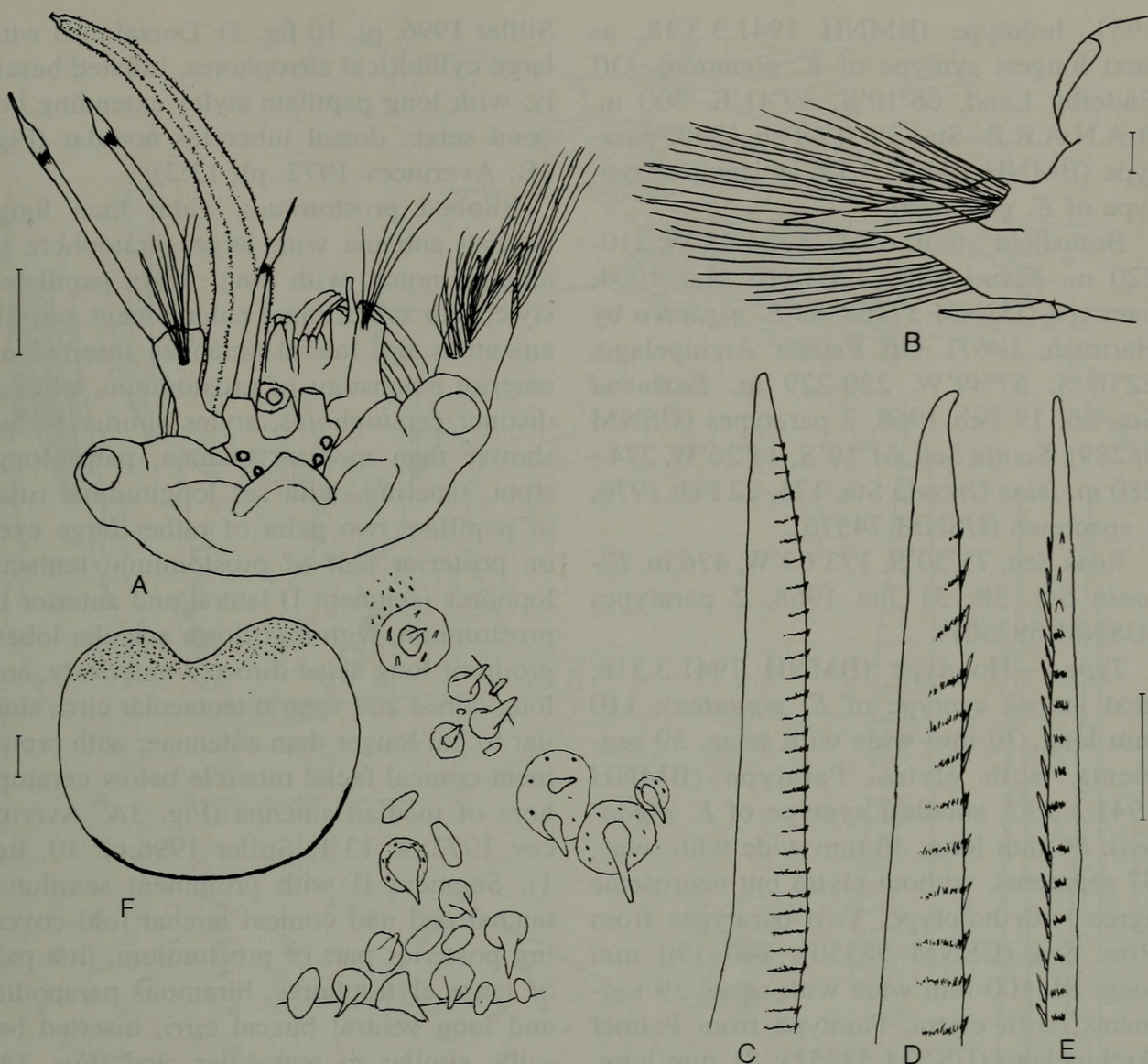


Fig. 2. *Eulagisca gigantea*, A. Specimen from South Shetland Island (USNM 57467); B–F, lectotype (BMNH 1941.3.3.16): A, Dorsal view of anterior end, pharynx partially extended; missing; right palp, median and right lateral antennae, right dorsal and ventral tentacular cirri, left parapodium of segment 2 not shown; B, Right elytrigerous parapodium, anterior view; C, Notoseta from same; D, Middle neuroseta from same; E, Upper neuroseta from same; F, Elytron, with detail of microtubercles, larger tubercles, and soft globular vesicles. Scales = 2.0 mm for A; 2.0 mm for B; 0.1 mm for C–E; 5.0 mm for F.

1966: pl. 9H). Ventral cirri short, subulate, extending slightly beyond basal part of neuropodia (Fig. 2B).

Distribution.—Antarctic, Off Princess Elizabeth Land, Davis Sea, Drake Passage, Scotia Sea, South Shetlands, South Orkneys, in 200–900 meters.

Eulagisca uschakovi, new species

Fig. 3

Eulagisca gigantea Monro, 1939:103 (part: Sta. 39 & 107, Fig. 4e only).—Uschakov,

1962:174 (part: Sta. 232, pl. 9F only; 1966:174 (part: Sta. 232, pl. 9F only (English translation).—Hartman, 1967:21 (part: Sta. 1003 only).—Averincev, 1972: 131, pl. 13:1–7.—Hartmann-Schröder & Rosenfeldt, 1990:91 (part, pl. 1:1, 2, not 3–5). Not Monro, 1939 (lectotype).—Stiller, 1996:30, pl. 10: figs. 1–5.

Material examined.—Antarctic: Off MacRobertson Land, 66°45'S, 62°63'E, 219 m, British, Australian, New Zealand Antarctic Research Expedition Sta. 107, 16 Feb

1931, holotype (BMNH 1941.3.3.18, as next longest syntype of *E. gigantea*). Off Enderby Land, 66°10'S, 49°41'E, 300 m, B.A.N.A.R.E. Sta. 39, 17 Feb 1930, paratype (BMNH 1941.3.3.17, as smallest syntype of *E. gigantea*).

Bransfield Strait, 62°41'S, 54°43'W, 210–220 m, *Eltanin* Sta. 1003, 15 Mar 1964, paratype (USNM 57468, as *E. gigantea* by Hartman, 1967). Off Palmer Archipelago, 62°09'S, 57°49'W, 220–229 m, *Eastwind* Sta. 66, 19 Feb 1966, 2 paratypes (USNM 35289). Scotia Sea, 61°19'S, 44°26'W, 274–280 m, *Islas Orcada* Sta. 123, 22 Feb 1976, 1 specimen (USNM 74576).

Ross Sea, 75°50'S, 173°08'W, 476 m, *Eltanin* Sta. 38, 31 Jan 1968, 2 paratypes (USNM 58350).

Types.—Holotype (BMNH 1941.3.3.18, next largest syntype of *E. gigantea*): 110 mm long, 70 mm wide with setae, 39 segments, with elytra. Paratype (BMNH 1941.3.3.17, smallest syntype of *E. gigantea*): 56 mm long, 36 mm wide with setae, 37 segments, without elytra but neurosetae agree with holotype. Two paratypes from Ross Sea (USNM 58350): 140–190 mm long, 85–100 mm wide with setae, 39 segments, with elytra. Paratype from Palmer Archipelago (USNM 58351): 81 mm long, 48 mm wide with setae, 38 segments, with elytra (figured).

Description.—Body brownish on mid-dorsum, on bases of elytophores and dorsal tubercles. Dorsum with ciliated bands (ca 14 per segment), continuing on elytophores and dorsal tubercles (Averincev 1972: pl. 13:1).

Elytra large, thin (compared with *E. gigantea*), subreniform, splashed with brownish pigmentation; surfaces with numerous microtubercles on anterior part, sharply pointed tubercles on middle part, and posterior part with additional globular vesicles with few to numerous terminal spines, and some papillae but no thick fringe (Fig. 3E; Monro 1939; fig. 4e; Uschakov 1962; pl. 9F; Averincev 1972: pl. 13.5; Hartmann-Schröder & Rosenfeldt 1990: pl. 1:1, 2;

Stiller 1996, pl. 10 fig. 3). Dorsal cirri with large cylindrical cirrophores, inflated basally, with long papillate styles extending beyond setae; dorsal tubercles nodular (Fig. 3B; Averincev 1972: pl. 13:2).

Bilobed prostomium wider than long; median antenna with large ceratophore in anterior notch, with long, finely papillated style with subterminal enlargement and filamentous tip; lateral antennae inserted on anterior extensions of prostomium, without distinct ceratophores, styles similar to but shorter than median antenna; palps long, stout, tapering, with six longitudinal rows of papillae; two pairs of rather large eyes on posterior half of prostomium; tentaculophores (segment I) lateral and anterior to prostomium, with digitiform acicular lobes, group of long setae directed anteriorly, and long dorsal and ventral tentacular cirri, similar to but longer than antennae; with prominent conical facial tubercle below ceratophore of median antenna (Fig. 3A; Averincev 1972: pl. 13:1; Stiller 1996: pl. 10, fig. 1). Segment II with prominent semilunar nuchal pad and conical nuchal fold covering posterior part of prostomium, first pair of large elytophores, biramous parapodia, and long ventral buccal cirri, inserted basally, similar to tentacular cirri (Fig. 3A; Averincev 1972: pl. 13:1; Stiller 1996: pl. 10, fig. 1).

Biramous parapodia with smaller and shorter notopodia and larger neuropodia, both with projecting digitiform acicular lobes (Fig. 3B). Notosetae numerous, short to longer, slightly stouter than neurosetae, with long spinous regions and short bare tapered tips (Fig. 3C; Averincev 1972: pl. 13:4; Stiller 1996: pl. 10, fig. 4). Neurosetae numerous, with long spinous regions, all tapering to long, slender, bare, pointed tips (Fig. 3D; Averincev 1972: pl. 13:3; Stiller 1996: pl. 10, fig. 5). Ventral cirri short, tapered, papillate (Fig. 3B).

Etymology.—The species is named for the late P. V. Uschakov, in recognition of his vast contributions to the study of the Polychaeta.

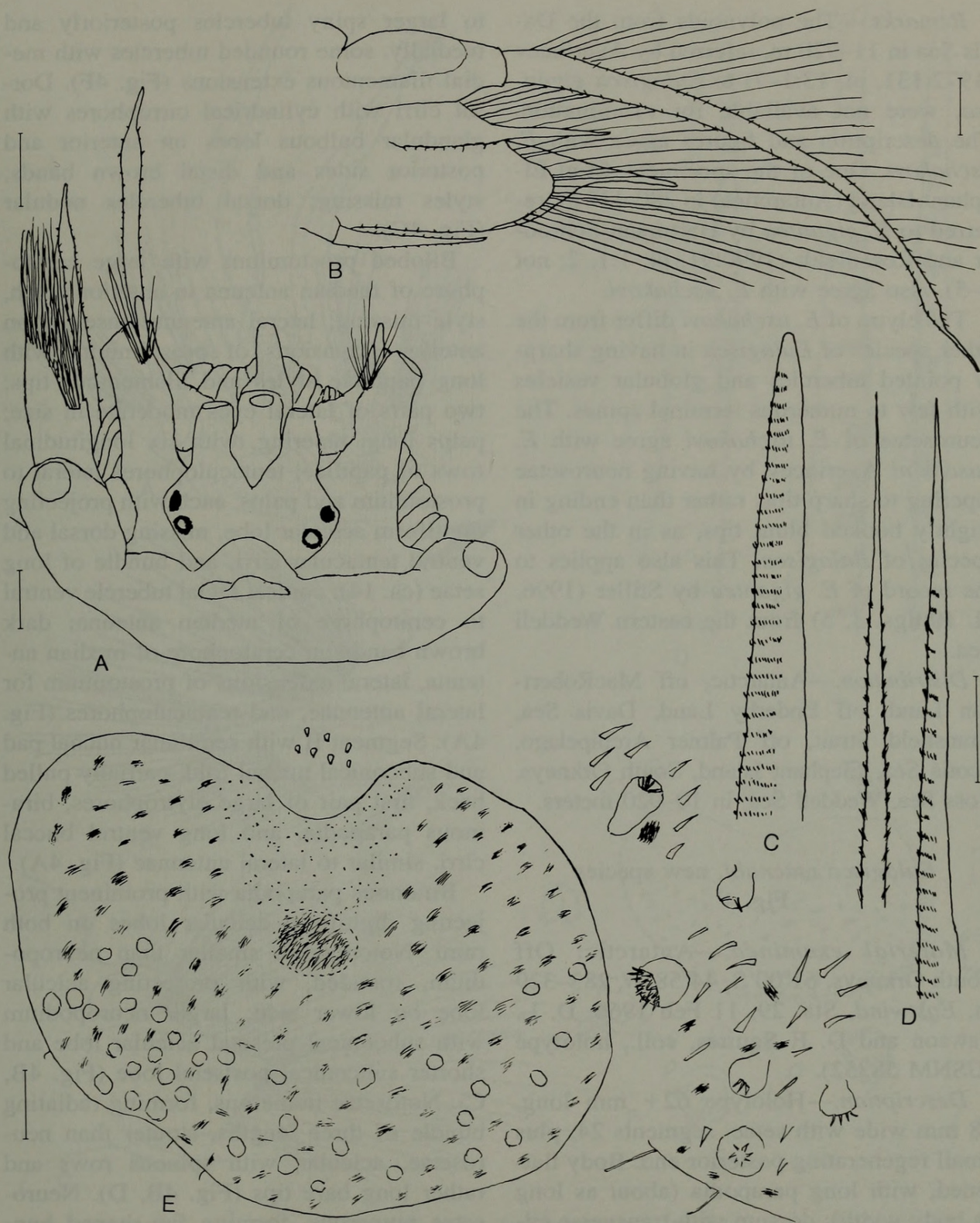


Fig. 3. *Eulagisca uschakovi*, new species, A–D, paratype (BMNH 1941.3.3.17); E, paratype (USNM 58351): A, Dorsal view of anterior end, pharynx partially extended; missing: palps, styles of median and lateral antennae, dorsal and ventral tentacular cirri, except left one; segment 2 with nuchal fold partially folded back, right parapodium not shown: B, Right cirriferous parapodium, posterior view; C, Tip of notoseta; D, Tips of two neurosetae; E, Right elytron, with detail of microtubercles, sharply pointed tubercles, spinous globular vesicles, and papillae. Scales = 1.0 mm for A; 1.0 mm for B; 0.1 mm for C, D; 2.0 mm for E.

Remarks.—The polynoids from the Davis Sea in 11–920 m, referred by Averincev (1972:131, pl. 13:1–7) to *Eulagisca gigantea*, were not available for examination. The description and figures agree with *E. uschakovi*. One of the specimens from Elephant Island (Antarctica) in 280–437 m, referred to *E. gigantea* by Hartmann-Schröder and Rosenfeldt (1990:91, pl. 1:1, 2, not 3–5), also agree with *E. uschakovi*.

The elytra of *E. uschakovi* differ from the other species of *Eulagisca* in having sharply pointed tubercles and globular vesicles with few to numerous terminal spines. The neurosetae of *E. uschakovi* agree with *E. puschkini* Averincev by having neurosetae tapering to sharp tips, rather than ending in slightly hooked blunt tips, as in the other species of *Eulagisca*. This also applies to the record of *E. gigantea* by Stiller (1996, pl. 10:figs. 3, 5) from the eastern Weddell Sea.

Distribution.—Antarctic, off MacRobertson Land, off Enderby Land, Davis Sea, Bransfield Strait, off Palmer Archipelago, Scotia Sea, Elephant Island, South Orkneys, Ross Sea, Weddell Sea, in 10–920 meters.

Eulagisca macnabi, new species

Fig. 4

Material examined.—Antarctic: Off South Orkneys, 61°00'S, 44°58'W, 283–329 m, *Eastwind*, Sta. 29, 11 Feb 1966, D. L. Pawson and D. F. Squires, coll., holotype (USNM 58352).

Description.—Holotype 62+ mm long, 38 mm wide with setae, segments 24, plus small regenerating posterior end. Body flattened, with long parapodia (about as long as body width); dorsum with transverse ciliated bands (ca 10 per segment) extending on bases of elytraphores and dorsal tubercles (Fig. 4A–C).

Elytra large, subreniform, covering dorsum, with fringes of long border papillae laterally, posteriorly and medially; surfaces splotched with brownish pigmentation, conical microtubercles on anterior part, small

to larger spiny tubercles posteriorly and medially, some rounded tubercles with medial filamentous extensions (Fig. 4F). Dorsal cirri with cylindrical cirrophores with glandular bulbous lobes on anterior and posterior sides and distal brown bands; styles missing; dorsal tubercles nodular (Fig. 4C).

Bilobed prostomium with large ceratophore of median antenna in anterior notch, style missing; lateral antennae inserted on anterior extensions of prostomium, with long papillate styles and filamentous tips; two pairs of lateral eyes moderate in size; palps long, tapering, with six longitudinal rows of papillae; tentaculophores lateral to prostomium and palps, each with projecting digitiform acicular lobe, missing dorsal and ventral tentacular cirri, and bundle of long setae (ca. 14); conical facial tubercle ventral to ceratophore of median antenna; dark brown bands on ceratophore of median antenna, lateral extensions of prostomium for lateral antennae, and tentaculophores (Fig. 4A). Segment II with semilunar nuchal pad and subconical nuchal fold, partially pulled back, first pair of large elytraphores, biramous parapodia, and long ventral buccal cirri, similar to lateral antennae (Fig. 4A).

Biramous parapodia with prominent projecting digitiform acicular lobes on both rami. Notopodium smaller than neuropodium, rounded, with projecting acicular lobe on lower side; larger neuropodium with subconical presetal acicular lobe and shorter subconical postsetal lobe (Fig. 4B, C). Notosetae numerous, forming radiating bundle of three lengths, stouter than neurosetae, acicular, with spinous rows and rather long bare tips (Fig. 4B, D). Neurosetae numerous, forming fan-shaped bundle, with long spinous regions, upper ones more slender, all with rather long, slightly hooked bare tips (Fig. 4B, E). Ventral cirri short, tapered, papillate (Fig. 4B, C). Nephridial papillae beginning on segment VI.

Etymology.—The species is named for the late Dr. James A. Macnab, a dedicated and inspirational teacher.

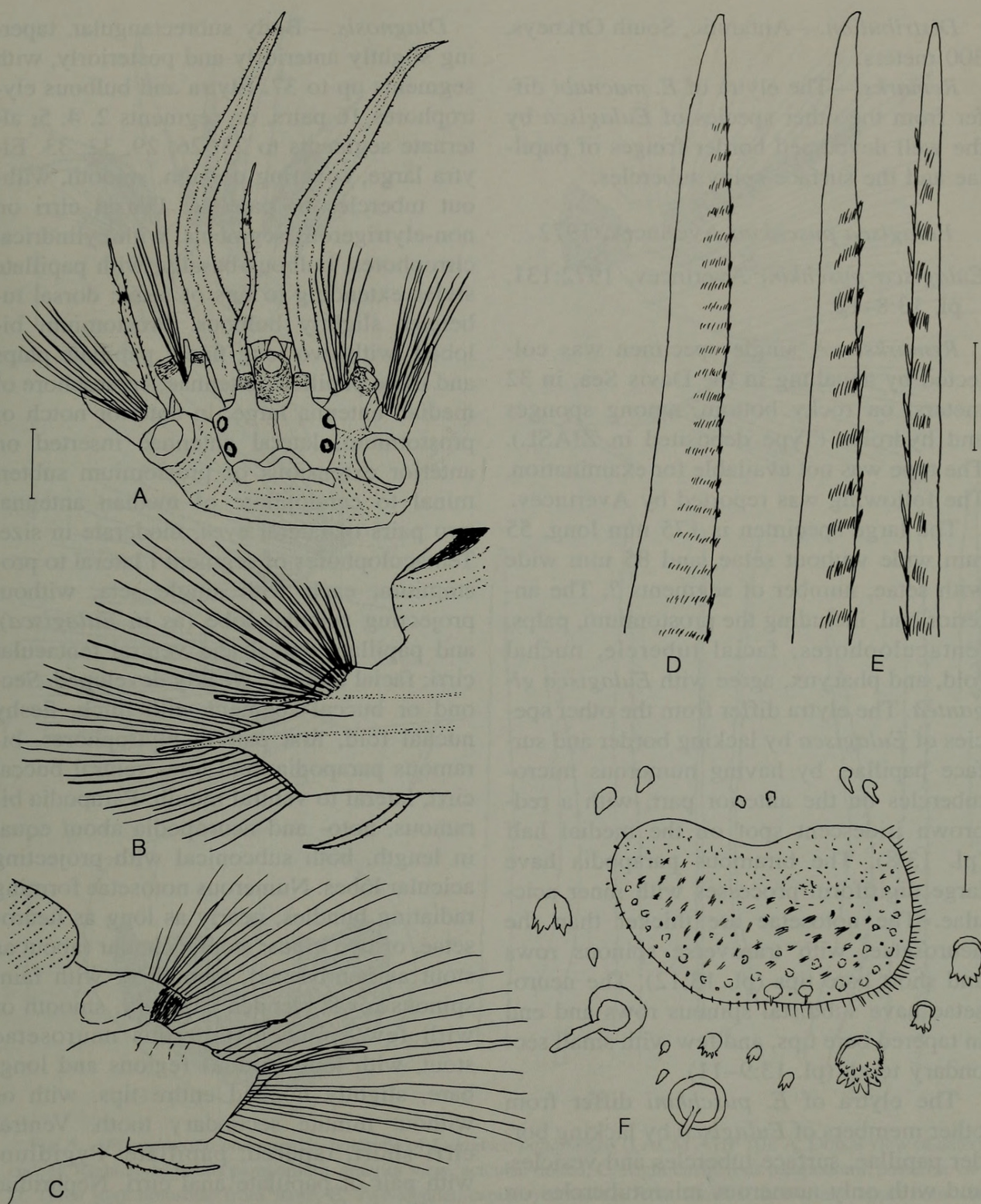


Fig. 4. *Eulagisca macnabi*, new species, holotype (USNM 58352): A, Dorsal view of anterior end, missing: styles of median and right lateral antennae, right and left dorsal and ventral tentacular cirri, right ventral buccal cirrus, and elytra; nuchal fold partially pulled back; B, Right elytrigerous parapodium, anterior view, aciculae dotted; C, Right cirriferous parapodium, posterior view, style of dorsal cirrus missing; D, Notoseta from same; E, Middle and upper neurosetae from same; F, Right elytron, with detail of microtubercles, spiny vesicles, and papillae. Scales = 2.0 mm for A-C; 0.1 mm for D, E; 2.0 mm for F.

Distribution.—Antarctic, South Orkneys, 300 meters.

Remarks.—The elytra of *E. macnabi* differ from the other species of *Eulagisca* by the well developed border fringes of papillae and the surface spiny tubercles.

Eulagisca puschkini Averincev, 1972

Eulagisca puschkini Averincev, 1972:131, pl. 13:8–12.

Remarks.—A single specimen was collected by aqualung in the Davis Sea, in 32 meters, on rocky bottom, among sponges and hydroids (Type deposited in ZIASL). The type was not available for examination. The following was reported by Averincev.

The large specimen is 175 mm long, 55 mm wide without setae, and 85 mm wide with setae, number of segments ?. The anterior end, including the prostomium, palps, tentaculophores, facial tubercle, nuchal fold, and pharynx, agree with *Eulagisca gigantea*. The elytra differ from the other species of *Eulagisca* by lacking border and surface papillae, by having numerous micro-tubercles on the anterior part, with a red-brown iridescent spot on the medial half (pl. 13:8). The biramous parapodia have large digitiform processes with inner aciculae. The notosetae are thicker than the neurosetae, with transverse spinous rows and short bare tips (pl. 13:12). The neurosetae have subdistal spinous rows and end in tapered bare tips, and few with small secondary tooth (pl. 13:9–11).

The elytra of *E. puschkini* differ from other members of *Eulagisca* by lacking border papillae, surface tubercles and vesicles, and with only numerous microtubercles on the anterior half. The neurosetae of *E. puschkini*, with tapered bare tips, agree with those of *E. uschakovi* new species.

Distribution.—Antarctic, Davis Sea, in 12 meters.

Pareulagisca, new genus

Type species.—*Eulagisca panamensis* Hartman, 1939. Gender: feminine.

Diagnosis.—Body subrectangular, tapering slightly anteriorly and posteriorly, with segments up to 37. Elytra and bulbous ely-trophores 16 pairs, on segments 2, 4, 5, alternate segments to 23, 26, 29, 32, 33. Elytra large, covering dorsum, smooth, without tubercles or papillae. Dorsal cirri on non-elytrigerous segments, with cylindrical cirrophores, bulbous basally, with papillate styles extending to tips of setae; dorsal tubercles slightly bulbous. Prostomium bilobed, with two long finely papillate palps and three papillate antennae; ceratophore of median antenna large, in anterior notch of prostomium, lateral antennae inserted on anterior extensions of prostomium subterminal to ceratophore of median antenna; two pairs of lateral eyes, moderate in size. Tentaculophores of segment I lateral to prostomium, each with single seta, without projecting acicular lobe (as in *Eulagisca*), and papillate dorsal and ventral tentacular cirri; facial tubercle weakly developed. Second or buccal segment with thick, fleshy nuchal fold, first pair of ely-trophores, biramous parapodia, and long ventral buccal cirri, lateral to ventral mouth. Parapodia biramous, noto- and neuropodia about equal in length, both subconical with projecting acicular lobes. Numerous notosetae forming radiating bundles, nearly as long as neurosetae, of two kinds: stout, acicular (about as stout as neurosetae), smooth or with faint spinous rows; slender, capillary, smooth or with few spines. Numerous neurosetae stout, with long spinous regions and long, bare, slightly hooked entire tips, with or without minute secondary tooth. Ventral cirri short, tapered, papillate. Pygidium with pair of papillate anal cirri. Nephridial papillae beginning on segment IV.

Etymology.—*Pareulagisca* from Greek *para* = near + *Eulagisca* in allusion to the similarity of the two genera.

Pareulagisca panamensis (Hartman 1939), new combination

Fig. 5

Eulagisca panamensis Hartman, 1939:31, pl. 3:figs. 38–42.

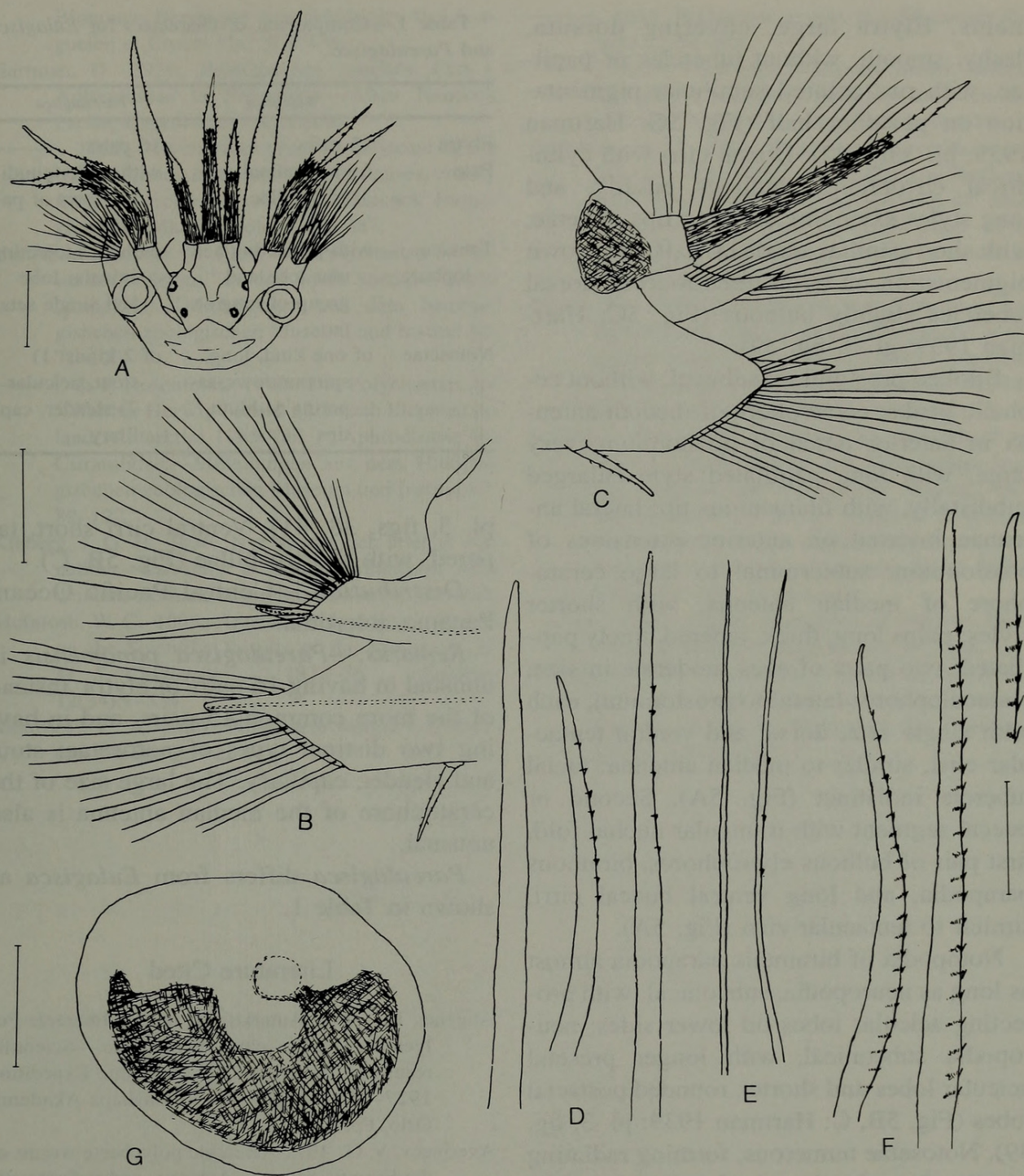


Fig. 5. *Pareulagisca panamensis*, holotype of *Eulagisca panamensis* (LACM-AHF 10): A, Dorsal view of anterior end; B, Right elytrigerous parapodium, anterior view, aciculae dotted; C, Right cirriferous parapodium, posterior view; D, Three stout notosetae from same; E, Two slender, capillary notosetae from same; F, Lower and upper neurosetae from same; G, Right elytron. Scales = 2.0 mm for A; 1.0 mm for B, C; 0.1 mm for D-F; 2.0 mm for G.

Material examined.—Pacific: Panama, Piñas Bay, 07°34'N, 78°12'W, shore, rock, Velero Sta. 436, 28 Jan 1935, holotype (LACM-AHF 10).

Description.—Holotype 42 mm long, 15 mm wide with setae, 37 segments. Body

subrectangular, flattened, tapering slightly anteriorly and posteriorly. Elytra and bulbous elytophores 16 pairs (not 15, as indicated by Hartman) on segments 2, 4, 5, 7, alternate segments to 23, 26, 29, 32, 33, dorsal cirri present on posterior four seg-

ments. Elytra large, covering dorsum, fleshy, smooth, without tubercles or papillae, with rust-colored semilunar pigmentation on posterior half (Fig. 5G; Hartman 1939, pl. 3:fig. 42). Dorsal cirri with cylindrical cirrophores, bulbous basally, and long styles extending to about tips of setae, with short papillae on distal half and brown pigmentation on basal three-fourths; dorsal tubercles slightly bulbous (Fig. 5C; Hartman 1939: pl. 3, fig. 39).

Bilobed prostomium suboval, without cephalic peaks; ceratophore of median antenna in anterior notch of prostomium, very large, with long papillated style enlarged subdistally, with filamentous tip; lateral antennae inserted on anterior extensions of prostomium, subterminal to large ceratophore of median antenna, with shorter styles; palps long, thick, tapered, finely papillated; two pairs of eyes moderate in size; tentaculophores lateral to prostomium, each with single seta, dorsal and ventral tentacular cirri, similar to median antenna; facial tubercle indistinct (Fig. 5A). Second or buccal segment with triangular nuchal fold, first pair of bulbous elytraphores, biramous parapodia, and long ventral buccal cirri, similar to tentacular cirri (Fig. 5A).

Notopodia of biramous parapodia almost as long as neuropodia, subconical, with projecting acicular lobes on lower sides; neuropodia subconical, with longer presetal acicular lobes and shorter, rounded postsetal lobes (Fig. 5B, C; Hartman 1939: pl. 3, fig. 39). Notosetae numerous, forming radiating bundle of two kinds: acicular, about as stout as neurosetae, mostly smooth and shorter, curved, with 6–12 widely-spaced spinous rows (Fig. 5D; Hartman 1939: pl. 3, fig. 40); and slender, tapering to pointed and capillary tips, smooth or with few widely-spaced spines (Fig. 5E). Neurosetae numerous, forming fan-shaped bundle, lower shorter to upper longer, with long spinous regions and rather long bare, slightly hooked entire tips, upper few with minute secondary tooth (Fig. 5F; Hartman 1939:

Table 1.—Comparison of characters for *Eulagisca* and *Pareulagisca*.

	<i>Eulagisca</i>	<i>Pareulagisca</i>
Elytra	15 pairs	16 pairs
Palp	6 longitudinal rows of papillae	without longitudinal rows of papillae
Tentaculophore	with projecting acicular lobe and group of long setae	without projecting acicular lobe and single seta
Notosetae	of one kind, long, spinous rows, tapering to blunt tips	of 2 kinds: 1) stout, acicular 2) slender, capillary

pl. 3, figs. 38, 41). Ventral cirri short, tapered, with short papillae (Fig. 5B, C).

Distribution.—Central Pacific Ocean, Panama, intertidal.

Remarks.—*Pareulagisca panamensis* is unusual in having 16 pairs of elytra, instead of the more common 15 pairs, and in having two distinct types of notosetae: stout and slender, capillary. The large size of the ceratophore of the median antenna is also unusual.

Pareulagisca differs from *Eulagisca* as shown in Table 1.

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