

# On *Trichia alpicola* (Eder, 1921) from Switzerland (Mollusca: Gastropoda Pulmonata: Hygromiidae) and the spiral sculpture on its shell

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Gittenberger, E. & W. H. Neuteboom. On *Trichia alpicola* (Eder, 1921) from Switzerland (Mollusca: Gastropoda Pulmonata: Hygromiidae) and the spiral sculpture on its shell.

Zool. Med. Leiden 65 (17), 24.xii.1991: 247-250, figs. 1-7.— ISSN 0024-0672.

Key words: Pulmonata; Hygromiidae; *Trichia*; taxonomy; microsculpture; Switzerland.

The nominal taxon *Fruticicola villosa* var. *alpicola* Eder, 1921, is provisionally considered a separate *Trichia* species next to *T. villosa*. The hairs and the spiral sculpture on the shells of both species are illustrated.

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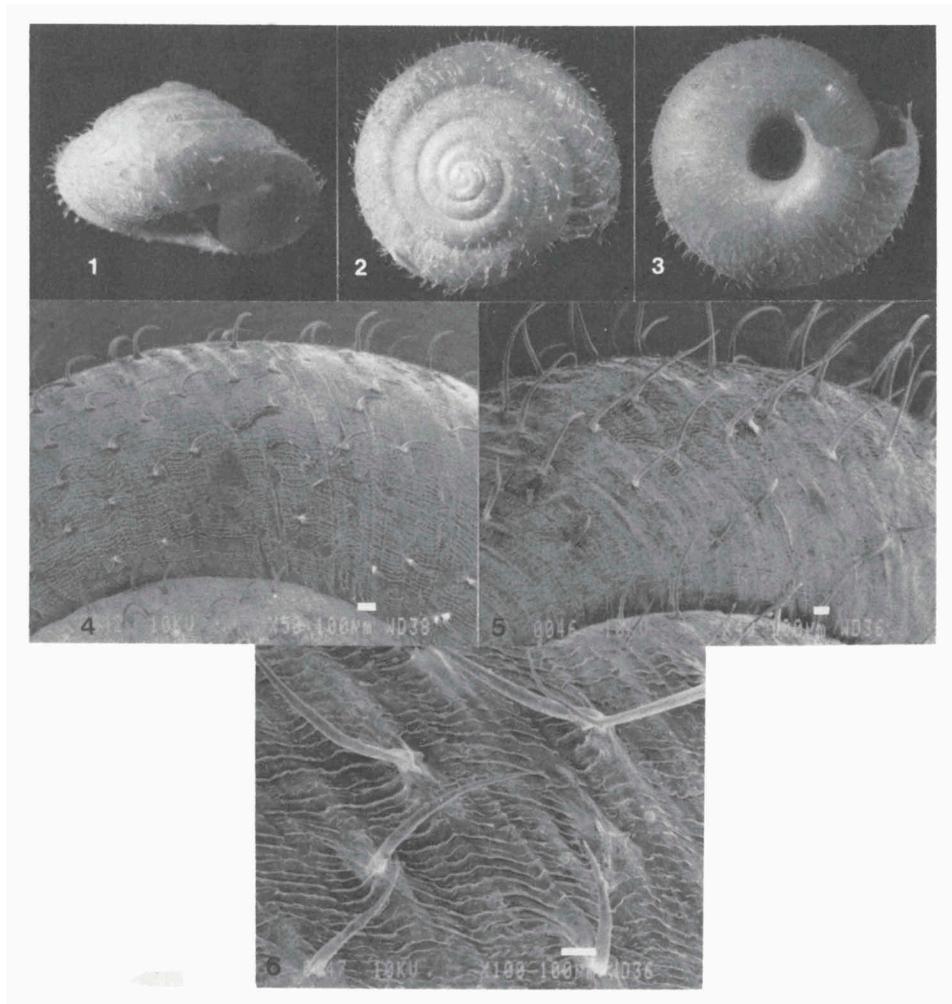
## Introduction

The genus *Trichia* Hartmann, 1840, is represented in Europe by many forms that are still (very) poorly known, although there is a wealth of names available for their discrimination. *T. villosa* (Draparnaud, 1805) is one of the few species with shells that seem to be rather invariable in size and shape, and easily recognizable by the presence of very long hairs (e.g. Kerney & Cameron, 1979: pl. 19 fig. 7); Ehrmann (1933: 127) mentioned additionally a microsculpture of spiral striae, a character neglected in *Trichia* by most later authors. Several authors reported only an alpine variety of *T. villosa*, that was originally described as *Fruticicola villosa* var. *alpicola* by Eder (1921).

The second author of the present paper collected ten subadult specimens of this "variety" at its type locality, the Bannalp pass in the Kanton of Nidwalden, Switzerland, at 2000-2100 m altitude. He was struck by the conspicuous differences with typical *T. villosa*, in size, general shape and length of the hairs. This resulted in the present short note.

## Notes

*Fruticicola villosa* var. *alpicola* was described in much detail by Eder (1921: 228-231), who emphasized that it concerns a clearly differentiated form. The shell (figs. 1-4) measures 6.8-10.0 mm in width and 3.5-5.5 mm in height, instead of 11-14 mm x 6.5-7.8 mm in *T. villosa* (Eder, 1921: 230; Ehrmann, 1933: 127). It has a low conical spire, which is not particularly depressed; the body-whorl is regularly rounded, with a medial periphery, and not vaguely shouldered as in *T. villosa*. The periostracal hairs are shorter than in *T. villosa* (figs. 4, 5), which was also emphasized by Eder (1921: 230), who indicated a length of 0.17-0.47 mm versus 0.6-1.5 mm, which is in agreement with our findings.



Figs. 1-6. *Trichia* species. 1-4, *T. alpicola* (Eder), Switzerland, kanton of Nidwalden, Bannalp pass, between Urnerstafel and the pass, 2000-2100 m alt.; W.H. Neuteboom leg. 1-3, subadult shell, actual width 7.9 mm; 4, detail of the fourth whorl. 5, 6, *T. villosa* (Draparnaud), details of the third/fourth whorl; Switzerland, kanton of St. Gallen, deciduous forest at the Gamser Berg between Buchs and Wildhaus; E. Gittenberger leg. Scale bars in figs. 4-6: 0.1 mm.

Unfortunately it remains unclear whether Eder has seen forms that are entirely intermediate between what he called the variety and the typical form. Such hybrid forms, decisive for the taxonomic status of these taxa, are at least not clearly described. Specimens are mentioned (p. 231) that are said to be alpine dwarf-forms with hairs of the typical form (from Kandersteg and Innertkirchen), and shells that come close to the variety (from Oberrickenbach) or are identical with it (from Frutt, 1900 m alt.).

Eder (1921: 230-231) reported that the genitalia of the variety are very similar to those of *T. villosa* sensu stricto, except for a longer spermathecal duct, generally an

additional mucous gland (eight in total), and bigger dimensions in the former form. He considered the larger size of the genitalia in the alpine variety an obvious adaptation to harsh conditions in the mountains (“..ist gewiß als Anpassung an die schwierigen Fortpflanzungsverhältnisse im Gebirge aufzufassen.”). With only a single specimen available for anatomical study, sub-adult according to its shell, we can neither contradict nor confirm Eder’s data. The specimen in question (fig. 7) is a typical *Trichia* species.

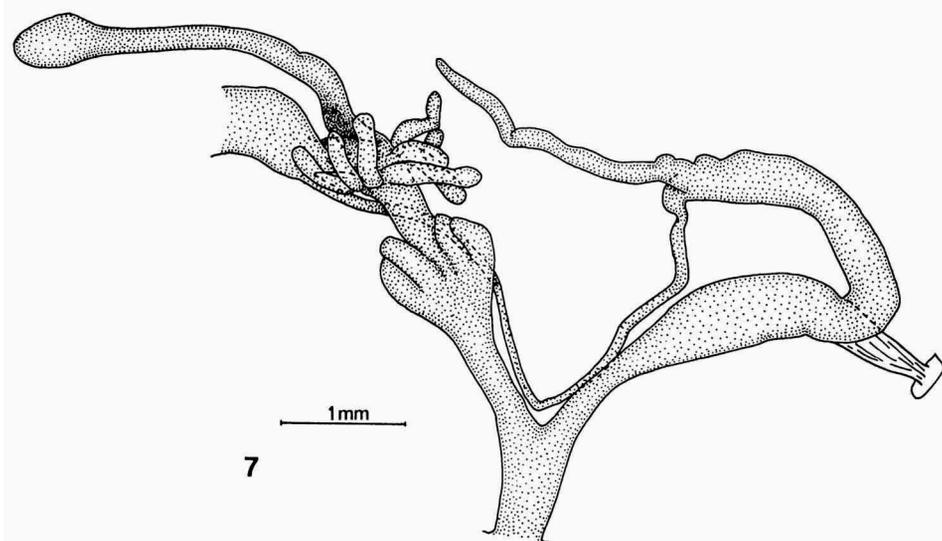


Fig. 7. *Trichia alpicola* (Eder), genitalia, Switzerland, kanton of Nidwalden, Bannalplass, between Urnertafel and the pass, 2000-2100 m alt., W.H. Neuteboom leg.

Because of the magnitude of the differences, the lack of data concerning intermediate forms, and the fact that *T. villosa* has a wide alpine range from which no obvious altitudinal variation is known, we prefer the working hypothesis that *Trichia alpicola* (Eder, 1921) is a separate species. At least phenetically, it belongs to a species group then with *Trichia phorochaetia* (Bourguignat, 1864) (see De Winter, 1990), *T. villosa* and *T. villosula* (Rossmässler, 1838). These species are conchologically characterized by conspicuous hairs and a spiral sculpture of periostracal ridges (figs. 4-6).

According to Klemm (1974: 399), a relatively small and depressed form of *T. villosa* occurs in Austria. He used the epithet *alpicola* for this form as well. It remains uncertain, however, whether he did so correctly. The shells of *T. alpicola* from the type locality are even less depressed than most shells of *T. villosa* known to the present authors. The Austrian material should be re-studied, taking into account the dimensions of the shells, the location of the periphery on the body-whorl, and the length of the periostracal hairs.

The main questions to be solved, apart from the general systematics of the genus *Trichia* Hartmann, 1840, concern (1) the nature of the alleged intermediate forms between *T. alpicola* and *T. villosa*, (2) the anatomical characters of both taxa, (3) the distribution of *T. alpicola* in Switzerland and maybe Austria, (4) the occurrence of alpine forms of *T. villosa* and their morphology, (5) the nomenclature, especially the

question whether *T. alpicola* is the oldest name for the taxon (most probably so, if its distribution is restricted to a small area in Switzerland).

### References

- Eder, L., 1921. Zur Gastropodenfauna Unterwaldens (Schweiz).— Arch. Molluskenk. 53: 217-237.
- Ehrmann, P., 1933. Weichtiere, Mollusca. In Brohmer, Ehrmann & Ullmer, Tierwelt Mitteleuropas II, 1: 1-264. Leipzig.
- Kerney, M.P., & R.A.D. Cameron, 1979. A field guide to the land snails of Britain and North-west Europe: 1-288. London.
- Klemm, W., 1974. Die Verbreitung der rezenten Land-Gehäuse-Schnecken in Österreich.— Denkschr. österr. Akad. Wiss. Wien, math.-naturw. Kl. 117: 1-503.
- Winter, A.J. de, 1990. Little known land snails from the French Alps (Pulmonata).— Basteria 54: 227-237.

Received: 8.v.1991

Accepted: 12.ix.1991

Edited: J.C. den Hartog