

Notes on Bulimulidae (Gastropoda, Euthyneura), 2.¹
On a small collection of *Simpulopsis* Beck, 1837,
from southern Brazil,
with description of three new species

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Recently Van Mol (1971: 223) has shown that *Simpulopsis* Beck, 1837, belongs to the Bulimulidae instead of to the Amphibuliminae (cf. Zilch, 1960).

During work for a generic revision of the Bulimulidae a small collection of *Simpulopsis*, collected in southern Brazil, came to my hands. The only species previously known to occur in this region is *Simpulopsis (Simpulopsis) sulculosa* (Férussac). The material at hand was collected by Mr. Fritz Plaumann in 1936-1938 near Nova Teutonia. The labels of the material indicate that the geographical position of this locality is 27°11' S 52°23' W, which is in south-central Santa Catarina.

For making this material available to me I am most grateful to Dr. Å. Andersson and Mr. R. Oleröd of the Naturhistoriska Riksmuseet, Stockholm (NRS). Fig. 13 was made with a Cambridge scanning electron microscope with the co-operation of Messrs. W.C. Laurijssen and F. van Sandijk. The other photographs were made with the co-operation of Mr. A. 't Hooft. Due to technical difficulties the quality of the photographs is not up to standard.

Simpulopsis (Simpulopsis) sulculosa (Férussac, 1821)

¹ Notes on Bulimulidae, 1, see Basteria 38: 13-15, 1974.

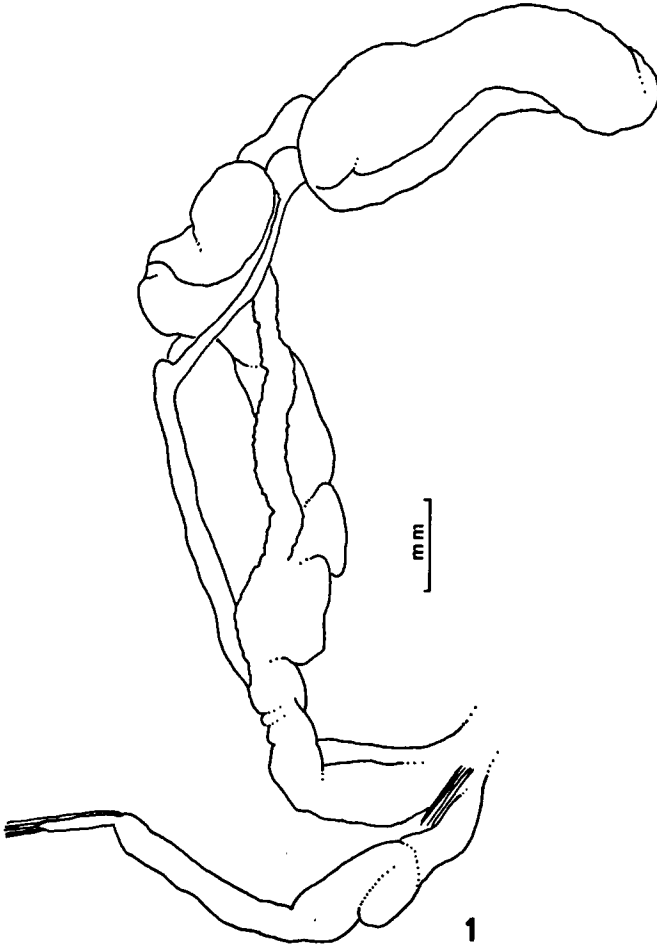


Fig. 1. Genitalia of *Simpulopsis (S.) sulculosa* (Fér.), NRS 2447.

Three lots with representative specimens of this species were collected on 3-15.IX.1936 (NRS 2367, 4 specimens) and VII.1937 (NRS 2445, 9 specimens; NRS 2447, 5 specimens) respectively. This species was hitherto known from State São Paulo, Itapetininga and Taguara (cf. Pilsbry, 1899: 214); the record of this species from Botafogo, Rio de Janeiro, State of Guanabara (Hidalgo, 1869) needs confirmation.

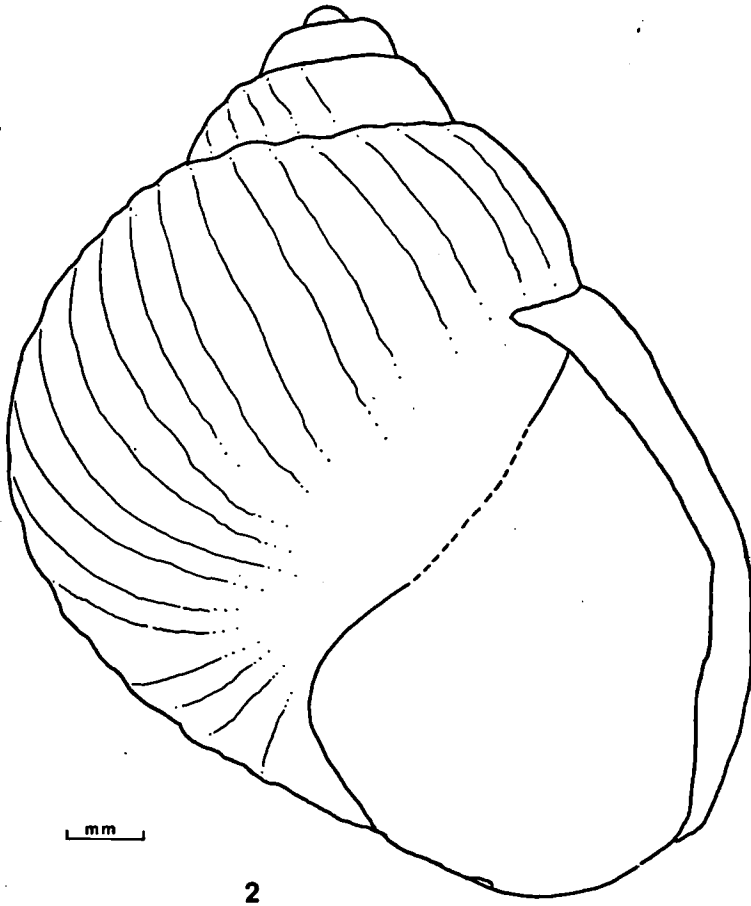


Fig. 2. Outline of shell of *Simpulopsis* (*S.*) *pseudosulculosa* sp.n., palatal margin slightly inwardly deformed, NRS 2503 (holotype).

Genitalia (fig. 1) — Penis distally U-shaped, with pseudo-sheath. Epiphallus slender, about as long as penis. Main retractor muscle attached at transition from epiphallus to flagellum, which latter is about one third of the length of the epiphallus. Second retractor muscle inserted at genital atrium. Vagina comparatively short. Spermathecal duct branched at about three quarters of total length; one branch

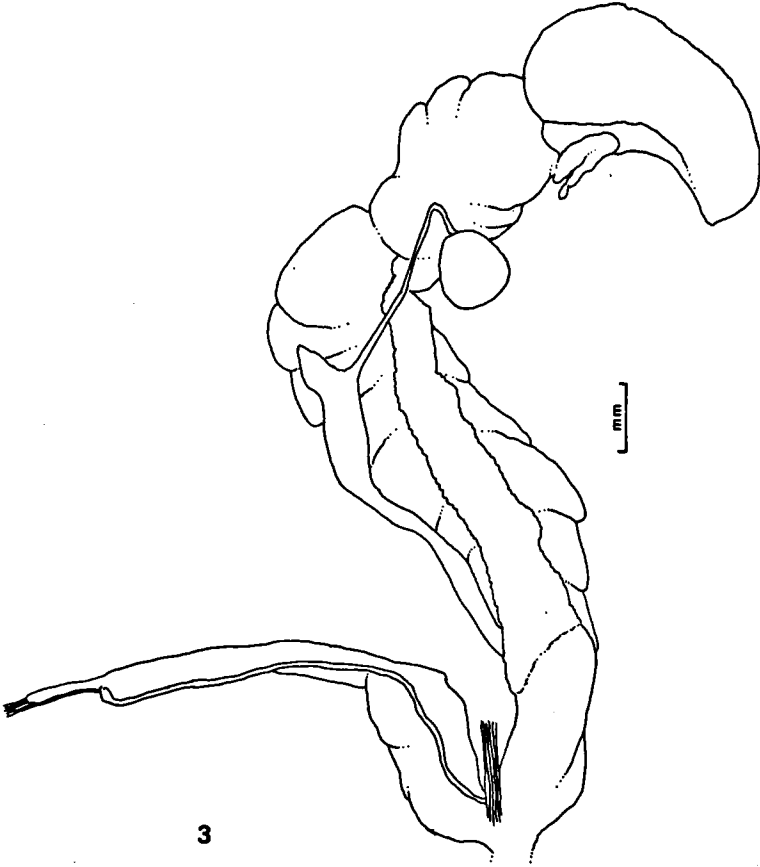


Fig. 3. Genitalia of *Simpulopsis (S.) pseudosulculosa* sp.n., NRS 2503 (holotype).

continues as a very narrow duct with the spermatheca at the distal end, the other is a blind sac. Araujo (1971: 79, fig. 12) was the first to describe this feature of the spermathecal duct, which seems to be typical for *Simpulopsis*. I here propose the name spermathecal appendix for the blind branch of the spermathecal duct. In *Simpulopsis sulculosa* the spermathecal appendix is short-globose.

Simpulopsis (Simpulopsis) pseudosulculosa sp.n.

Diagnosis — A species of *Simpulopsis* s.str. which closely resembles *S. sulculosa* but differs in the following respects: (1) the surface of the shell lacks the “numerous revolving dull and lustreless bands about as broad as the glossy intervals” (Pilsbry, l.c.); (2) the surface of the shell has stronger wrinkles; (3) the protoconch has both spiral striae and axial, very fine wrinkles.

Description — Shell up to 11.3 mm long, 1.23 times as long as wide, imperforate, thin. Colour yellowish-brown, paler on the upper whorls. Surface slightly shining, sculptured with strong axial, hardly sinuous wrinkles and close, very delicate spiral striae. Protoconch sculptured with dense spiral striae and axial, very fine wrinkles (about equally dense). Whorls four, rather convex. Suture well impressed. Aperture ovate, whitish coloured inside, 1.37 times as long as wide. Peristome and columellar margin thin and simple.

Type locality — Brazil, Santa Catarina, Nova Teutonia.

Material — NRS 2503, F. Plaumann leg., 1936: holotype.

Measurements — Shell height 11.3 mm, diameter 9.2 mm, aperture height 8.0 mm, width 5.8 mm.

Genitalia (fig. 3) — Penis swollen, except basal part which is slender; constricted at transition to epiphallus, which is slender and about $1\frac{1}{2}$ times length of penis. Main retractor muscle inserted at distal end of epiphallus. Second retractor muscle inserted at genital atrium. Flagellum slender, about one third of the length of the epiphallus. Vagina and oviduct comparatively short. Spermathecal appendix elongated-triangular.

Remarks — The following differences may be noted in the genitalia:

| | <i>S. sulculosa</i> | <i>S. pseudosulculosa</i> |
|-----------------------|---------------------|-------------------------------|
| penis | U-shaped | not U-shaped |
| penis length | about 6 x vagina | about 4 x vagina |
| epiphallus length | as penis length | $1\frac{1}{2}$ x penis length |
| spermathecal appendix | short-globose | elongated-triangular |

Simpulopsis (Simpulopsis) wiebesi sp.n.

Diagnosis — A species of *Simpulopsis* s.str. characterized by crestlike epidermal striae on surface, last whorl angular at periphery and protoconch with irregular, axial wrinkles and spiral striae.

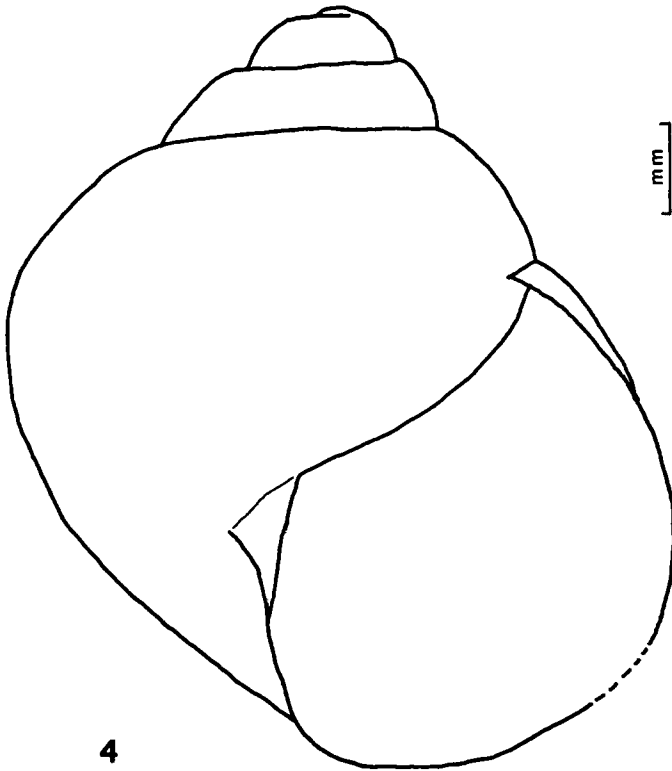


Fig. 4. Outline of shell of *Simpulopsis (S.) wiebesi* sp.n., NRS 2505 (holotype).

Description — Shell 8.1 mm, 1.1 times as long as wide, rimate, rather thin. Colour pale tawny. Surface hardly shining, sculptured with few, obsolete wrinkles and numerous spiral striae. Epidermal striae restricted to upper part on last whorl, in part interrupted and crestlike. Protoconch with axial, somewhat irregular wrinkles and spiral striae of same strength. Whorls three and a half, slightly convex. Suture well impressed. Last whorl angular at periphery in front. Aperture ovate, whitish coloured inside, 1.2 times as long as wide. Peristome thin and simple, straight. Margins joined by a thin, whitish callus. Columellar margin reflexed and dilated above; whitish.

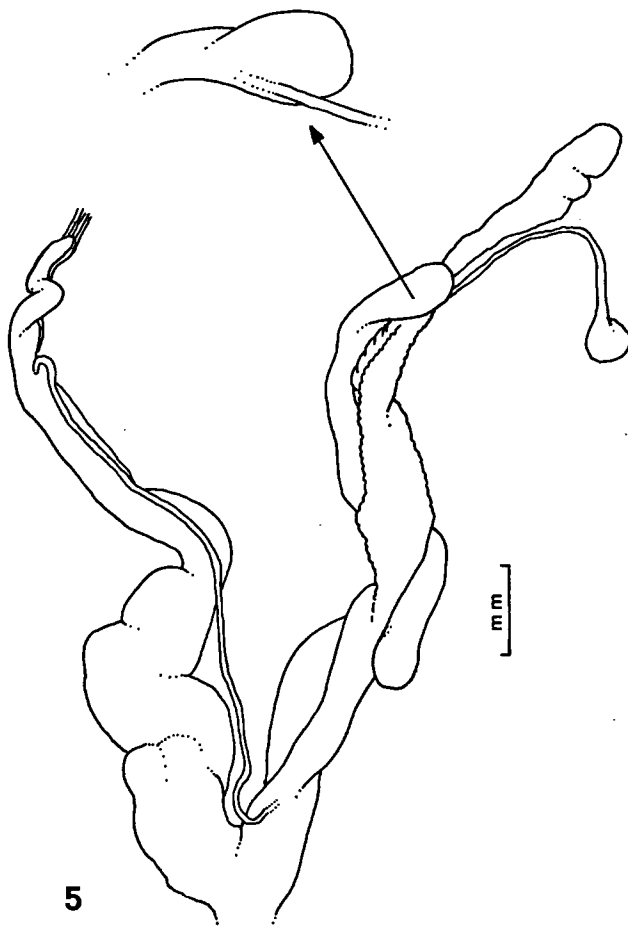


Fig. 5. Genitalia of *Simpulopsis (S.) wiebesi* sp.n., NRS 2505 (holotype).

Type locality — Brazil, Santa Catarina, Nova Teutonia.

Material — NRS 2505, F. Plaumann leg., 1938: holotype.

Measurements — Shell height 8.1 mm, diameter 7.1 mm, aperture height 5.2 mm, width 4.4 mm.

Genitalia (fig. 5) — Penis swollen, S-shaped, constricted at transi-

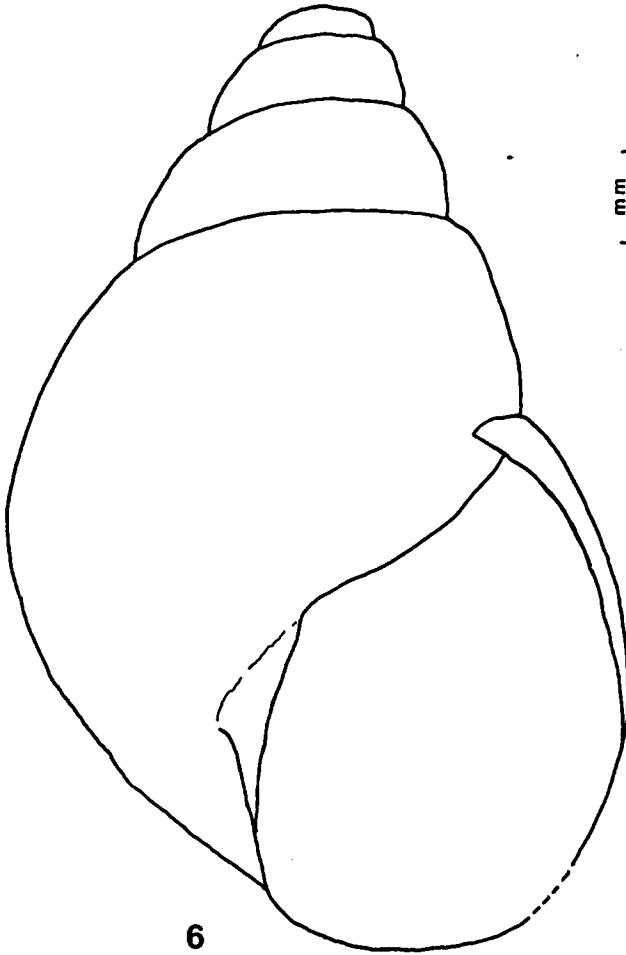


Fig. 6. Outline of shell of *Simpulopsis (Eudiotus) cf. citrinovitrea* (Moric.), NRS 2368.

tion to epiphallus, which is about as long as penis. Retractor muscle inserted at distal end of epiphallus. Second retractor muscle not observed. Flagellum about half as long as epiphallus. Vagina rather short. Oviduct moderately long. Spermathecal appendix elongated-globose.

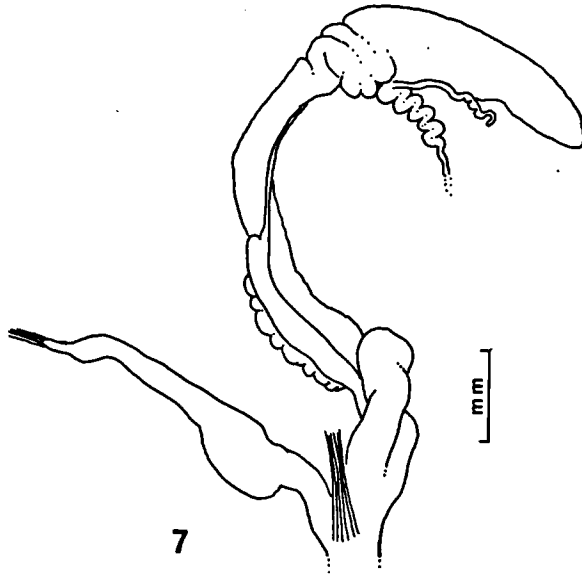


Fig. 7. Genitalia of *Simpulopsis (Eudioptus) cf. citrinovitrea* (Moric.), NRS 2443.

Etymology — I have much pleasure in naming this species after Prof.dr. J.T. Wiebes, incumbent of the chair of Systematic Zoology and Evolutionary Biology at Leiden University.

Simpulopsis (Eudioptus) cf. citrinovitrea (Moricand, 1836)

Two lots with specimens tentatively identified as *Simpulopsis citrinovitrea* were collected on 22.VIII.1936 (NRS 2368, 5 specimens) and VII.1937 (NRS 2443, 10 specimens) respectively. The specimens, which are slightly immature, differ from typical *Simpulopsis citrinovitrea* as follows:

- (1) smaller, with a lower shell height/whorls ratio: 2.48 vs. 3.33;
- (2) surface with both growth lines and numerous, delicate spiral striae;
- (3) aperture not oblique.

The genitalia (fig. 7) are as described for *Simpulopsis citrinovitrea* (Araujo, 1971: 78, figs. 11-14).

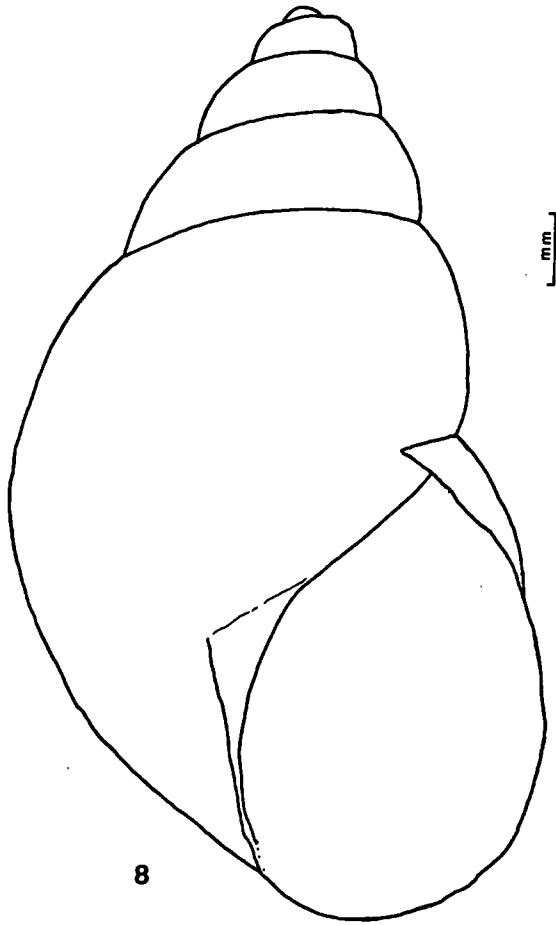


Fig. 8. Outline of shell of *Simpulopsis (Eudiotus) araujoi* sp.n., NRS 2371 (holotype).

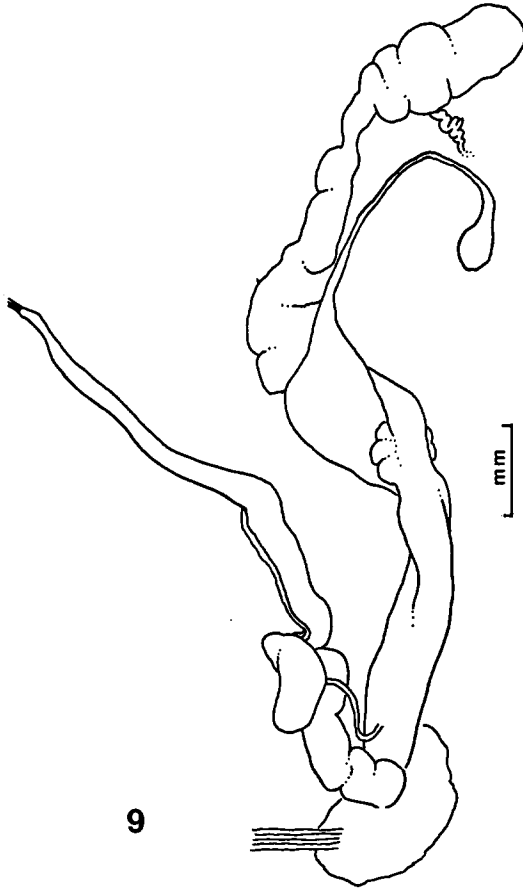


Fig. 9. Genitalia of *Simpulopsis (Eudiptus) araujo* sp.n., NRS 2504 (paratype).

Simpulopsis (Eudioptus) araujo sp.n.

Diagnosis — A species of *Simpulopsis (Eudioptus)* characterized by its brownish colour, elongated spire, protoconch with axial riblets, subovate aperture.

Description — Shell up to 15.2 mm long, 1.63 times as long as wide, perforate, sides nearly straight, rather elongate, thin. Colour brownish to light yellowish-brown. Surface lustreless, sculptured with growthlines and numerous, delicate spiral striae. Protoconch sculptured with axial riblets, the intervals 3-4 times as broad as the riblets, and dense spiral striae, the latter being slightly more prominent than the former. Whorls 4.7, slightly convex. Suture well impressed. Aperture subovate, faintly brownish to whitish inside, about 1.52 times as long as wide. Peristome thin, not expanded. Columellar margin hardly reflexed, dilated above; whitish.

Type locality — Brazil, Santa Catarina, Nova Teutonia.

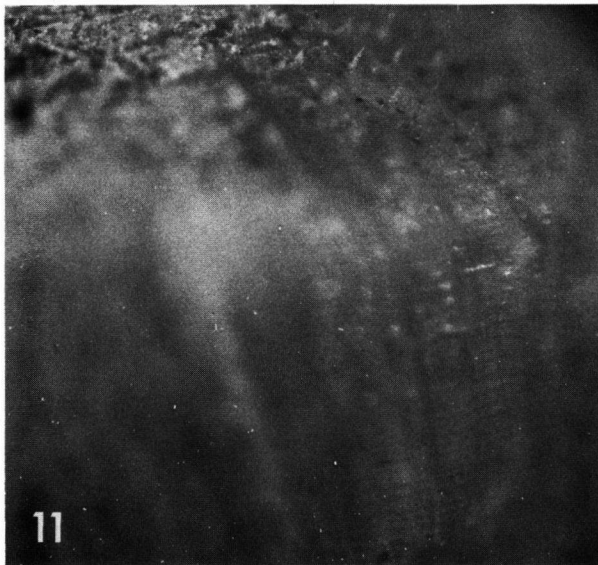
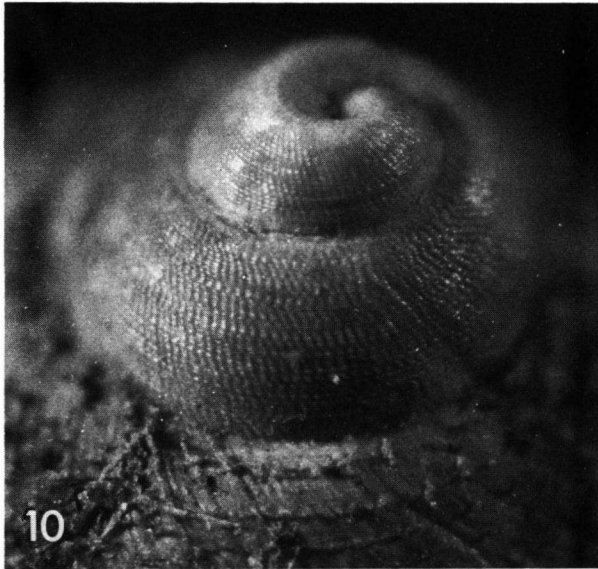
Material — NRS 2371, 2 specimens, F. Plaumann leg., 28.VIII.1936 (includes holotype); NRS 2442, 4 specimens, F. Plaumann leg., VII.1937; NRS 2504, 2 specimens, F. Plaumann leg., 1.1938; RMNH 55076, 1 specimen (duplicate ex NRS 2371).

Measurements — The following measurements are in mm:

| shell | | aperture | | height | number of | |
|--------|----------|----------|-------|------------|-----------|----------|
| height | diameter | height | width | last whorl | whorls | |
| 12.5 | 7.5 | 6.4 | 4.3 | 9.7 | 4.8 | holotype |
| 12.7 | 7.6 | 7.1 | 4.8 | 9.6 | 4.8 | NRS 2371 |
| 11.5 | 7.5 | 6.2 | 4.4 | 8.8 | 4.7 | RMNH |
| 11.5 | 6.8 | 6.1 | 3.7 | 8.8 | 4.7 | NRS 2442 |
| 9.6 | 6.0 | 5.3 | 3.2 | 7.3 | 4.3 | NRS 2442 |
| 11.3 | 7.1 | 6.1 | 4.2 | 8.6 | 4.7 | NRS 2504 |
| 10.7 | 6.4 | 5.9 | 3.9 | 8.3 | 4.6 | NRS 2504 |

Genitalia (fig. 9) — Penis elongated, with sheath. Epiphallus about as long as penis. Flagellum one and a half times the length of the epiphallus. Retractor muscle distally inserted at flagellum. Second retractor muscle inserted at body wall near genital atrium. Vagina comparatively long. Spermathecal duct without spermathecal appendix but with median swelling.

Etymology — Named in honour of prof. J.L. de Barros Araujo, Rio de Janeiro.



Figs. 10-11. *Simpulopsis* (*S.*) *wiebesi* sp.n., NRS 2505 (holotype). 10. Protoconch. 11. Sculpture of last whorl.

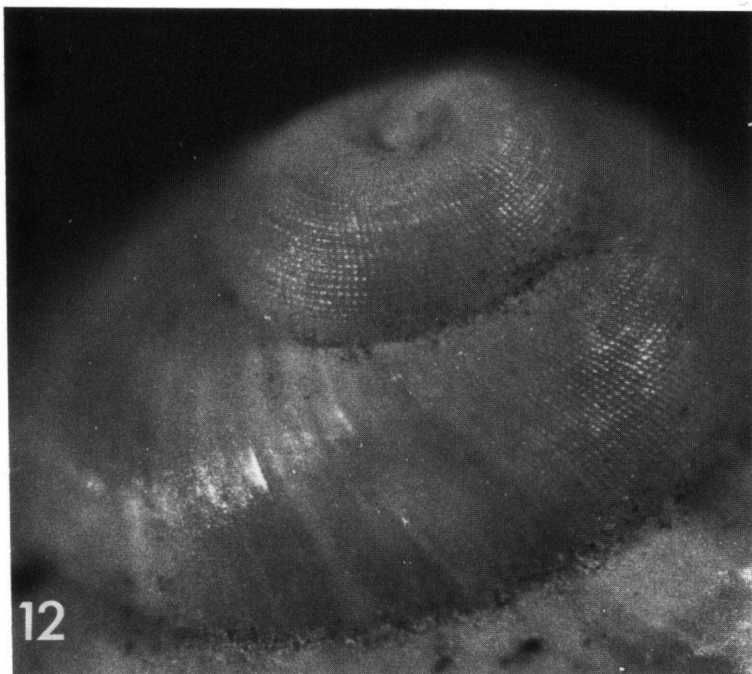


Fig. 12. *Simpulopsis* (*S.*) *pseudosulculosa* sp.n., protoconch, NRS 2503 (holotype).

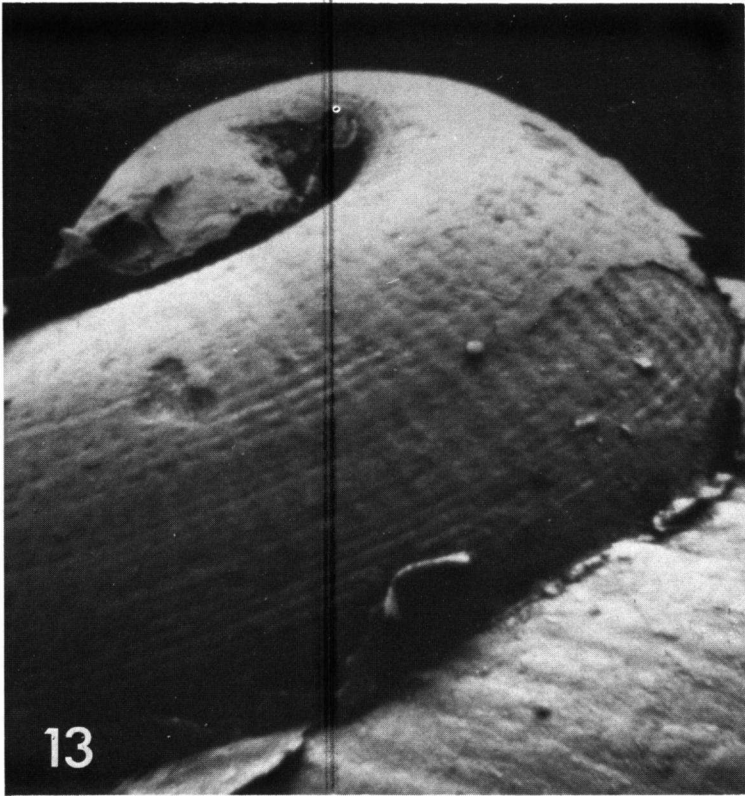


Fig. 13. *Simpulopsis* (*Eudiotus*) *araujo* sp.n., protoconch, NRS 2442 (paratype).

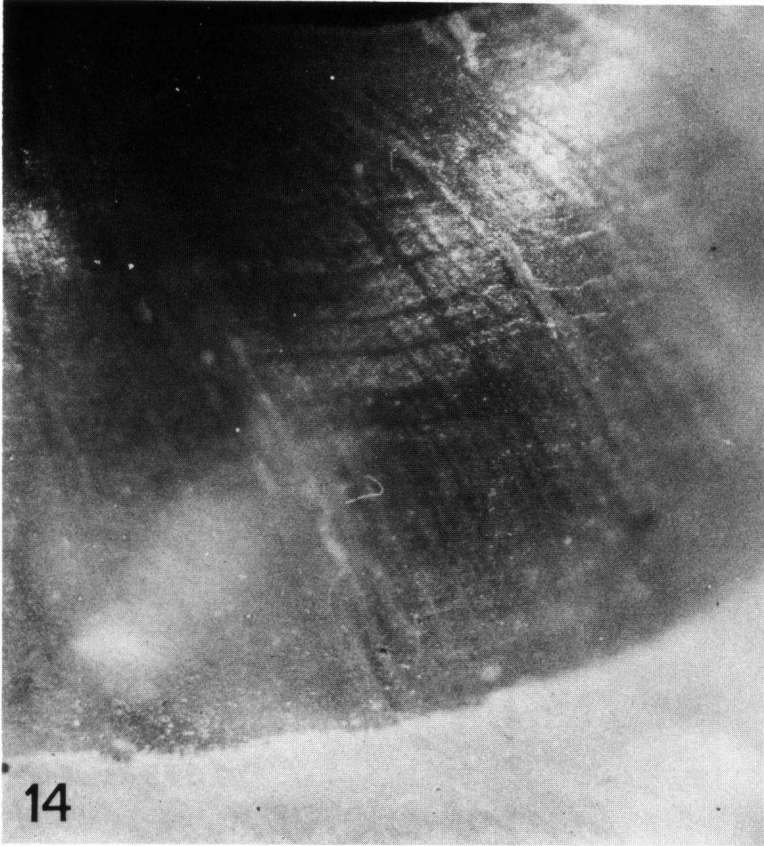


Fig. 14. *Simpulopsis (Eüdioptus) araujo* sp.n., sculpture of penultimate whorl, NRS 2371 (holotype).

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