

einzigste Paratypus (ein semiadultes Exemplar mit 4½ Umgängen) befindet sich im Naturhistorischen Museum der Bulgarischen Akademie der Wissenschaften in Sofia.

**Ableitung des Namens.** Die neue Art wird dem bekannten bulgarischen Zoologen und Biospeläologen, meinem Freund Dr. Petăr BERON (Sofia) gewidmet.

**Vorkommen.** Eine unterirdische Schnecke, die auf der Insel Thira sicher endemisch vorkommt. Das ist die vierte – neben *Oxychilus hydatinus* (ROSSMÄSSLER), *Vitrea clesini* (HESSE) und *V. contracta* (WESTERLUND) – auf Thira festgestellte Zonitiden-Art und gleichzeitig die erste (oder zweite? – neben dem fraglichen *Limax santorinus* LETOURNEUX) für diese Insel völlig endemische Landschnecke (cf. MYLONAS, 1982: 105).

### Zusammenfassung

Die neubeschriebene unterirdische Schnecke *Lindbergia* (*Lindbergia*) *beroni* sp. n. ist mit *L. (L.) orbicularis* (RIEDEL) aus Kreta am nächsten verwandt.

### Summary

#### A NEW LINDBERGIA SPECIES FROM THE ISLAND OF THIRA, GREECE

The subterranean snails species *Lindbergia* (*Lindbergia*) *beroni* sp. n. described as new for science is related nearest to *L. (L.) orbicularis* (RIEDEL) from Crete.

### Literatur

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### Nachtrag

Am 25. 09. 1983 besuchten P. BERON und V. BESHKOV abermals die Höhle Zoodochos auf Thira und hatten weitere Exemplare von *Lindbergia beroni* gefunden (3 + 2 semiad. Schalen und 1 erwachsenes lebendes Tier), die mir Dr. BERON eben zur Untersuchung gesandt hat. Das neue Material stimmt konchyologisch und genitalmorphologisch mit dem Holotypus gut überein und bestätigt die artliche Selbständigkeit der behandelten Schnecke. Die erwähnten Exemplare, in den oben genannten Museen in Sofia und Warszawa aufbewahrt, wurden demnach auch als Paratypen der neuen Art bestimmt.

# MALAKOLOGISCHE ABHANDLUNGEN

## Staatliches Museum für Tierkunde Dresden

Band 10

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Nr. 2

### Some More Data on *Hydrobia ventrosa* (MONTAGU, 1803) and „*Hydrobia*“ *stagnorum* (GMELIN, 1791)

With Remarks on the Genus *Semisalsa* RADOMAN, 1974

(Gastropoda, Prosobranchia, Hydrobioidea)

With 11 Figures

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In a paper on the identity of *Turbo ventrosus* MONTAGU, 1803 and *Helix stagnorum* GMELIN, 1791 BANK, BUTOT & GITTENBERGER (1979) separated the two species on conchological grounds. They stabilized nomenclature by selecting a lectotype and a neotype, respectively, for these nominal taxa. RADOMAN (1979) subsequently proposed another interpretation of the two hydrobiid names involved. RADOMAN's proposal cannot simply be followed because a legal typeselection is protected by the ICZN. Apart from that RADOMAN's proposal does not serve the stability of nomenclature. If BANK et al. (1979) had followed RADOMAN's proposal and had synonymized *H. ventrosa* and *H. stagnorum* by selecting a shell of *Ventrosia stagnorum* sensu RADOMAN from the Kaaskenswater as the neotype of *Helix stagnorum* GMELIN, 1791 the well-known name of *ventrosus* applied to a well-known and common species should give way to the name of *stagnorum*. At the same time a problem would arise in naming the second species of the Kaaskenswater.

It is impertinent even to think about a possible change of a type-species "only in agreement with the International Code by the International Commission". The type-species legally assigned to a genus can never be changed (contra RADOMAN, 1979: 202). BANK et al. (1979) did not change the type species of RADOMAN's genus *Ventrosia*, they only changed the name of the type species. As RADOMAN (1977: 208–209) did not take any action whatsoever to settle legally the taxonomical or the nomenclatural problem, the name *Helix stagnorum* GMELIN remained a disputed name. His paper contained a proposal only. BANK et al. (1979) could not follow this proposal for the above mentioned reasons and their legal action prevented the disappearance of a well-known species name.

RADOMAN (1979: 201–202) questioned the specific identity of *H. ventrosa* sensu BANK et al. and *H. ventrosa* as defined by its lectotype. Therefore we now present a description of *H. ventrosa* of the Kaaskenswater north of Zierikzee on the Island of Schouwen-Duiveland, Prov. of Zeeland, to be compared with literature data. Both GIUSTI (Siena) and the present authors studied the soft parts of *H. ventrosa* and "*H.*" *stagnorum* in animals from the Kaaskenswater, where the two species are living together. GIUSTI's data could be incorporated in the present paper.

### *Hydrobia ventrosa* (MONTAGU, 1803) (figs. 1–3, 8–9)

**Pigmentation.** – The anatomy of *H. ventrosa* has been well described. For the pigmentation we refer to MUUS (1963: 137, fig. 3 B) and JANSSEN & DE VOGEL (1965: 35,

fig. 8 C "*Hydrobia stagnorum*"). The snails from the Kaaskenswater do not differ much from this basic colour pattern. The proboscis is variably pigmented with black mainly at the sides, leaving the frontal small part and a central small or wide region backward unpigmented. The black pigment is sometimes limited to lateral regions in front and behind the tentacles. The tentacles are scarcely pigmented with yellow granules. Very small black granules or even black patches may be present but do not form a regular pattern. Generally the tentacles appear colourless. Orange-yellow kidney-like patches closely behind the front edge of the proboscis as described by SEIFERT (1935: 235 fig. 3a) were not found.

**Pallial tentacle.** — A short triangular pallial tentacle is observed, but not in all individuals.

**Gill lamellae.** — About 28 gill lamellae can be counted.

**Stomach.** — The stomach has a gastric caecum.

**Radula.** — Descriptions and figures of the radula have been published by WOODWARD (1892: fig. B), VAN BENTHEM JUTTING (1922: fig. 8 c), SEIFERT (1935: 236, fig. 2 b and 4) and MUUS (1963: 133, fig. 3 B); see also this paper (fig. 8–9). The central tooth (rhachis) of the taenioglossate radula varies from  $\frac{3+1+3}{1+1}$  to  $\frac{5+1+5}{1+1}$ . The lateral tooth carries (3–4) + 1 + (3–4) cusps. The inner marginal shows 13–16 and the outer marginal tooth carries about 12 cusps. We could not determine the formula  $\frac{(3-4)+1+(3-4)}{(1-2)+(1-2)}$  for the rhachis given by KRULL (1935: 412), as we could not observe a second basal cusp at both sides. VERDCOURT (1948: 2 seq. fig. 3, 5 a, 7 a, c, 9 a, b, d, 10 a) described and figured a radula of *H. ventrosa* of which the rhachis carries two basal cusps at both sides. This could be a radula of *H. neglecta* MUUS, 1963, a species described 15 years after the appearance of VERDCOURT's paper. He studied snails originating from Pevensey (northeast of Eastbourne, Sussex), a new locality for *H. neglecta* in Great Britain if our assumption will prove to be correct. BISHOP (1976 plate 1) published a clear picture of the radula of a male *H. neglecta*.

**Male organ.** — The penis of *H. ventrosa* has been described and figured by KRULL (1935: 433, fig. 16 A), MUUS (1963: 133, fig. 1 A, B), BISHOP (1976: 322, fig. 1 k–o) and RADOMAN (1977: 208, fig. 3 "*Ventrosia stagnorum*"). These figures correspond with our observations (fig. 3).

We found 166 females and 96 males. When sexing the individuals the male organ first appears as a part of a bent tube showing a bright yellow grained pigment at the proximal wall which represents the right side of the penis. The grains become fewer and disappear towards the implantation of the organ on the back of the snail. If the animal has protruded far enough, the slender organ can be seen in full as a coiled tube of one full coil, tapering and bent to the left in a horizontal plane parallel to the back of the animal. It

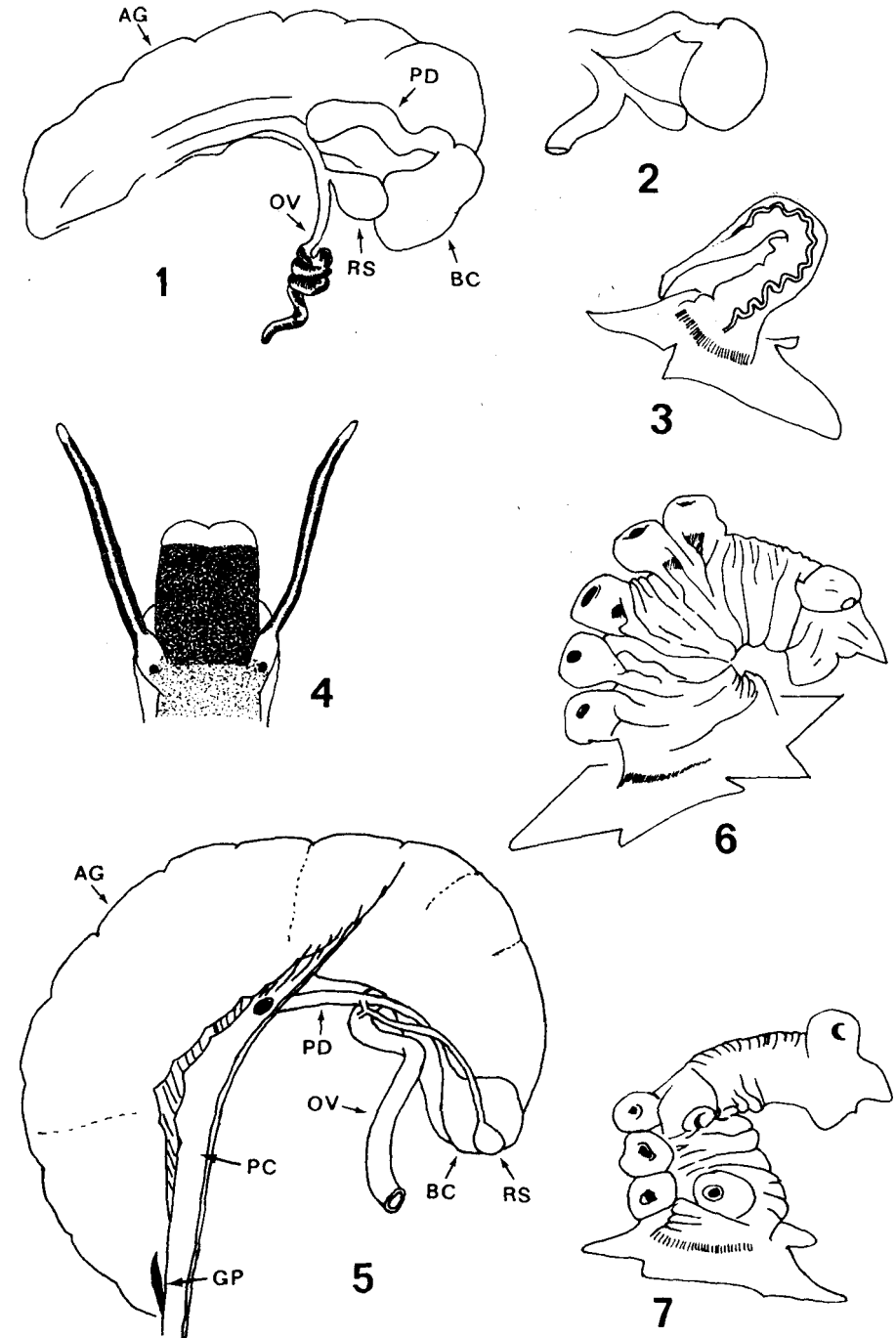


Fig. 1–3. *Hydrobia ventrosa* (MONTAGU), Kaaskenswater north of Zierikzee, R. A. BANK leg., 28. III. 1978. Del. F. GIUSTI. 1: Female reproductive system (without ovary). Abbreviations: AG = accessory gland, BC = bursa copulatrix, OV = oviduct, PD = pedunculus of the bursa copulatrix, RS = receptaculum seminis. 2: A portion of the female reproductive system of another specimen. 3: Verge. (x 50). — Fig. 4. *Semisalsa stagnorum* (GMELIN), Kaaskenswater north of Zierikzee, R. A. BANK leg., 28. III. 1978. Del. F. GIUSTI. 5: Female reproductive system (without ovary). Abbreviations: see fig. 1; GP = gonopore, PC = pallial cavity. 6: Verge. 7: Verge, another specimen. (x 50).



Fig. 8–9. *Hydrobia ventrosa* (MONTAGU), Kaaskenswater north of Zierikzee, R. A. BANK leg., 28. III. 1978. Phot. F. GIUSTI. 8: Radula, 1750 x. 9: Radula, 1450 x.

ends as a fine slenderly pointed and pigmentless penis-tip, which, in living animals, covers the bending top part of the stem rising from the central region of the visible part of the animal's back. The yellow pigment is seen as being of the same granular nature as the pigment in the tentacles, snout and foot. The papilla at the inner side of the curved penis can hardly be discerned in the living animal. It is situated, however, about half the length of the male organ or somewhat higher where the upper half starts coiling. It is only visible when the organ is fully extended which happens now and then if the animal has fully protruded.

**Female genitalia.** — The female genitalia have been described and figured by KRULL (1935: 443, fig. 19 A) and by RADOMAN (1977: 208, fig. 3 A–C "*Ventrosia stagnorum*"). We present some more drawings for comparison (fig. 1–2). The bursa copulatrix



Fig. 10–11. *Semisalsa stagnorum* (GMELIN), Kaaskenswater north of Zierikzee, R. A. BANK leg., 28. III. 1978. Phot. F. GIUSTI. 10: Radula, 1800 x. 11: Radula, 1600 x.

is voluminous and is seen as a rectangular body lying across the pedunculus which is wide and rather short, of about the length of the bursa or somewhat longer. The pedunculus enters the oviduct anterior to the almost sessile receptaculum seminis. The oviduct has not been drawn in its original position so that the receptaculum seminis can be seen more clearly.

#### "*Hydrobia*" *stagnorum* (GMELIN, 1791) (fig. 4–7, 10–11)

The internal and external anatomy of *H. stagnorum* was not known up till now. All records under the names *stagnorum* GMELIN and *stagnalis* BASTER pertain to *H. ventrosa*.

**Pigmentation.** — The proboscis is uniformly black showing an unpigmented region or band along the frontal edge (fig. 4). This pigmentation fades away ventrally. The distal border of the black pigmentation of the snout is a sharp line abruptly separating the paler black shade of the back. Both sides of the tentacles are lined with black pigment. The lower part and the region of the eyes remain unpigmented as are the tips of the tentacles. White granules are visible on the back of the animal and laterally. Sometimes yellow granules are seen, mostly in the lower part of the tentacles. The white granules are also present in the unpigmented parts of the tentacles and are scarcely present higher up. White granules are missing on the proboscis. The foot is of a uniform grey without clearly defined patterns.

**Pallial tentacle.** — There is a pallial tentacle, short and triangular.

**Gill lamellae.** — In the gills of two females 26 and 30 lamellae were counted.

**Stomach.** — The stomach has no gastric caecum.

**Radula.** — All cusps except those of the lateral tooth are smaller and more elegantly built than the cusps in the radula of *H. ventrosa* (fig. 10–11). It is, however, different in some more aspects. The formula for the rhachis has been determined as  $\frac{(5-7) + 1 + (5-7)}{1+1}$

The lateral tooth carries  $5 + 1 + 5$  cusps. The inner marginal shows 23 or 24 cusps as a mean, the cusps of the outer marginal amount to about 27.

**Egg capsules.** — The egg capsules containing one egg are found in large numbers on the shells of living snails. They are brown, clean and without sand grains. Juveniles hatch as creeping snails carrying one-whorled transparent shells.

**Male organ.** — We studied 255 individuals and counted 250 females and 5 males. The penis of the living animal is a very broad and stout organ only slightly tapering to its end (fig. 6–7). It is curved as a semicircle or somewhat longer and carries about six swellings. When the animal protrudes, the organ becomes visible as a black dot. At the same time several black spots can be observed which are each situated at the surface in the centre of a pigmented swelling. When the animal protrudes further, the swellings can be counted. The first swelling is situated near the penis-tip and at a small distance of this swelling five more swellings line up. The six swellings are seen below a black stripe running from the tip of the penis to its base. The small penis-tip is pointing backwardly and is in line with the outer curve, parallel to the back of the animal. The coil starts from a broad base which forms the top of a broad and very short stem implanted on the back of the animal, from where the penis almost directly starts coiling. The tip of the organ hardly reaches the distal part of the inner curvature.

**Female genitalia.** — The accessory gland is divided into three parts: the first, immediately after the gonopore, is greenish, the second is pink and the third is white. The oviduct between ovary and the accessory gland is unpigmented. Before entering into the accessory gland the oviduct is curved more or less Z-shaped. The receptaculum seminis has a long and narrow tube; at the end it splits up. Therefore, the receptaculum seminis enters directly both into the oviduct and into the canal of the bursa copulatrix (fig. 5). Usually the receptaculum seminis is situated on the wall of the bursa copulatrix. The bursa copulatrix has a long tube (pedunculus) which opens into the posterior wall of the pallial cavity; it has no direct connection with the oviduct.

**Remarks.** — The characteristic swellings or papillae on the penis in combination with the unpigmented Z-shaped oviduct refer "*Hydrobia*" *stagnorum* immediately and without doubt to the taxon *Semisalsa* RADOMAN, 1974. Other characters such as radula, shell, stomach and pigmentation are not contradictory.

The structure of the female genitalia is very remarkable. In contrast to hydrobiids, the bursa copulatrix is connected with the wall of the pallial cavity and not with the oviduct. Furthermore, the receptaculum seminis opens both into the oviduct and the canal of the bursa copulatrix (in hydrobiids the receptaculum seminis opens only into the oviduct). The drawings of GIUSTI & PEZZOLI (1980: fig. 11 b, c) of the female genitalia of *Semisalsa aponensis* do not show these characters; this is incorrect. The female genitalia of *Semisalsa aponensis* show the same building-scheme as *Semisalsa stagnorum* (GIUSTI, in litt. 12–II–1982). The same must be concluded from the drawings given by RADOMAN (1974: fig. 4 B, C), BOETERS (1976: fig. 11), BOETERS, MONOD & VALA (1977: fig. 2, 6–7) and SCHÜTT (1980: fig. 18). Only CHUKHCHIN (1976: fig. 5) has published a correct drawing and a correct description of the female genitalia of a *Semisalsa*-species.

**Systematic position.** — The relational connections of *Semisalsa* to other rissoacean taxa are subjects in dispute. RADOMAN (1974: 283) and SCHÜTT (1980: 116) consider this taxon as a separate genus. BOETERS (1976: 99) and BOETERS, MONOD & VALA (1977: 45) refer *Semisalsa* as a subgenus to *Hydrobia* HARTMANN, 1821 in the subfamily Hydrobiinae of Hydrobiidae. GIUSTI & PEZZOLI (1980: 26–28) created a new subfamily Semisalsinae in Moitessieriidae to receive *Semisalsa* as its type genus. BOETERS' criterion (1976: 99): "Da keine markanten conchologischen Unterschiede ermittelt wurden, wird *Semisalsa* zweckmäßig als Untergattung von *Hydrobia* geführt" is unacceptable. Although conchological characters are not always sufficient to discriminate finally between taxa, they present the first available features to recognize groups. So far all shells of *Semisalsa* spp. have thin walls which are about transparent, the lip is not thickened, always sharp and not or hardly reflected. Furthermore, the apical part of the shell is generally not so acute as in *Hydrobia* spp. We accept *Semisalsa* RADOMAN, 1974 as an independent genus. Its systematic position within the old rissoacean stock is, however, uncertain. If one follows the classification of RADOMAN (1973), *Semisalsa* is most closely related to Orientalidae. RADOMAN (1978: 27) changed the family name into Orientalinidae as the name of the type genus *Orientalia* RADOMAN, 1972 had been preoccupied and was changed into *Orientalina* RADOMAN, 1978. BOETERS (1972: 99) included *Moitessieria* and *Paladilhia* into his family Moitessieriidae. Because RADOMAN's family Orientalinidae contains also *Paladilhia*, this family name becomes a junior synonym of Moitessieriidae (GIUSTI & PEZZOLI, 1980: 26). However, the genus *Semisalsa* cannot be placed without difficulties into one of the subfamilies defined by RADOMAN (1973). This induced GIUSTI & PEZZOLI (1980: 26) to create a new subfamily Semisalsinae in Moitessieriidae. Two years later GIUSTI & PEZZOLI (1982: 466) created a new system for Hydrobioidea; *Moitessieria* is now placed in Moitessieriidae where as *Semisalsinae* is placed within the Horatiidae (which is an older name for Orientalinidae). Due to the remarkable construction of the female genitalia the *Semisalsinae*, however, take a very isolated position within the Horatiidae. It remains questionable if this classification is tenable for the future. For the sake of completeness we mention that CHUKHCHIN (1976: 1634) has placed *Semisalsa* in the superfamily Rissoidea instead of Hydrobioidea.

The relations between the species of the genus *Semisalsa* are only badly known. The species originally described in or recently referred to this genus are: *achaja* CLESSIN, 1879 (with subspp. *achaja* and *sorella* WESTERLUND, 1879); *aponensis* MARTENS, 1858 (with subspp. *aponensis* and *duveyrieri* BOURGUIGNAT, 1864); *dalmatica* RADOMAN, 1974; *graeca* RADOMAN, 1974; *maltzani* WESTERLUND, 1886; *peracuta* PALADILHE, 1869; *rausiana* RADOMAN, 1974; *scamandri* BOETERS, MONOD & VALA, 1977; *stagnorum* GMELIN, 1791; *steindachneri* WESTERLUND, 1902 and *tritonum* BOURGUIGNAT, 1852 (cf. RADOMAN, 1974; BOETERS, 1976; BOETERS, MONOD & VALA, 1977; SCHÜTT, 1980). SCHÜTT

(1980: 116) considers *graeca* a synonym of *achaja achaja*. On the ground of the length of the tube to the receptaculum seminis with regard to the truncus bursae BOETERS et al. (1977: 46) considers *dalmatica*, *rausiana* and *graeca*, consequently also *achaja* conspecific with *aponensis* since the genitalia figured for the type species *dalmatica* correspond with the situation found in *aponensis*. RADOMAN (1974) does not give differential anatomic characters that separate *rausiana* and *graeca* from the type species. Therefore BOETERS et al. (1977: 46) have included Jugoslavian and Greek mediterranean areas into the area occupied by *aponensis*. If only the relative length of pedunculus bursae and receptaculum seminis is considered discriminative for *aponensis*, this species should also be considered conspecific with *stagnorum* and could be classified as its subspecies at most. We cannot accept this as correct reasoning. Not only the penes of the two forms are different (tip small on a rather broad base in *dalmatica*, tip long and slender, gradually tapering in *aponensis*) but also the shells of the two forms are clearly different. We therefore consider *aponensis* and *dalmatica* as different species. We share SCHÜTT's opinion in synonymizing *graeca* with *achaja achaja*. The taxon *duveyrieri* is here not considered conspecific with *aponensis* from Northern Italy contra BOETERS (1976: 103). Although the anatomy of the two species has been found identical their shells show clear differences. The distribution area of *S. aponensis* is less extensive than BOETERS et al. (1977: 46, 47) indicated. BANK studied two Spanish samples also studied by BOETERS in the Rijksmuseum van Natuurlijke Historie, Leiden. The sample from Almeria, Albufera de Adra, belongs to a *Semisalsa*-species and is clearly different from topotypes of *S. aponensis*. The whorls are more inflated than in *aponensis* and the sutures are deeper. The shells have a wider umbilicus, the last whorl is not notably larger than the penultimate whorl. The aperture is egg-shaped but rounded instead of oblongly egg-shaped. The sample from Murcia, San Pedro de Pinatar, Mar Menor, does not show the characteristics of a *Semisalsa*-shell and BANK thinks that the shells might belong to a *Hydrobia*-species. A sample from Gerona, Castelló de Ampurias, Lago Mas Turias is also present in the Leiden Museum. These shells show clear *Hydrobia* characteristics and do not belong to *Semisalsa*. It is, however, uncertain if BOETERS determined this sample as *S. aponensis*.

In a paper in Russian on the taxonomic position and ecology of Black Sea Hydrobiidae CHUKHCHIN (1975: 121) validly "described" in a congress abstract *Falsi-hydrobia streletzkensis* gen. et spec. nov., a species living off Sevastopol in the Black Sea. An English summary has been published in Malacological Review 11 (1978). CHUKHCHIN, after a discussion with STAROBOGATOV agreed with the latter that his species belongs to *Semisalsa* (GORYACHEV, in litt. 7-IX-1982). In 1976 CHUKHCHIN mentioned *Semisalsa dalmatica* RADOMAN as a new Black Sea gastropod without reference to his Leningrad paper of 1975, probably looking upon *Falsi-hydrobia streletzkensis* as a nomen nudum which it is not. In his Leningrad paper CHUKHCHIN (1975: 121; 1978: 114) gives various anatomical characters for *Falsi-hydrobia*. Furthermore, he differentiates *F. streletzkensis* against *Falsicingula elegans*. Consequently, *F. streletzkensis* is a valid name because CHUKHCHIN's short description is in agreement with the articles 11, 13 (a) (i), 13 (b) and 68 (c) of the ICZN. In his paper on *Semisalsa dalmatica* CHUKHCHIN (1976: 1633) repeats for this Black Sea gastropod the same locality, sets up the same characters, makes the same comparisons and mentions the same taxa to compare the species with as used in his 1975 paper at the Leningrad meeting. We may safely assume that his figures originate from syntypes of *Falsi-hydrobia streletzkensis* CHUKHCHIN, 1975. Comparing the figures of *Semisalsa dalmatica* given by CHUKHCHIN (1976: fig. 1) with those given by RADOMAN (1974: fig. 1 A) one may conclude that two clearly different species have been involved. The Black Sea species should therefore be known as *Semisalsa streletzkensis* (CHUKHCHIN, 1975) (**comb. nov.**). This species is very similar to *Semisalsa stagnorum*

(GMELIN, 1791). The genus *Falsi-hydrobia* CHUKHCHIN, 1975 is to be regarded a junior synonym of *Semisalsa* RADOMAN, 1974.

The area occupied by the genus *Semisalsa* comprises ("sp." means that it is uncertain how the species must be called): Morocco (*duveyrieri*), Tunisia (*duveyrieri*), Spain (sp.), France (*scamandri*, *peracuta*, ?*stagnorum*), The Netherlands (*stagnorum*), German Democratic Republic (*stagnorum*), North Italy (*aponensis*), Jugoslavia (*dalmatica*, *rausiana*), Greece (*achaja*, *maltzani*, *steindachneri*, *tritonum*), Crimea (*streletzkensis*) and Iran (*aponensis* sensu BOETERS, MONOD & VALA, 1977: 46 = sp.; *Bythinella dantani* GERMAIN, 1911 – locus typicus "lac de Ghom, aux environs de Téhéran" – is, concluding from the description given by GERMAIN a *Semisalsa*-species). To this area belongs also the Island of Corsica (France). Studying the SHUTTLEWORTH collection in the Natural History Museum Berne (May 1980) we came across a sample labelled "Biguglia et St. Florent, Corsica, BLAUNER leg.". Biguglia is situated at the east coast (south of Bastia), St. Florent at the west coast (west of Bastia) of the Island of Corsica. The shells of this sample could be easily divided into two groups: *Hydrobia* spec. and *Semisalsa* spec. The individuals belonging to *Semisalsa* meet very well the description of *Paludestrina bigugliana* CAZIOT, 1908. These shells are probably topotypes of *Semisalsa bigugliana* (**comb. nov.**).

A survey of the known localities and biotopes brings us to the conclusion that *Semisalsa* has a Mediterranean, Lesser Asian and West European distribution, occurring in brackish and freshwater, occupying wells, springs, ponds, lakes and rivers close to the coasts or further inland. The highest chlorine content so far recorded is 8.5 g Cl<sup>-1</sup> (*duveyrieri*) by BOETERS (1976: 104).

The occurrence of one male to 50 females in *S. stagnorum* is remarkable. It is unknown if this phenomenon is found in all species of the genus *Semisalsa*. BOETERS et al. (1977: 48) dissected 16 individuals of *S. scamandri* and did not find any males. BACKHUYS & BOETERS (1974: 114) did not find males among the individuals of *Hydrobia* sp. 2 *Paludestrina meca* (= *duveyrieri*) from Mirhleft, South Morocco. CHUKHCHIN (1978: 114) reported 0.5 % males in *S. streletzkensis*. The species has a direct development, without a pelagic larva. Judging from the very low number of males CHUKHCHIN concludes that reproduction of this mollusc is parthenogenetic. However, although males are scarce throughout the genus *Semisalsa* parthenogenesis has not been established.

Only little is known on the fossil occurrence of *Semisalsa*. RAVEN & KUIJPER (1981: 17, 20, fig. 5c) collected a few specimens of *S. stagnorum* together with thousands of *H. ventrosa* in the basal layer of the Calais III Deposits (early Holocene) near Benthuizen (The Netherlands). WEST & SPARKS (1960: 115, 117, 131–132, plate 16, fig. a–g) described and figured *S. stagnorum* under the name of *H. ventrosa* from Ipswichian deposits (latest interglacial) on the foreshore of the English Channel at Selsey (Sussex). In our opinion the nominal species *Paludestrina deani* KENDALL, 1913, described from "Woodston, Huntingdonshire, in marls and clays of Pleistocene age", is synonymous with *S. stagnorum* (**syn. nov.**). BANK studied topotypes which might be syntypes of this nominal taxon present in the collection of the Geological Survey at Haarlem. *P. deani* is decidedly no representative of the genus *Marstoniopsis* VAN REGTEREN ALTENA, 1936 (contra SCHÜTT, 1974: 477–478). According to WEST & SPARKS (1960: 132) the age of the deposits at Woodston is comparable with that at Selsey. Another locality of *P. deani*, Overton Waterville (Huntingdonshire), is mentioned by KENNARD & WOODWARD (1922: 127–128, 137). These Pleistocene beds are of the same age as those at Woodston (KENNARD & WOODWARD, 1922: 128). Consequently, *S. stagnorum* is known from 3 localities in Great Britain with an Eemian age (Latest Interglacial). In the collection of the Zoological Museum at Amsterdam we found a sample of 7 specimens of *S. stagnorum* labelled „Interglazial von

Benkendorf (Thür.), leg. Wüst" (Thür. = Thuringia, German Democratic Republic). This sample dates from the Eemian and indicates the oldest fossil occurrence of *Semisalsa* on the Continent known so far. It is possible that a number of fossil taxa, at the moment classified in the mammoth-genus *Hydrobia*, in reality belong in *Semisalsa*.

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### Summary

Objections put forward by RADOMAN (1979) against BANK et al. (1979) on the typification of *Turbo ventrosus* and *Helix stagnorum* are discussed. The anatomy which separates generically the two species is described. A survey of the recent and fossil species in *Semisalsa* and their distribution in the old world is presented. *Falsihydrobia* CHUKHCHIN, 1975 and *Semisalsa* RADOMAN, 1974 are identical genera. The systematic position of *Semisalsa* in the systematics of Hydrobiidae remains open.

### Zusammenfassung

WEITERE DATEN ÜBER HYDROBIA VENTROSA (MONTAGU, 1803)  
UND „HYDROBIA“ STAGNORUM (GMELIN, 1791)  
MIT BEMERKUNGEN ÜBER SEMISALSA RADOMAN, 1974

Einwendungen gegen die Typenfestlegung für *Turbo ventrosus* und *Helix stagnorum* durch BANK et al. (1979) von RADOMAN (1979) hervorgebracht, werden besprochen. Die anatomischen Merkmale, die diese zwei Arten und ihre Genera trennen, werden beschrieben. Eine Übersicht der rezenten und fossilen *Semisalsa*-Arten und ihre Verbreitung in der alten Welt werden dargeboten. *Falsihydrobia* CHUKHCHIN, 1975 und *Semisalsa* RADOMAN, 1974 sind generisch identisch. Die systematische Stellung von *Semisalsa* in der Hydrobiidensystematik bleibt offen.

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