

FALNIOWSKIA N. GEN. FOR *BYTHIOSPEUM*
NEGLECTISSIMUM FALNIOWSKI ET ŠTEFFEK, 1989
(MOLLUSCA: PROSOBRANCHIA: HYDROBIIDAE)

RENO BERNASCONI

Hofwilstrasse 9, CH-3053 Münchenbuchsee, Switzerland

ABSTRACT: The new genus *Falniowskia* is created and described for the Polish “*Bythiospeum*” *neglectissimum* from Pradnik Valley.

KEY WORDS: new genus, Carpathian malacofauna, Ojcowski National Park

Folia Malacologica 4/1990 was originally published as No. 1276 of Scientific Bulletins of University of Mining and Metallurgy, Cracow. This digitalised version was prepared by the Association of Polish Malacologists and first published on-line on December 30th, 2016.

RENO BERNASCONI

Falniowska n. gen. for *Bythiospeum*
neglectissimum FALNIOWSKI et ŠTEFFEK,
1989 (*Mollusca: Prosobranchia: Hydrobiidae*)

ABSTRACT

The new genus *Falniowska* is created and described for the Polish "*Bythiospeum*" *neglectissimum* from Pradnik Valley.

A hydrobiid has recently been discovered under wet litter in woods of the Pradnik Valley near Kraków, Poland, and described as *Bythiospeum neglectissimum* (FALNIOWSKI & ŠTEFFEK 1989). However, the attribution of *B. neglectissimum* to the genus *Bythiospeum* is rather questionable with regard to the recent revision and new definition of this genus (BERNASCONI 1990).

The attribution of *B. neglectissimum* to this genus of the *Belgrandiellinae*, respectively *Mollusieridae* was based on the systematics of RADOMAN (1983) respectively GIUSTI & PEZZOLI (1980), namely the lack of the caecal appendix on the stomach and the lack of the second receptaculum seminis of the oviduct.

However, the importance of these two characteristics is relative. DAVIS, MAZURKIEWICZ & MANDRACCHIA (1982) have shown that there is not a true appendix, but only a more or less distended posterior end (protuberance) of the caecal chamber of the stomach, and that this feature is not suitable for the distinction of genera and families. In the genus *Phreatodrobia* (*Hydrobiinae*) for example, the caecal appendix is present in four species and absent in three ones (HERSHLER & LONGLEY 1986).

Similarly, the number of receptaculi seminis is of subordinate importance; in the genus *Horatia* for example the second receptaculum may be absent or present (RADOMAN 1983).

Therefore the combination of characteristics seems to be more important and more reliable for a correct systematic attribution than a single characteristic. The systematic attribution of *neglectissimum* should be tried with a convergence analysis (Table 1).

The evaluation of 19 characteristics (52 items) shows that *neglectissimum* exhibits only 42% of common characteristics with the genus *Bythiospeum*. In opposition, *neglectissimum* exhibits



53% to 63% of common characteristics with the genera *Hydrobia* and *Pseudamnicola* (*Hydrobiidae* sensu RADOMAN), and 63% to 68% of common characteristics with the genera: *Orientalina*, *Anagastina*, *Grossuana* and *Belgrandia* (*Orientaliniidae* sensu RADOMAN). The greatest rate of convergence is with *Orientalina curta*. In this convergence analysis, the species of the same genera/subgenera exhibit a rate of convergence between 89% and 100%.

We may conclude, that *neglectissimum*: (1) is not a *Bythiospeum*; (2) exhibits more affinities to the genera *Hydrobia*, *Orientalina* and related genera; (3) cannot be attributed to an existent genus, particularly to the genus *Orientalina*. Therefore, *neglectissimum* has to be considered as a representative of an independent, new genus.

Falniowska n. gen.

Type species: *Bythiospeum neglectissimum* FALNIOWSKI et ŠTEFFEK, 1989

Synonymy: none

Ethymology: named after the first describer

Species included: thus far monotypic

Distribution: Poland (Carpathians)

Ecology: amphibious near freshwater, under litter

Description: Shell minute, ovately-conical. Head pigmented, with eyes. Radula central tooth with 1 + 1 basal cusps. Operculum corneous paucispiral, smooth. Stomach without caecal appendix. Penis conical with a lateral lobe and an apical filament, like the penis of *Hydrobia ventrosa*. Oviduct not pigmented, with a single elongated U-shaped coil; a bag-shaped, small bursa copulatrix with a short, apically inserted duct, not exceeding the albumen gland; only one receptaculum seminis with a short duct.

Affinities: Shows similarities with *Hydrobia ventrosa* (bursa copulatrix and receptaculum seminis morphologies, penis morphology, head pigment and eyes, shell). Differs from *Hydrobia* by the lack of the caecal appendix, the lack of pigment on the oviduct, the lack of oviduct coils making a ball.

Shows similarities with *Orientalina curta* (penis morphology, head pigment and eyes; no pigment on the oviduct). Differs from *Orientalina* by the lack of the second receptaculum seminis, the lack of the second lobe of the outgrowth of the penis; by the presence of a penis apical filament.

Differs from *Pseudamnicola* by the lack of the caecal appendix, the lack of pigment on the oviduct; by the presence of an outgrowth on the penis.

Differs from *Bythiospeum* and related genera (*Paladithiopsis*, *Iglica*) by the presence of pigment, eyes, an outgrowth and an apical filament on the penis; by the small not inflected bursa copulatrix; by the ovately-conical shell without sinus; by the ecology.

REFERENCES

- BERNASCONI R. 1990. Revision of the genus *Bythiospeum* (Mollusca: Prosobranchia: Hydrobiidae) of France, Switzerland and Germany. Ed. Bernasconi, Münchenbuchsee, ISBN 3-905167-01-8.
- DAVIS G. M., MAZURKIEWICZ M. & MANDRACCHIA M. 1982. *Spurwinkia*: morphology, systematics, and ecology of a new genus of North American marshland Hydrobiidae (Mollusca: Gastropoda). - *Proceedings of Academy of Natural Sciences of Philadelphia*, **134**: 143-177.
- FALNIOWSKI A. & ŠTEFFEK J. 1989. A new species of *Bythiospeum* (Prosobranchia: Hydrobioidea: Mollusci) from Southern Poland. - *Folia Malacologica*, **3**: 95-101.
- GIUSTI F. & PEZZOLI E. 1980. Gasteropodi, 2 (Gastropoda: Prosobranchia: Hydrobioidea, Pyrguloidea). Consiglio Nazionale delle Ricerche AQ/1/47, Guide per il riconoscimento delle specie animali delle acque interne italiane, **8**, Verona.
- HERSHLER R. & LONGLEY G. 1986. Phreatic Hydrobiids (Gastropoda: Prosobranchia) from the Edwards (Balcones fault zone) aquifer region, South-Central Texas. - *Malacologia*, **27**, 1: 127-172.
- ILLIES J. (ed.) 1978. Limnofauna europaea. 2. Ausgabe. Gustav Fischer Verlag, Amsterdam.
- RADOMAN P. 1983. Hydrobioidea, a superfamily of Prosobranchia (Gastropoda). I. Systematics. - *Monograph of Serbian Academy of Sciences and Arts*, Vol. **DXLVII**, Department of Sciences, **57**: 1-256, Beograd.

Hofwilstrasse 9
Postfach 63
CH-3053 Münchenbuchsee, Switzerland

STRESZCZENIE

Falniowskia n.gen. for *Bythiospeum neglectissimum*
FALNIOWSKI & ŠTEFFEK, 1989
(Mollusca: Prosobranchia: Hydrobiidae)

Nowy rodzaj *Falniowskia* został opisany dla polskiego *Bythiospeum neglectissimum* FALNIOWSKI et ŠTEFFEK, 1989 z Doliny Prądnika (Ojcowski Park Narodowy).

Table 1

		Convergence analysis																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	<i>-neglectissimum</i>	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a	a
	<i>Bythospeum:</i>																			
8	<i>-diaphanum</i>	b	a	b	a	b	b	a	a	a	b	a	c	b	b	d	a	c	c	
8	<i>-alpinum</i>	b	a	b	a	b	b	a	a	a	b	a	c	b	b	d	a	c	b	
	<i>Iglica:</i>																			
9	<i>-luxurians</i>	b	a	a	a	b	b	a	a	a	b	a	b	b	b	d	a	c	d	
9	<i>-tschapeki</i>	b	a	a	a	b	b	a	a	a	b	a	b	b	b	d	a	c	b	
	<i>Paladiformopsis:</i>																			
7	<i>-robiciana</i>	b	b	b	a	b	b	a	a	a	b	a	c	b	b	d	a	c	bd	
	<i>Belgrandiella:</i>																			
11	<i>-saxatilis</i>	ab	a	a	b	a	a	a	a	a	b	a	c	b	b	a	b	c	be	
11	<i>-kuscari</i>	a	a	a	b	a	a	a	a	a	b	a	c	b	b	a	b	c	d	
	<i>Orientalina:</i>																			
13	<i>-curia</i>	ab	a	a	a	a	a	a	a	a	b	a	b	d	b	a	a	bc	d	
	<i>Anagastina:</i>																			
12	<i>-vidrovani</i>	b	a	a	a	a	a	a	a	a	b	a	b	d	b	a	a	bc	d	
	<i>Grossuana:</i>																			
12	<i>-serbica</i>	a	a	b	b	a	a	a	a	a	b	a	b	d	a	a	a	c	d	
	<i>Belgrandiella</i>																			
12	<i>-caprai</i>	a	c	a	a	a	a	a	a	a	b	a	b	d	b	a	a	b	e	
	<i>Lithabrella:</i>																			
10	<i>-chiodia</i>	b	a	a	a	a	ab	a	a	a	b	a	b	d	b	e	b	c	d	
	<i>Pseudamnicola:</i>																			
11	<i>-lucensis</i>	a	a	a	a	a	a	a	a	b	a	c	b	b	a	b	b	a	b	e
12	<i>-moussoni</i>	a	a	a	a	a	a	a	a	b	a	c	b	b	a	b	b	a	ab	e
10	<i>-conovida</i>	a	a	a	a	a	a	a	a	b	a	c	b	b	b	b	a	b	d	
11	<i>-macrostoma</i>	a	a	a	a	a	a	a	a	b	a	c	b	b	a	b	d	a	b	d
	<i>Ps. (Corosella):</i>																			
10	<i>-fallmeri</i>	a	a	a	b	a	a	a	a	b	a	c	b	c	a	b	b	a	b	e
10	<i>-antelsensis</i>	a	a	a	b	a	a	a	a	b	a	c	b	c	a	b	b	a	b	e
	<i>Mercuria:</i>																			
8	<i>-similis</i>	a	a	a	b	a	a	b	b	b	a	c	a	b	c	b	c	a	b	e
9	<i>-zopissa</i>	a	a	a	b	a	a	b	a	b	a	c	a	b	c	b	c	a	b	e
	<i>Hydrobia:</i>																			
12	<i>-ventrosa</i>	ab	a	a	a	a	a	b	b	b	b	c	b	a	a	a	a	d	ade	
10	<i>-ulvae</i>	b	a	a	a	a	a	b	b	b	b	c	b	a	a	b	a	a	d	ae
10	<i>-neglecta</i>	b	a	a	a	a	a	b	b	b	b	c	b	a	a	b	a	a	d	a
	<i>Adriohydrobia:</i>																			
11	<i>-gagatinella</i>	a	a	a	a	a	a	a	a	b	b	c	b	a	a	b	d	a	bd	d
	<i>Potamopyrgus:</i>																			
11	<i>-jenkinsi</i>	b	c	a	a	a	a	a	b	b	a	a	a	a	b	d	c	bd	a-e	

* common characteristics with *neglectissimum*

1	Shell	(a) ovately-conical, shell index L/W < 1.8 (b) elongated-conical, shell index L/W > 1.8
2	Shell	(a) smooth (b) with spiral lines (c) with whorl keel or with aperture humps
3	Aperture	(a) ovate without sinus, not inflected (b) ovate with a sinus like a pleurotomoidal channel; inflected forward
4	Operculum	(a) colourless or corneous yellowish (b) red/brown/orange coloured
5	Head pigment	(a) present (b) absent
6	Eyes	(a) present (b) absent
7	Foot	(a) without lateral wings (b) with lateral wings

- 8 Pallial tentacle (a) absent
(b) present
- 9 Stomach (a) without coecum appendix
(b) with coecum appendix
- 10 Ctenidium (a) with 12-24 gills
(b) with 17-36 gills
- 11 Oviduct coil (a) U-shaped, little or no dilated, free
(b) Ω -shaped, dilated, \pm leant against the albumen gland
(c) spiral shaped making a ball; or a single O-coil + ann elongated U-coil
- 12 Oviduct pigment (a) absent
(b) present
- 13 Bursa copulatrix (a) small, not inflected, with a short duct; not exceeding the albumen gland
(b) middle-sized, not inflected, with a \pm long duct; exceeding the albumen duct
(c) large, inflected, with a long duct; exceeding the albumen gland
- 14 Receptac.semin. (a) 1 receptaculum seminis, roundish, with a short duct
(b) 1 receptaculum seminis, club-shaped, with a long duct
(c) 1 receptaculum seminis, button-shaped, sessile
(d) 2 receptaculi seminis
- 15 Penis (a) awl-shaped with a filiform apex
(b) conical or cylindrical with a short apex
- 16 Penis outgrowths (a) side lobe
(b) lateral folds
(c) big hold-fast lobe
(d) simple without lobes
(e) side lobe and glandulous papillae
- 17 Radula central tooth (a) with 1 + 1 cusps
(b) with 2 + 2 cusps
(c) with 3 + 3 cusps
- 18 Ecology (after ILLIES) (a) amphibious, wet soil
(b) Alps
(c) western and central Middle Ranges
(d) western Balcans and Hungarian Plain
(e) western and central Mediterranean regions