

New genus of opisthobranch molluscs *Antarctophiline* gen. nov. (Cephalaspidea: Philinoidea) from the Cooperation Sea, Antarctica

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ABSTRACT. The description of the new genus *Antarctophiline* gen. nov. with the type species *Philine gibba* is given based on penial and gizzard morphology. The new genus includes also *A. alata* and *A. amoena*. The anatomy of *Antarctophiline gibba* shows many similarities with “*Philine*” *alba* and “*Philine*” *alboides*. The new genus definitely doesn't belong to Philinidae *s.str.* It differs from Laonidae in lacking of gizzard plates and has some similarities with the family Philinorbidae. The new genus is tentatively placed into the family Philinorbidae. Features of morphology of *Antarctophiline gibba* described from different localities are discussed.

Introduction

Some specimens of *Philine gibba* Strebel, 1908 were collected by the Laboratory of marine research during the Russian Antarctic Expeditions (RAE) on the Pruds Bay, Cooperation Sea, in 2006-2009. It is one of the well-known Antarctic cephalaspidean species [Odhner, 1926; Marcus, Marcus, 1969; Rudman, 1972; Seager, 1978, 1979, 1982]. It was shown [Price *et al.*, 2011] that *Philine gibba* does not belong to *Philine aperta* clade. On the basis of phylogenetic analysis of Cephalaspidea based on sequences of two mitochondrial (COI, 16S rRNA) and two nuclear gene markers (28S rRNA, Histone-3) the monophyly of the genus *Philine s.l.* as well as family Philinidae *s.l.* were not confirmed [Oskars *et al.*, 2015]. Philinidae *s.l.* was divided into four clades of the family level. *Philine gibba* was not included in that analysis, but in opinion of the authors [Oskars *et al.*, 2015] this species (as well as *Philine falklandica* Powell, 1951) may be closely allied to “Philinidae Clade 4”.

Based on penial and gizzard morphology of *Philine gibba* from the Pruds Bay a new genus *Antarctophiline* gen. nov. is erected. Systematic position of the new genus is discussed.

Materials and methods

All the studied specimens were collected during 52th RAE (B.I. Sirenko and S.Yu. Gagaev as collectors) and 54th RAE (P.O. Ignatov, S.Yu. Gagaev and V.L. Dzhurinsky as collectors) in 2006/2007 and 2009 in the Pruds Bay, Cooperation sea. 16 specimens of *Philine gibba* were collected with 0.05 m² grab or scuba diving.

The specimens were fixed initially in 4% formaldehyde and then transferred to 70° alcohol. The morphology of the shell and gizzard plates were studied with FEI SEM Quanta 250 scanning electron microscope (SEM), the digestive and male copulatory system were studied with Opton (Zeiss) and Leica DME light microscopes. The studied specimens are kept in the collections of the Zoological Institute, Russian Academy of Sciences.

Abbreviations: Cr – crop, Ed – ejaculatory duct, Mf – muscle fibers, Gz – gizzard, Ph – pharynx, Pp – penial papilla, Pr – prostate, Sgl – salivary glands, Sv – seminal vesicle.

Results

Order Cephalaspidea Fischer, 1883
Superfamily Philinoidea Gray 1850 (1815)

Family Philinorbidae Oskars, Bouchet et
Malaquias, 2015

Genus *Antarctophiline* gen. nov.

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Type species: *Philine gibba* Strebel, 1908; recent, South Georgia, here designated.

Diagnosis. Shell completely internal, slightly flattened dorso-ventrally; posterior shield without notch. Buccal mass well developed; radula 2:1:1:1:2, with rudimental rachidian tooth; salivary gland long. Big

thin-walled crop developed before gizzard; gizzard wall with sheath of circular muscle fibers, without pocket for gizzard plates. Gizzard plates chitinous, oval, equal in size and shape, without pair of holes or slits. Their external surfaces flat or slightly convex, internal surfaces convex with concentric light and dark lines. Penial papilla simple and unarmed; ejaculatory duct short, ends in its distal part with a very short prostate and seminal vesicle.

The new genus includes also *Antarctophiline alata* (Thiele, 1912) comb. nov. and *A. amoena* (Thiele, 1925) comb. nov.

[Диагноз. Раковина внутренняя, полностью покрыта мантией, с широко раскрытым слабо уплощенным dorso-ventрально последним оборотом; задний край мантии без выемки. Глотка хорошо развита, радула 2:1:1:1:2, с рудиментарным рахидальным зубом, слюнные железы длинные. Пищевод перед гиззардом образует объемный тонкостенный зоб; стенка гиззарда образована сплошным чехлом кольцевой мускулатуры. Внутренняя поверхность гиззарда гладкая, не имеет карманов для жевательных пластинок. Пластинки гиззарда хитиновые, одинаковой формы и размера, овальные, не несут следов парных отверстий или щелей; наружная поверхность плоская или слабовыпуклая, внутренняя – выпуклая с рисунком из чередующихся концентрических светлых и темных колец. Пениальная папилла простая коническая невооруженная, короткий эякуляторный проток в нижней части соединяется с короткой простатой и удлинённым семенным пузырьком.]

Remarks. *Antarctophiline* gen. nov. differs from other genus-level taxa of Philinidae *s.l.* (accepted as valid, or synonyms) in penial and gizzard plates morphology. The male copulatory system of the new genus includes a short simple prostate. This feature differentiates the new genus from *Philine* Ascanius, 1772 (type species *Philine quadripartita* Ascanius, 1772), *Yokoyamaia* Habe, 1950 (type species *Philine ornatissima* Yokoyama, 1927), *Philingwynia* Nordsieck, 1972 (type species *Philine monterosati* Jeffreys in Monterosato, 1874) and *Praephiline* Chaban et Soldatenko, 2009 (type species *Philine finmarchica* M.Sars, 1859) – all of them have complex male copulatory system with long prostate, and separated incurrent sperm groove and ejaculatory duct [Rudman, 1972; Bouchet, 1975; Chaban, Soldatenko, 2009; Price *et al.*, 2011; Chaban, Chernyshev, 2014].

Unlike *Antarctophiline* gen. nov., *Ossiania* Monterosato, 1884 [type species *Philine scutulum* Lovén, 1846 = *Laona quadrata* (S.Wood, 1839)] and *Retusophiline* Nordsieck, 1972 (type species

Bulla lima Brown, 1827) lack gizzard plates [Ohnheiser, Malaquias, 2013]. Internal morphology of *Laona zonata* A.Adams, 1865 (type species of *Laona* A.Adams, 1865) is unknown, but diagnosis of Laonidae Pruvot-Fol, 1954 includes gizzard without plates [Oskars *et al.*, 2015]. Gizzard plates are absent in *Laona ventricosa* (Jeffreys, 1865) [Ohnheiser, Malaquias, 2013; Oskars *et al.*, 2015] – type species of *Rhinodiaphana* Lemche, 1967.

Shell of *Johania retifera* (Forbes, 1844) (type species of *Johania* Monterosato, 1884) is external [Ohnheiser, Malaquias, 2013]. It is very rare feature in Philinidae *s.l.*

Gizzard plates of *Spiniphiline kensleyi* Gosliner, 1988 (type species of *Spiniphiline* Gosliner, 1988), *Globophiline kawamura* Habe, 1958 (type species of *Globophiline* Habe, 1958) and *Hermania scabra* (Müller, 1784) (type species of *Hermania* Monterosato, 1884) are different [Gosliner, 1988; Chaban, 1999; Ohnheiser, Malaquias, 2013] from that of *Antarctophiline gibba*.

Systematic position of *Choshiphiline* Habe, 1958 is unresolved. Its type species – *Philine pygmaea* Yokoyama, 1922 – is fossil [Yokoyama, 1922]. Based on shell morphology *Philine pygmaea* was considered as junior synonym of *Philine japonica* Lischke, 1872 [Habe, 1955; Valdés, 2008] = *Philine orientalis* A.Adams, 1854 [Price *et al.*, 2011] and belongs to *Philine aperta* clade. According to other point of view *Philine pygmaea* belongs to *Yokoyamaia* Habe, 1950 [Oyama, 1992; Higo *et al.*, 1999 – as *Yokoyamaia* (*Choshiphiline*) *pygmaea*]. In any case *Choshiphiline* (as *Philine* or as *Yokoyamaia*) differs from the new genus (see above).

External morphology both of *Pseudophiline hayashii* Habe, 1976 (type species of *Pseudophiline* Habe, 1976) and *Philinorbis teramachii* Habe, 1950 (type species of *Philinorbis* Habe, 1950) are unique among Philinidae *s.l.*: their elongated visceral sac protrudes far beyond the shell apex [Habe, 1976; Chaban, 2011]. This feature is not specific to *Antarctophiline* gen. nov.

Etymology. *Antarctophiline* gen. nov. is named due to its occurrence in Antarctic.

Antarctophiline gibba (Strebel, 1908)
comb. nov.
(Figs 1, 2)

Philine gibba Strebel, 1908: 13-14, pl. 2, fig. 22; Odhner, 1926: 17-18, figs 12, 13; Powell, 1951: 177; 1960: 163;

РИС. 1. *Antarctophiline gibba* (Strebel, 1908). А, В, Е. Внешний вид особи длиной тела 11.5 мм; А, дорсально; В, вентрально; Е, латерально. С, D, F. Раковина высотой 6.2 мм; С, вентрально; D, апикально; F, дорсально. К. Фрагмент пищеварительной системы. G, H, I, J. Пластинки гиззарда, СЭМ; G, наружная поверхность, от экземпляра с раковиной 3 мм; H, латерально; I, внутренняя поверхность; J, наружная поверхность от экземпляра с раковиной 5 мм. L. Вскрыт гиззард, пластинки под световым микроскопом. M. Внешний вид особи длиной тела 6 мм. N, O, Q, R. Радула, СЭМ; N, фрагмент радулы; O, рахидальный зуб латерально; Q, латеральные зубы, вид сверху; R, зубчики латерального зуба. P. Головной копулятивный аппарат под световым микроскопом. S. Спиральная скульптура раковины, СЭМ. Масштаб: O, Q, R = 50 мкм; N = 100 мкм; G, S = 200 мкм; D, H – J, P = 0.5 мм; K, L = 1 мм.

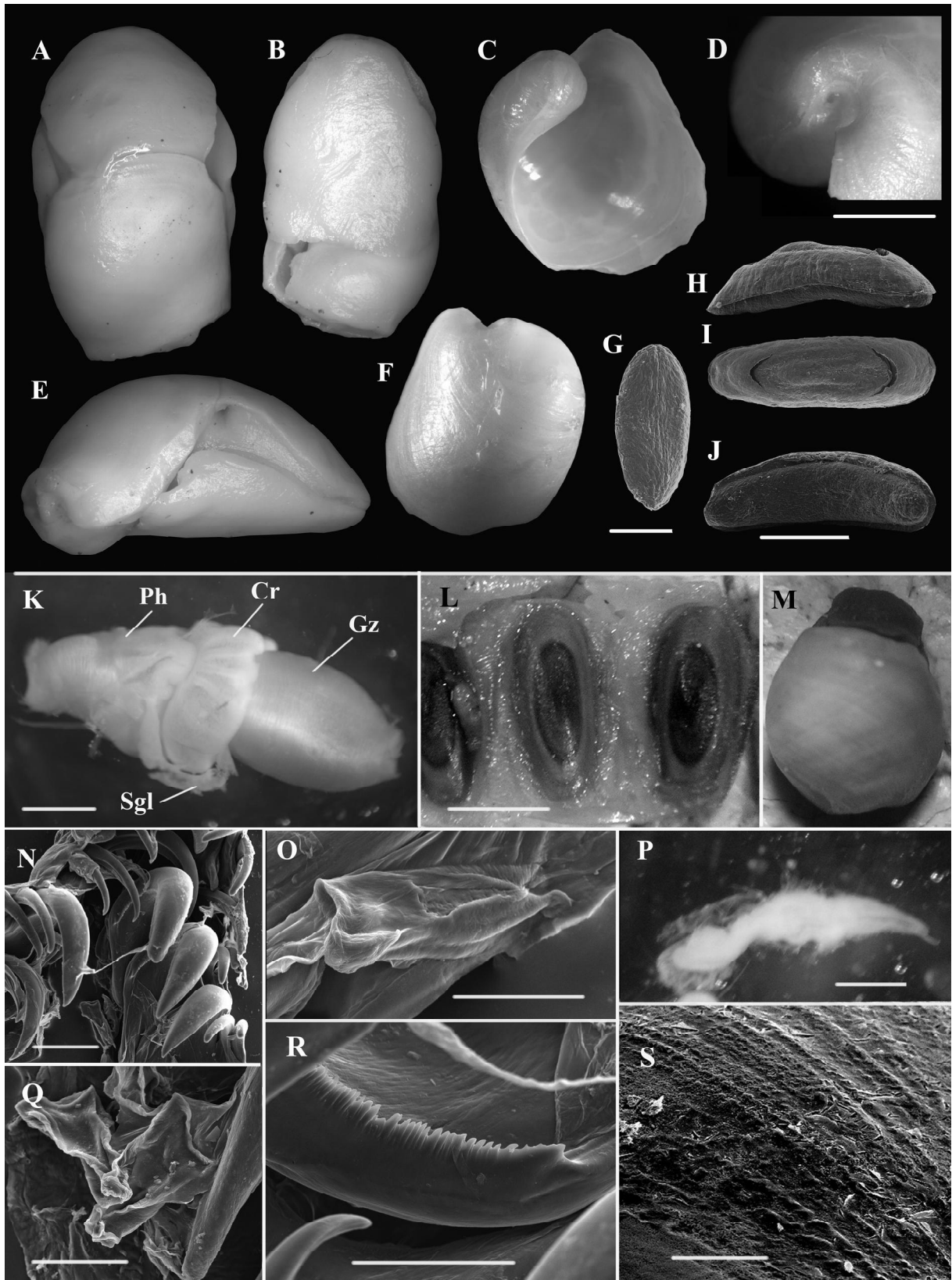


FIG. 1. *Antarctophilina gibba* (Strebel, 1908). **A, B, E.** Specimen 11.5 mm length; **A**, dorsal view; **B**, ventral view; **E**, lateral view. **C, D, F.** Shell 6.2 mm height; **C**, ventral view; **D**, apical view; **F**, dorsal view. **K.** Part of the digestive system. **G, H, I, J.** Gizzard plates, SEM; **G**, gizzard plate of the specimen with 3 mm shell height, outer surface; **H**, lateral view; **I**, internal view; **J**, outer view, gizzard plate of the specimen with 5 mm shell height. **L.** Dissected gizzard, plates under the light microscope. **M.** Specimen 6.0 mm length, dorsal view. **N, O, Q, R.** Radula, SEM; **N**, a part of the radula; **O**, rachidian tooth, lateral view; **Q**, lateral teeth, frontal view; **R**, denticles of the lateral tooth. **P.** Male copulatory system, light microscope. **S.** Shell sculpture, SEM. Scale bars: **O, Q, R** = 50 μ m; **N** = 100 μ m; **G, S** = 200 μ m; **D, H - J, P** = 0.5 mm; **K, L** = 1 mm.

Marcus, Marcus, 1969: 13-14, figs 20-22; Rudman, 1972: 175, 177, figs 1c, 2 a-b, 7 d-e, 10b; Seager, 1978 (redescription): 171-178, figs 1-8; 1979: 51-72; 1982: 166-178 (biology).

Type locality: South Georgia, Ebendaher, 54°22'S, 36°28'W, 20 m (st. 37 of Schwedischen Südpolar-Expedition 1901—1903).

Material. 52 RAE, Cooperation sea, Fjord Nella, Pruds Bay: 69°22.9'S, 76°22.3'E, 20 m, silt, sand, stones, 30.12.2006 (4 spm); 69°22.9'S, 76°22.1'E, 37 m, silt, sand, stones, 04.01.2007 (4 spm); 69°22.9'S, 76°22.3'E, 14 m, silt, clay, 08.01.2007 (2 spm). 54 RAE, Cooperation sea, Fjord Nella, Pruds Bay: 69°23.1'S, 76°21.3'E, 8-9 m, silt, clay, tubes of Serpulidae, stones, 04.01.2009 (1 spm); 69°22.5'S, 76°21.4'E, 29-31 m, silt, sand, stones, 01.02.2009 (1 spm); 69°23.1'S, 76°21.3'E, 12-13 m, sand, stones on the rocky platform, 06.01.2009 (2 spm); 69°23.1'S, 76°21.3'E, 5-6 m, silt, sand, stones on the rocky platform, 14.01.2009 (2 spm).

Description. Preserved specimens from 2 to 12 mm long, uniformly white. Cephalic shield oval with smooth surface, median furrow absent (Fig. 1A); its posterior end without extensions but with small notch. Posterior shield humped, its posterior end without notch. Some small specimens more contracted (Fig. 1M), with light horn coloured soft body; their cephalic shield almost square with visible median furrow.

Shell completely internal, 1.8-6.2 mm high, 1.8-5.7 mm wide; ovately subquadrate, slightly compressed dorso-ventrally, white, covered with very thin pellucid iridescent periostracum. It consists of 1.5 whorls, body whorl very large and broadly open. Apex slightly blunted, periphery of body whorl with weak indentation in upper part. Outer lip almost straight, projects above spire; inner lip forming broad thin callus on parietal wall; parietal wall convex, columellar wall slightly concave. Shell sculpture of growth lines and very faint spiral striations visible under light microscope.

Buccal mass well developed, salivary glands long. Radula 2:1:1:1:2, with rudimental rachidian tooth, consists of 12 rows of teeth. Inner side of lateral teeth bear minute sharp, closely spaced denticulation (Fig. 1R); marginal teeth developed, without denticulation. Rachidians almost of triangular shape (Figs 1 Q, O), loosely-attached to radula. Big thin-walled crop developed before gizzard (Fig. 1K), but indistinct in some specimens. Gizzard elongate-cylindrical, of almost same size as pharynx; gizzard wall composed a sheath of circular muscle fibers, without pocket for gizzard plates. It contains three elongate chitinous gizzard plates equal in size and shape, without pair of holes or slits. Their external surface flat or slightly convex, internal surface convex with concentric yellow and brown lines. Plates become shorter and bend when dry. Small specimens (shell up 3 mm high) contain brown plates with triangular profile.

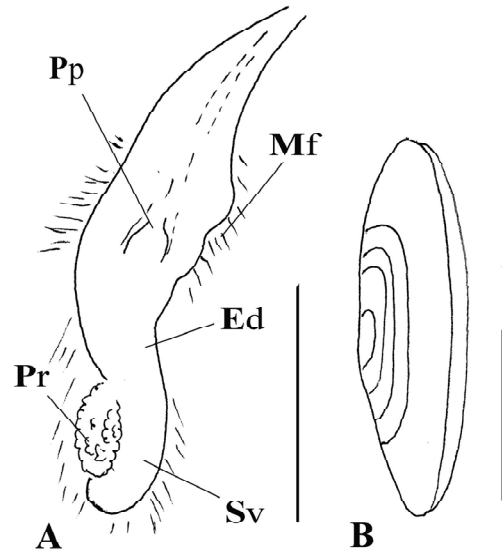


FIG. 2. *Antarctophiline gibba* (Strebel, 1908). A. Male copulatory system. B. Gizzard plate, lateral view. Scale bar = 1 mm.

РИС. 2. *Antarctophiline gibba* (Strebel, 1908). А. Головной копулятивный аппарат. В. Пластинка гиззарда, вид сбоку. Масштаб = 1 мм.

Male copulatory system is quite small: penis is 1.8 mm long in specimen with shell 5 mm in length. It consists of long penial sac, very short prostate and a seminal vesicle (Figs 1P, 2A). Penial papilla short and unarmed. Short ejaculatory duct connects prostate and penial sac. Whole male system covered with short numerous muscle fibers.

Biology. This species was found in the Pruds Bay, about 5-40 specimens per m², in relatively shallow water from 5 to 37 m depth on muddy and sandy substrate with stones. The water temperature in this locality varied in the range between -1.59°C and -1.21°C; salinity – 34.42 - 34.64‰.

Distribution. South Georgia, 4-310 m; southern West Atlantic, 45°02'S, 61°18'W, 102 m; McMurdo Sound, 77°30'S, 165°00'E, 12 m [Strebel, 1908; Powell, 1960; Marcus, Marcus, 1969; Seager, 1978] and the Cooperation sea, 69°23'S, 76°22'E, 5-37 m (this study).

Remarks. All the studied specimens have spiral sculpture with the fine spiral striations crossing the growth lines as was noted by Strebel for this species [Strebel, 1908: 14]. The spiral sculpture together with penial, radular and gizzard plates morphology indicates that the specimens belong to *Antarctophiline gibba*. The spiral sculpture differs *A. gibba* from smooth *A. alata* which was described in the Devis Sea and is wide spread species in Antarctica [Thiele, 1912; Powell, 1951, 1960; Hain, 1990; Troncoso *et al.*, 1996; Aldea, Troncoso,

2008 – as *Philine alata*]. Another related species, *A. amoena*, also doesn't have shell spiral striation [Thiele, 1925] (Table 1).

Antarctophiline gibba was redescribed by Seager [1978 – as *Philine gibba*] based on his own specimens, collected from the type locality. He has noted some differences in morphology of these specimens with specimens from the McMurdo Sound described by Rudman [1972 – as *Philine gibba*]. Seager considered these differences in radula, crop and penis structure so substantial, that he concluded that the specimens from the McMurdo Sound belong to a different species: 1. Seager [1978] believed, that “Rudman's illustration shows no rhachidian cusp”. But Rudman [1972] noted for *A. gibba*: “The radula is similar to that of *P. falklandica*”, and that radula of *Philine falklandica* is 2:1:1:1:2 [Rudman, 1972: 173]. 2. Rudman did not find crop in his specimens. But, as Seager rightly believed, many specimens have little or no food in the foregut, and it is only in those with a full gut that the crop is obvious. 3. The illustrations and descriptions of *A. gibba* penis by Rudman [1972] and Seager [1978] have no principal differences. The ejaculatory duct of the specimens from the McMurdo Sound is very short [Rudman, 1972: figs 7d, e]; one from South Georgia is longer than previous; the ejaculatory duct of our studied specimens from the Pruds Bay is intermediate in length (Figs 1P, 2A). So, at the moment we have insufficient data to conclude that specimens from South Georgia and specimens from the McMurdo Sound belong to different species.

It is necessary to note that there are some differences in the descriptions of the shell morphology which were given by Strebel [1908] and by Seager [1978]. Strebel described a shell 5.5 mm in height with fine spiral striations (“uberaus feinen Spiralfurchen”) [Strebel, 1908: 14, pl. 2, fig. 22]. Seager considered the shell of the type specimen as abnormally humped. He described more regularly oval shell 15 mm in height with very fine catenoid spiral sculpture and noted it as a “typical shell” [Seager, 1978: 173, 177, fig. 2]. Unfortunately he didn't illustrate the sculpture of his shell. Our specimens from Pruds Bay (with shells no more than 6.2 mm in height), correspond in size and shape to the Strebel's image of the type specimen. There are no differences in internal morphology of all described specimens. The described differences in shell outline can be the result of their age variability which has not been described yet for *Antarctophiline gibba*.

Discussion

Among Antarctic philinids besides *Antarctophiline gibba*, shell, radular and gizzard plates morphol-

ogy is known also for “*Philine*” *alata* [Troncoso *et al.*, 1996], “*Ph.*” *falklandica* [Powell, 1951; Rudman, 1972; Ev. Marcus, 1974] and “*Ph.*” *amoena* [Thiele, 1925] (Table 1). “*Philine*” *alata* and “*Ph.*” *amoena* have similar shell outline and sculpture; their radula 2:1:1:1:2 with rudimental rachidian tooth (rachidian tooth of the latter species was overlooked by Thiele, likely); their gizzard plates are oval with internal convex side showing concentric lines, without paired holes or slits [Thiele, 1925; Troncoso *et al.*, 1996]. Due to these characters “*Philine*” *alata* and “*Ph.*” *amoena* can be included into *Antarctophiline* gen. nov. *A. amoena* possibly is a junior synonym of *A. alata*.

“*Philine*” *falklandica* is similar in internal morphology to the new genus (Table 1). But the species should be re-examined, because it was differently described by Rudman [1972] and by Ev. Marcus [1974]. Nothing is known about soft body morphology of *Philine antarctica* Smith, 1902 and *P. apertissima* Smith, 1902. *Philine kerguelensis* Thiele, 1925 have unusual gizzard plates and radula composed of pair of lateral tooth per row only, so it should be re-examined too.

Philinidae *s.l.* was divided into four clades of the family rang: Philinidae *s.str.*, Laonidae Pruvot-Fol, 1954, Philinidae Clade 4 and Philinorbidae Oskars, Bouchet et Malaquias, 2015 [Oskars *et al.*, 2015]. In this connection a systematic position of *Antarctophiline* gen. nov. should be discussed.

1. The main features of the family Philinidae *s.str.* are “presence of a muscular gizzard with calcified plates, developed penial papilla, and a long convoluted prostate” [Oskars *et al.*, 2015: 145]. The male copulatory system of the new genus includes a very short prostate and a simple short penial papilla; its chitinous gizzard plaits lack paired holes or slits. Due to these features species of *Antarctophiline* gen. nov. could not be included in Philinidae *s.str.*

2. One of the most important characters of the family Laonidae Pruvot-Fol, 1954 is the gizzard without plates [Pruvot-Fol, 1954; Oskars *et al.*, 2015]. All species of the new genus have gizzard plates, so it is unlikely that *Antarctophiline* gen. nov. belongs to this family. But molecular studying is needed to confirm or deny this point of view.

3. Unusually elongated visceral sac is the most obvious character of the species of the family Philinorbidae Oskars, Bouchet et Malaquias, 2015. A detailed description of internal morphology of *Philinorbis teramachii* Habe, 1950 (the type species of *Philinorbis* Habe, 1950) is not published yet, but two closely allied species, *Philine hearstorum* Gonzales et Gosliner, 2014 and *Philine acuticauda* Gonzales et Gosliner, 2014, were described in detail recently from Philippines. Both species have elongated visceral sac, reduced or absent gizzard plates, penial

Table 1. Comparative morphology of Antarctic Philinidae *s.l.*Таблица 1. Сравнение признаков антарктических Philinidae *s.l.*

Species	Shell outline	Shell sculpture	Gizzard plates	Radula	Male copulatory system	References
<i>Antarctophiline gibba</i> Strebel, 1908	Ovately subquadrate, humped	Growth lines and fine spiral or catenoid striations	3 wide, oval plates	2:1:1:1:2	Conical papilla; short prostate and seminal vesicle	Strebel, 1908; Odhner, 1926; Marcus, Marcus, 1969; Rudman, 1972; Seager, 1978; this study
<i>Antarctophiline alata</i> Thiele, 1912	Ovately subquadrate	Spiral sculpture is lacking	3 wide, oval plates	2:1:1:1:2	-	Thiele, 1912; Hain, 1990; Troncoso <i>et al.</i> , 1996; Aldea, Troncoso, 2008
<i>Antarctophiline amoena</i> Thiele, 1925	Ovately subquadrate	Spiral sculpture is lacking	3 wide, oval plates	2:1:0:1:2	-	Thiele, 1925
" <i>Philine</i> " <i>falklandica</i> Powell, 1951	Ovate-rhomboidal	Axial lirations minutely granulated	3 minute, calcareous or chitinous plates	2:1:1:1:2	Conical papilla; short two-branched prostate	Powell, 1951; Rudman, 1972
<i>Philine kerguelensis</i> Thiele, 1925	Semiconvolute	Spiral punctuate striations	3 large lozenge-shaped calcareous	1:0:1	-	Thiele, 1925; Powell, 1951
<i>P. apertissima</i> Smith, 1902	Rounded	Growth lines only	-	-	-	Smith, 1902; Dell, 1990
<i>P. antarctica</i> Smith, 1902	Semiconvolute	Growth lines only	-	-	-	Smith, 1902; Dell, 1990

atrium embedded in tissue – they must be included into the family Philinorbidae. Shell of *Philine acuticauda* is devoid of spiral sculpture; the species is close to *Pseudophiline hayashii* Habe, 1976 and should be transferred to the genus *Pseudophiline*. Shell of *Philine hearstorum* has spiral sculpture with strong ribs; the species is close to *Philinorbis teramachii* and should be transferred to the genus *Philinorbis*. *Pseudophiline* was considered as a junior synonym of *Philinorbis* [Chaban, 2011]. But due to existence of reduced gizzard plates in "*Philine*" *hearstorum* [Gonzales, Gosliner, 2014] and absence of the plates in "*Philine*" *acuticauda* [Gonzales, Gosliner, 2014] that synonymy can be considered as not a justified one and so *Pseudophiline* can be regarded as a valid taxon.

Antarctophiline gen. nov. has some similarities to *Philinorbis*, such as radula with rachidian tooth and brown chitinous gizzard plates. But it is significantly different in other features, for example in external morphology and gizzard wall. The anatomy of *Antarctophiline gibba* shows close similarity with "*Philine*" *alba* Mattox, 1958 from the Eastern

Pacific and "*Philine*" *alboides* Price, Gosliner et Valdés, 2011 from the Caribbean [Ev. Marcus, 1974; Price *et al.*, 2011]. The two last species are also significantly different in external morphology from *Philinorbis*. But their close relationship was noted by Oskars *et al.* [2015]. Based on similarity of *Antarctophiline gibba* with "*Philine*" *alba* and "*Philine*" *alboides*, the new genus is tentatively placed into the family Philinorbidae..

Based on the descriptions of *Antarctophiline gibba* and "*Philine*" *falklandica* by Rudman [1972, both as *Philine*], Oskars *et al.* [2015] noted that both species could be closely allied to Philinidae Clade 4. Some features are similar (such as chitinous gizzard plates, radula with reduced rachidian tooth), but others are not (thick, well-calcified shell, non-muscular gizzard reported for the clade). The species comprising this clade are not formally named or described yet. Therefore, nothing can yet be said about their relationships.

Antarctophiline gen. nov. definitely doesn't belong to Philinidae *s.str.* and probably doesn't belong to Laonidae. Its relationships with "*Philinidae* Clade

4” will be more definite after publishing of data on Philinidae *s.l.* including Philinidae Clade 4 which was announced by Oskars *et al.* [2015]. The new genus is tentatively placed into the family Philinorbidae .

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Новый род заднежаберных моллюсков *Antarctophilina* gen. nov. (Cephalaspidea: Philinoidea) из моря Содружества, Антарктика

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РЕЗЮМЕ. Приведено описание нового рода *Antarctophilina* gen. nov. с типовым видом *Philina gibba*. Новый род описан на основании особенностей морфологии головного копулятивного аппарата и гизарда; он включает также виды *A. alata* и *A. amoena*. Новый род определенно не принадлежит семейству Philinidae s.str.; в настоящее время нет оснований относить его ни к семейству Laonidae ни к группе "Philinidae Clade 4" [sensu Oskars et al., 2015]. Новый род предварительно отнесен к семейству Philinorbidae.

