Ruthenica, 2002, 12(2): 113-118.

On some species of prosobranchiate gastropods from Russian waters described by C.W.S. Aurivillius in 1885

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ABSTRACT. 9 species of molluscs from Russian waters were described by Aurivillius (1885) from the materials, collected by *Vega* Expedition (1878-79). Type material of some prosobranchiate gastropods were examined and status of the species was clarified. *Trichotropis solida* (current generic position — *Neoiphinoe*) — valid species, although the name is erroneously used in current literature. *Pleurotoma beringi* — junior subjective synonym of *Antiplanes sanctiioannis* (Smith, 1875). *Fusus (Euthria) conulus* — valid species, belonging to the genus *Anomalosipho* Dautzenberg et Fischer, 1912. *Fusus decipiens* — junior primary homonym of *Fusus decipiens* Deshayes, 1857, junior subjective synonym of *Volutopsius attenuatus* Dall, 1874 and of *Buccinopsis canaliculata* Dall, 1874. *Fusus (Sipho) turritus* — junior primary homonym of *Fusus turritus* Schafhäutl, 1863, senior synonym of *Aulacofusus (Limatofusus) pulcius* Dall, 1919. *Fusus (Sipho) olivaceus* — valid species, senior synonym of *Plicifusus (Retifusus) incisus* Dall, 1919.

In 1885 Aurivillius published an account of chitons and gastropods collected by the *Vega* Expedition (1878-79), among which several new species, mostly from Russian Arctic waters were described. These were: *Trichotropis solida*, *Pleurotoma beringi, Fusus decipiens, Fusus (Eutria) conulus, Fusus (Sipho) olivaceus, Fusus (Sipho) turritus, Doris (Adalaria) sibirica, Tritonia psoloides,* and *Philine polaris.*

Some of the species have not been ilustrated in the original publication, namely *Fusus (Sipho) olivaceus, Fusus (Sipho) turritus, Doris (Adalaria) sibirica, Tritonia psoloides,* and *Philine polaris*. However, Aurivillius provided illustrations of radulae of *F. olivaceus*, *T. psoloides*, and *P. polaris*.

Two of his new species have been cited in subsequent literature — *Trichotropis solida* and *Fusus (Eutria) conulus* [e.g., Golikov, 1995; Golikov et al., 2001].

We were able to examine the type material of all prosobranchiate gastropods described by Aurivillius. In the course of preparation of the catalog of Mollusca of Russia, it became necessary to clarify the status and current taxonomic position of these species.

Taxonomy

Capulidae

***Trichotropis solida* Aurivillius, 1885:** 328, 375, Tafl. 12, fig. 6.

Current generic position — *Neoiphinoe* Habe, 1978 (nom. nov. pro *Iphinoe* H. et A. Adams, 1856 non *Iphinoe* Rafinesque, 1815; both names rejected: ICZN Opinion 1593/1990).

Type locality: *Vega* Expedition, sta. 1042, Bering Strait, 66°58'N, 171°35'W, 38 m.

Holotype (Fig. 1 A-B): Swedish Museum of Natural History (SMNH), Stockholm, type-1560. Shell height 35.2 mm.

Remarks. The species name is in use in current Russian malacological publications [e.g. Golikov, 1995; Egorov, Alexeyev, 1998]. We have examined material identified by Golikov (and later cited by Egorov and Alexeyev, 1988) and found out that it belongs to a different species, *Neoiphinoe arctica* (Middendorff, 1849) (Fig. 1 C-G). Search of the entire collections of Zoological Institute, St.-Petersburg (ZIN) did not reveal specimens from Arctic or North Pacific seas, that match the type of Aurivillius. Although the type of *N. solida* may represent an extreme variation of *N. arctica,* nevertheless, it differs from the latter in much narrower umbilicus, practically closed by the inner lip, as well as in finer spiral sculpture. While spiral sculpture of *N. solida* consists of thin closely spaced riblets (35+ on the body whorl, surface is strongly corroded), in the syntype of *N. arctica* the spiral sculpture consists of strong, widely spaced cords, 15 on the last whorl. Therefore we prefer to consider *N. solida* as a valid species, distinct from *N. arctica.* No reliable data on its distribution, except for the type locality, are available.

Contrary to the name of Aurivillius species, the name of Middendorff's species (original binomen *Cancellaria (?) arctica* Middendorff, 1849: 441, Taf. IX, fig. 11, 12, 15, type locality also Bering Strait) was grossly forgotten. Aurivillius himself

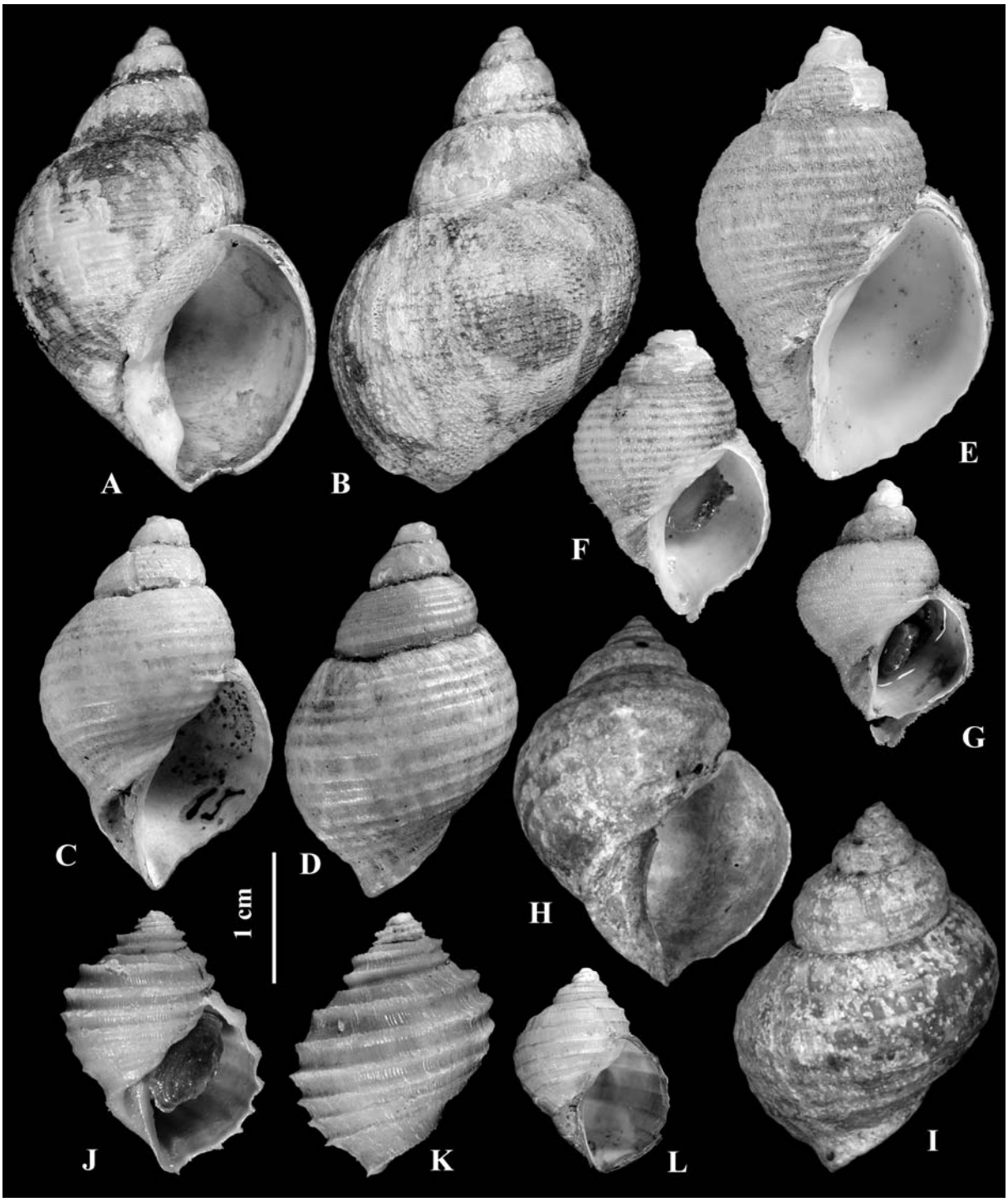

FIG. 1. A-B — *Trichotropis solida* Aurivillius, holotype, SL 35.2 mm; C-D — *Cancellaria arctica* Middendorff, syntype, SL 28.6 mm, ZIN, no catalog number; E-G — *Neoiphinoe arctica.* E — Bering Sea, 64°22'N, 169°10.9'W, 30 m, SL 34.5 mm, ZIN 56281/34; F — Kamchatka, Karaginski Bay, 35 m, SL 22.2 mm, ZIN 44996/28; G — Barents Sea, 72°17'N, 49°05.6'E, 110 m, SL 20.5 mm, ZIN 44987/19. H-L — *Neoiphinoe kroeyeri* Philippi. H-I – Spitzbergen, ZMB Moll. 32104 (courtesy of Zoological Museum, Humboldt University, Berlin), SL 31.5 mm. J-K — Laptev Sea, 68°09'N, 168°05'E, 37 m, ZIN 44966/36, SL 20.0 mm. L — syntype of *Trichotropis. dolium* Petit de la Saussaye, 1851, Hammerfest, Norway (MNHN), SL 15.5 mm. All shells at the same scale.

РИС. 1. A-B — *Trichotropis solida* Aurivillius, голотип, SL 35,2 мм; C-D — *Cancellaria arctica* Middendorff, синтип, SL 28,6 мм, ZIN, без каталожного номера; E-G — *Neoiphinoe arctica.* E — Берингово море, 64°22'N, 169°10.9'W, 30 м, SL 34,5 мм, ZIN 56281/34; F — Камчатка, Карагинский залив, 35 м, SL 22,2 мм, ZIN 44996/28; G — Баренцево море, 72°17'N, 49°05.6'E, 110 м, SL 20,5 мм, ZIN 44987/19. H-L — *Neoiphinoe kroeyeri* Philippi. H-I — Шпицберген, ZMB Moll. 32104 (благодаря любезности Zoological Museum, Humboldt University, Berlin), SL 31, 5 мм. J-K — море Лаптевых, 68°09'N, 168°05'E, 37 м, ZIN 44966/36, SL 20,0 мм. L — syntype of *Trichotropis. dolium* Petit de la Saussaye, 1851, Hammerfest, Norway (MNHN), SL 15,5 мм. Все раковины в одном масштабе.

considered Middendorff's species a synonym of *Trichotropis (Iphinoe) kroeyeri* Philippi, 1849. One sample of the latter species from type locality (Spitsbergen) collected by Kröyer is stored in the Zoological Museum, Humboldt University (Berlin), no. ZMB Moll. 32104 (Fig. 1 H-I). Although, the specimens do not match the dimensions of the original description (the shell length of the specimens about 21 and 31.5 mm, while in the original description it is only 14.5 mm), they most probably came from the original lot. *Neoiphinoe kroeyeri* differs well from both *N. arctica* and *N. solida* in having a broader shell with low spire and strong, widely spaced fewer spiral cords (6-7 on the last whorl and 3 on the spire whorls). Examination of the collections of Zoological Institution of Russian Academy of Sciences revealed that *N. kroeyeri* is widely distributed in the Arctic ocean and co-occurs with *N. arctica* in Barents, Siberian and Bering seas. Therefore *T. kroeyeri* represent a separate valid species. *T. dolium* Petit de la Saussaye, 1851 (type locality Hammerfest, Norway) is its synonym. The only known syntype is stored in the Muséum national d'Histoire naturelle, Paris (Fig. 1 L).

To our best knowledge, later the name *arctica* was used only in the publications of Leche [1878] and Collin [1886] on the molluscs of the Arctic seas. In both publications, it was treated as a synonym of *T. kroeyeri*. In the same status it was also mentioned in the compilative monograph of Tryon [1887]. We could not trace, however, any references to *Cancellaria arctica* in the literature of the 20th century.

A single preserved syntype of *N. arctica*, stored in the ZIN (Fig. 1 C-D; shell height 28.6 mm), matches well the original drawing of Middendorff. The species is widely distributed in the Bering Sea, off eastern Kamchatka and northern Kurile Islands, in the Siberian seas, in the Kara and Barents seas, at the depths 24-150 m.

Turridae

***Pleurotoma beringi* Aurivillius, 1885:** 354, 377, Tafl. 13, fig. 3.

Current taxonomic status — junior subjective synonym of *Antiplanes sanctiioannis* (Smith, 1875).

Type locality: *Vega* Expedition, sta. 1068, northern Bering Sea, Anadyrsky Bay, 62°39'N, 177°05'W, 55 fms (100 m).

Lectotype [designated by Kantor, Sysoev, 1991] and 4 paralectotypes: SMNH, Stockholm, type-1557. Shell height of lectotype 38.3 mm.

The taxonomic position of the species was discussed by [Kantor, Sysoev, 1991], and the lectotype and paralectotypes were illustrated there (Figs. 64-65, and 63, 66, correspondingly). This highly variable species is distributed from Sagami Bay (Honshu) to the Anadyrsky Bay in NW Bering Sea, as well as in the Japan and Okhotsk seas, at the depthû 50-1530 m.

Buccinidae

***Fusus (Euthria) conulus* Aurivillius, 1885:** 354, 377, Tafl. 13, fig. 6.

Current generic position — *Anomalosipho* Dautzenberg et Fischer, 1912.

Type locality: *Vega* Expedition, sta. 58, Kap Shelagskoi (Cape Shelagsky), East Siberian Sea, 70°14'N, 170°17'E, 12 fms; sta. 1042, 66°58'N, 171°35'W, Bering Strait, 21 fms.

Syntypes: 3 syntypes SMNH type 1330 (sta. 1042); 2 syntypes SMNH type no. 5639 (sta. 58).

Remarks: According to Sherborn [1922-1932] the species should be considered as junior primary homonym of *Fusus conulus* Risso, 1826: 207 (which is in turn the junior subjective synonym of *Buccinulum corneum* (L., 1758), a well-known Mediterranean species). Nevertheless, this statement is incorrect. Risso [1826] credited the species to Olivi [1792], who described it as *Murex conulus* [p. 154, Tab. V, Fig. 1]. Thus the name of Aurivillius is not a homonym and therefore is a valid name. The species is distributed in the East Siberian and Chuckchi seas, at depths 12-50 m.

***Fusus decipiens* Aurivillius, 1885:** 356-357, 377-378, Tafl. 13, fig. 4, 5, 13.

Current taxonomic status — junior primary homonym of *Fusus decipiens* Deshayes, 1857 [in 1856-1865] (atlas 2: Pl. 84, figs. 20-21), junior subjective synonym of *Volutopsius attenuatus* Dall, 1874 and of *Buccinopsis canaliculata* Dall, 1874.

Type locality: *Vega* Expedition, sta. 1068, northern Bering Sea, Anadyrsky Bay, 62°39'N, 177°05'W, 55 fms (100 m).

Syntypes: SMNH Type-1556, Type-5592, Type-5593.

Remarks: The type material (lot Type-1556) represents a mixture of two species. Most specimens (including figured specimen and its radula) (Fig. 2 A-B; shell height 54.0 mm) belong to the species, which was described by Dall [1874] as *Volutopsius attenuatus* (now transferred to *Habevolutopsius* Kantor, 1983). One specimen (Fig. 2 C; shell height 27.3 mm) belongs to *Buccinopsis canaliculata* Dall, 1874 (now transferred to *Pseudoliomesus* Habe et Sato, 1973).

***Fusus (Sipho) turritus* Aurivillius, 1885:** 365-366, 379-380, Tafl. 13, fig. 4, 5, 13.

Current taxonomic status — junior primary homonym of *Fusus turritus* Schafhäutl, 1863: 199, Taf. 65, Fig. 12.

Type locality: *Vega* Expedition, sta. 1056, Bering Strait, 64°52'N, 172°30'W, 33 fms (61 m).

Holotype: SMNH Type-1559 (Fig. 2 G-H; shell height 37.0 mm).

Remarks: The species is a senior synonym of *Aulacofusus (Limatofusus) pulcius* Dall, 1919 (now transferred to *Colus* Röding, 1799), described from the Chuckchi Sea, north of Bering Strait. The name

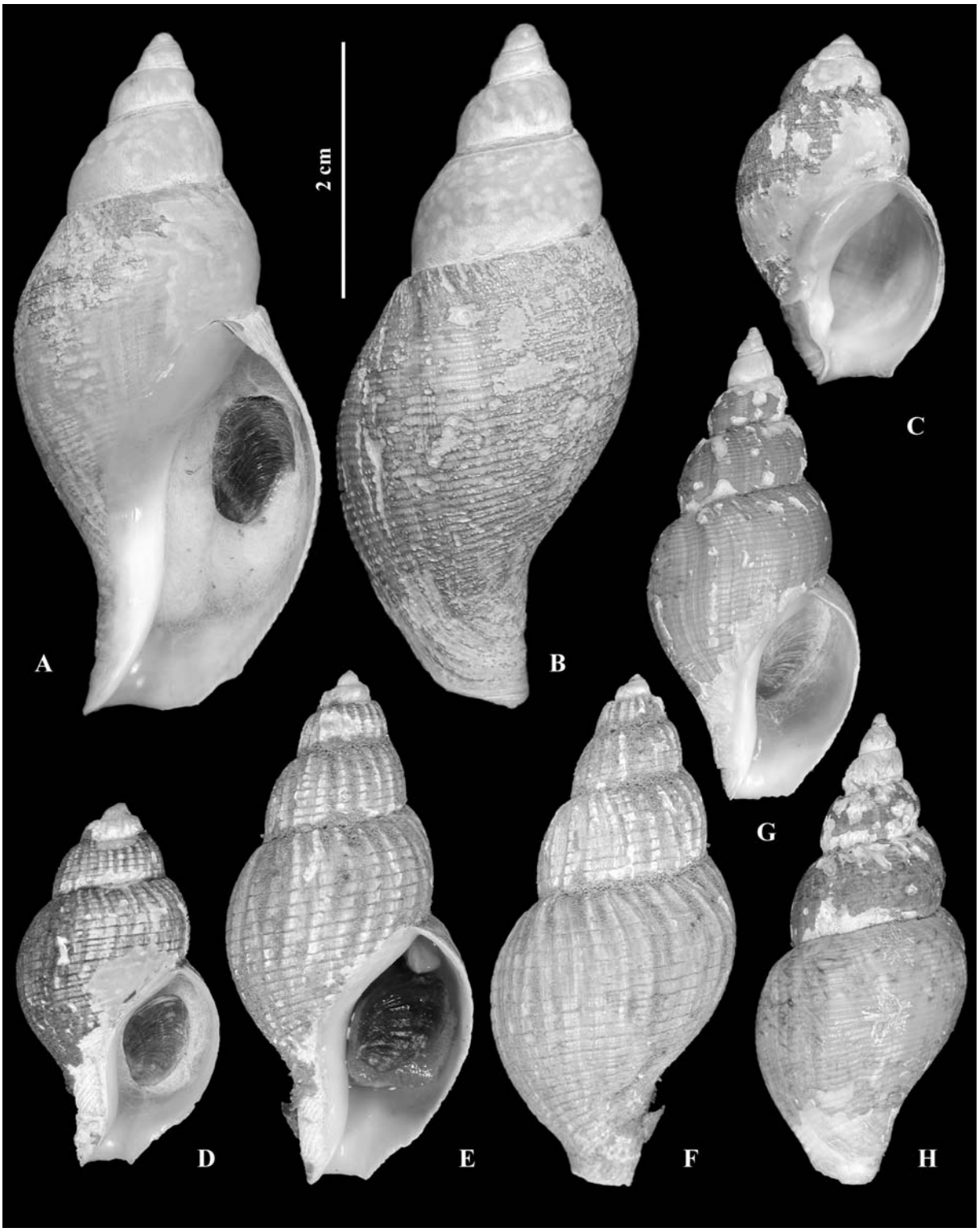

FIG. 2. A-C — *Fusus decipiens* Aurivillius, syntypes, A-B — SL 53.6 mm, C — SL 27.2 mm; D-F — *Fusus olivaceus* Aurivillius, syntypes, D — SL 28.2 mm, E-F — SL 40.0 mm; G-H — *Fusus turritus* Aurivillius, holotype, SL 37.0 mm.

РИС. 2. A-C — *Fusus decipiens* Aurivillius, синтипы, A-B — SL 53,6 мм, C — SL 27,2 мм; D-F — *Fusus olivaceus* Aurivillius, синтипы, D — SL 28,2 мм, E-F — SL 40,0 мм; G-H — *Fusus turritus* Aurivillius, голотип, SL 37,0 мм.

of Dall seems to be the earliest available and valid name for this species. It was recorded in southern Chukchi Sea and Okhotsk Sea, at the depths 40-120 m. The species should also inhabit the Bering Sea.

***Fusus (Sipho) olivaceus* Aurivillius, 1885:** 366-367, 380, Tafl. 13, fig. 10.

Current generic position — *Retifusus (Retifusus)* Dall, 1916

Type locality: *Vega* Expedition, sta. 1068, northern Bering Sea, Anadyrsky Bay, 62°39'N, 177°05'W, 55 fms (100 m).

Syntypes: 11 syntypes SMNH Type-3852 (Fig. 2 D-F; shell height 28.2 and 40.0 mm, respectively).

Remarks: The species is a senior synonym of *Plicifusus (Retifusus) incisus* Dall, 1919 [type locality — western Bering Sea, 100 fms (183 m)]. Although the name of Aurivillius has not been used since the description, the name of Dall was not used frequently either (we were not able to find 25 citations in last 50 years, as required by ICZN Art. 23.9) and therefore *Retifusus olivaceus* (Aurivillius, 1885) is a valid name for the species. It is distributed off northern Kurile Islands and in the Bering Sea, at the depth 103-318 m.

We did not intend to revise the opisthobranch species of Aurivillius, but some information on their current status may be added to make the picture more complete.

Doris (Adalaria) sibirica Aurivillius, 1885 is a junior synonym of *Calycidoris guntheri* Abraham, 1876 [A. Martynov, pers. comm.]; *Tritonia psoloides* Aurivillius, 1885 is a junior synonym of *Tritonia tetraquetra* (Pallas, 1788) (= *T. diomedea* Bergh, 1894; non *Tritonia tetraquetra* sensu Bergh, 1879) [A. Martynov, pers. comm.]. *Philine polaris* is a valid species currently included in *Retusophiline* Nordsieck, 1972 and widely distributed in the Kara, East Siberian, Chukchi, and Japan seas [Golikov, 1995; E. Chaban, pers. comm.].

Acknowledgements

We want to express our thanks to Anders Warén and Karin Sindemark (Department of Invertebrate Zoology, SMNH) for kind opportunity to examine the type material as well as for the comments on the status of the species. We would like to thank Dr. Matthias Glaubrecht (Department of Malacology, Institute of Systematic Zoology, Museum für Naturkunde, Berlin) for the illustrations of the type material. We are grateful to Alexander Martynov and Elena Chaban (ZIN) for the comments on the status of opisthobranch species of Aurivillius. The work was partly supported by RFBR grant 01-04-48134 [Biodiversity of the molluscs of Russia and adjacent territories (inventory of the fauna)].

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О видах переднежаберных моллюсков из вод России, описанных Ауривиллиусом в 1885 г.

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РЕЗЮМЕ. 9 видов моллюсков из вод России были описаны Ауривиллиусом (Aurivillius, 1885) по материалам экспедиции *Vega* (1878-79). Был изучен типовой материал большинства видов переднежаберных брюхоногих и прояснен таксономический статус видов. *Trichotropis solida* (современное родовое положение — *Neoiphinoe*) — валидный вид, хотя это название неверно употребляется в современной литературе. *Pleurotoma beringi* — младший субъективный синоним *Antiplanes sanctiioannis* (Smith, 1875). *Fusus (Euthria) conulus* — валидный вид, принадлежащий к роду *Anomalosipho* Dautzenberg et Fischer, 1912. *Fusus decipiens* — младший первичный гомоним *Fusus decipiens* Deshayes, 1857, младший субъективный синоним *Volutopsius attenuatus* Dall, 1874 и *Buccinopsis canaliculata* Dall, 1874. *Fusus (Sipho) turritus* — младший первичный гомоним *Fusus turritus* Schafhäutl, 1863, старший синоним *Aulacofusus (Limatofusus) pulcius* Dall, 1919. *Fusus (Sipho) olivaceus* — валидный вид, старший синоним *Plicifusus (Retifusus) incisus* Dall, 1919.