

SHORT COMMUNICATION

A new Middle Miocene *Niveria* Jousseau, 1884 (Mollusca: Gastropoda: Trivioidea) from Hungary

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Abstract: A new species of *Niveria* from the Middle Miocene (Badenian) of the Paratethys of Borsodbóta, Hungary is described. This species is characterized by its callused dorsum and dorsal depression. *Niveria jozefgregoi* sp. nov. is discussed with comparative species from the Badenian of Hungary, the Pliocene of the Mediterranean region, Florida and Recent species from Madeira and the Islas Galápagos.

Key words: Badenian, Paratethys, taxonomy, molluscs, Triviidae.

Introduction

The Miocene Triviidae of Europe have yet to be revised as the original illustrations and original descriptions are insufficient and the type specimens are difficult to locate (e.g. collection Grateloup: Bruno Cahuzac, Université Bordeaux, pers. comm.). The shell morphology of most species is more or less similar to *Niveria nix* (Schilder, 1922) — the type species of the genus *Niveria* Jousseau, 1884 (syn. *Sulcotrivia* Schilder, 1933). They are characterized by a dorsal sulcus or a dorsal depression where the ribs are bisected or depressed. Therefore, the new species is assigned to the genus *Niveria*. There is a small group of species among *Niveria* that possess dorsal callosities. Taxa of this group are *Niveria permixta* (de Cristofori & Jan, 1832) from the Mediterranean Pliocene, *Niveria floridana* (Olsson & Harbison, 1952) and *Niveria incomparabilis* Fehse, in print from the Florida Pliocene, *Niveria pulloidea* (Dall & Ochsner, 1928) from the Pleistocene and Recent of the Islas Galápagos (Fehse, in print) and *Niveria grohorum* Fehse & Grego, 2008 from Madeira. The first species from the Miocene has been discovered from the Badenian of the Paratethys of Borsodbóta, Hungary and it is described herein as *Niveria jozefgregoi* sp. nov.

Abbreviations

ANSP	Academy of Natural Sciences, Philadelphia, Pennsylvania, U.S.A.
DFB	Dirk Fehse collection, Berlin, Germany.
GIH	Geological Institute of Hungary, Budapest, Hungary.
JGS	Jozef Grego collection, Banská Bystrica, Slovakia.
ZSM	Zoological State Collection, Munich, Germany.

Superfamily: **Trivioidea** Troschel, 1863

Family: **Triviidae** Troschel, 1863

Subfamily: **Triviinae** Troschel, 1863

Genus: *Niveria* Jousseau, 1884

Type species: *Cypraea nivea* Gray, 1824 [= *Trivia nix* Schilder, 1922] by original designation. Recent, Caribbean.

Niveria jozefgregoi sp. nov.

Fig. 1.1–3, Fig. 2.1–5.

Holotype: Fig. 1.1a–d (ZSM, No. 20100658)

Paratype 1: Fig. 1.2a–d (DFB, No. 10094-1)

Type locality: Borsodbóta, “Királdi-útbevágás”, county Borsod-Abaúj-Zemplén, Hungary.

Type stratum: Middle Badenian, Tortonian, Middle Miocene.

Derivatio nominis: Named in honour of Jozef Grego, a personal friend of the author.

Shell formula: L = 6.7–8.8, W = 75–83 % of length, D = 63–68 % of length, LT = 17–22, CT = 15–19, RR = 16–20.

A modified shell formula is used herein. This formula is derived from measurements taken from all available fully mature and normally formed specimens. L — length in mm, W — width/length ratio in %, H — height/length ratio in %, LT — number of labral teeth, CT — number of columellar teeth, RR — number of dorsal ribs.

Description

Shell small sized, solid and roundly ovate. Spire slightly elevated and covered by callus. Body whorl ovate, inflated and

rounded, about 90 % of total height, with both terminals produced and blunt terminal tips. Dorsum highly elevated, with a hump nearly on mid-portion and a mid-dorsal depression that bisects or depresses the ribs. Ribs coarse, somewhat irregular, covered by callus on dorsal summit. Ventrum slightly convex with straight terminals. Aperture narrow, almost straight, widened slightly at the fossular section. Labrum roundly callused, narrow, widened at its mid-portion, curved, keeled towards its inner margin, anteriorly declivous. Outer labral margin acutely shouldered. Labrum bears on its inner margin 17–22 fine denticles. Denticles continued as fine folds onto labrum, becoming broader onto dorsum and ventrum, narrowing onto columella and fossula. Siphonal and anal canals follow shell profile. Columella is concave, broad and tapering steeply in-

wards. Parietal lip slightly roundly callused, bears 15–19 fine ribs. Fossula broadly concave, not clearly delimited from the rest of the columella. Inner fossular and columellar edge denticulated, covered by labrum on ventral view. Inner fossular edge slightly protruded.

Variations

Shell outline varies from almost circular to ovate. Mid-dorsal callosity more or less developed. Dorsal depression sometimes obscured. The development of the dorsal hump varies slightly. The dorsal ribs are sometimes somewhat broader than in some specimens.

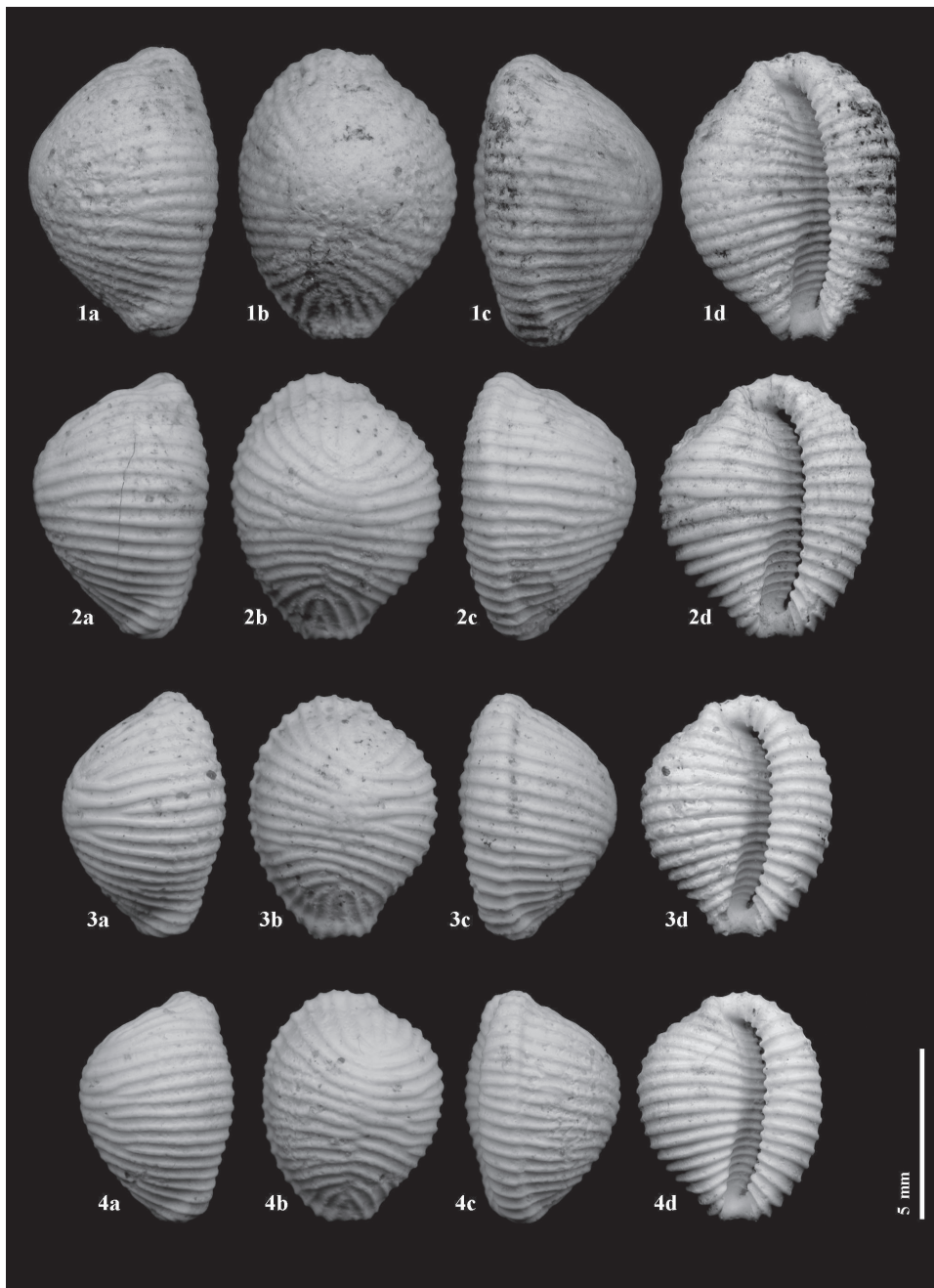


Fig. 1. 1a,b,c,d — *Niveria jozefgregoi* nov. sp. Holotype, ZSM, No. 20100658, Middle Badenian, Middle Miocene, Borsodbóta, county Borsod-Abaúj-Zemplén, Hungary. 2a,b,c,d — *Niveria jozefgregoi* nov. sp. Paratype 3, coll. JGS, No. T0701/1, Middle Badenian, Middle Miocene, Borsodbóta, county Borsod-Abaúj-Zemplén, Hungary. 3a,b,c,d — *Niveria jozefgregoi* nov. sp. Paratype 4, coll. JGS, No. T0701/2, Middle Badenian, Middle Miocene, Borsodbóta, county Borsod-Abaúj-Zemplén, Hungary. 4a,b,c,d — *Niveria jozefgregoi* nov. sp. Paratype 5, coll. JGS, No. T0701/3, Middle Badenian, Middle Miocene, Borsodbóta, county Borsod-Abaúj-Zemplén, Hungary.

Material and measurements

Total number of 8 specimens were examined in detail. This material was collected by the author and J. Grego at “királdi út-bevágás” Borsodbóta village during the years 2003 and 2005.

Holotype: L = 8.8 mm, W = 6.8 mm, D = 5.8 mm, CT 19, LT 22, RR 20 (ZSM, No. 20100658)

Paratype 1: L = 7.1 mm, W = 5.7 mm, D = 4.7 mm, CT 15, LT 18, RR 18 (DFB, No. 10094-1)

Paratype 2: L = 7.2 mm, W = 5.4 mm, D = 4.5 mm, CT 15, LT 17, RR 16 (DFB, No. 10094-2)

Paratype 3: L = 8.0 mm, W = 6.6 mm, D = 5.4 mm, CT 16, LT 17, RR 18 (coll. JGS, No. T0701/1)

Paratype 4: L = 7.4 mm, W = 5.8 mm, D = 4.8 mm, CT 15, LT 17, RR 16 (coll. JGS, No. T0701/2)

Paratype 5: L = 7.0 mm, W = 5.6 mm, D = 4.7 mm, CT 16, LT 17, RR 18 (coll. JGS, No. T0701/3)

Paratype 6: L = 6.7 mm, W = 5.0 mm, D = 4.4 mm, CT 15, LT 17, RR 20 (coll. JGS, No. T0701/4)

Discussion

The new species is assigned to the genus *Niveria* Jousseaume, 1884 because all taxa in the genus have a dorsal furrow or depression that is crossed by ribs.

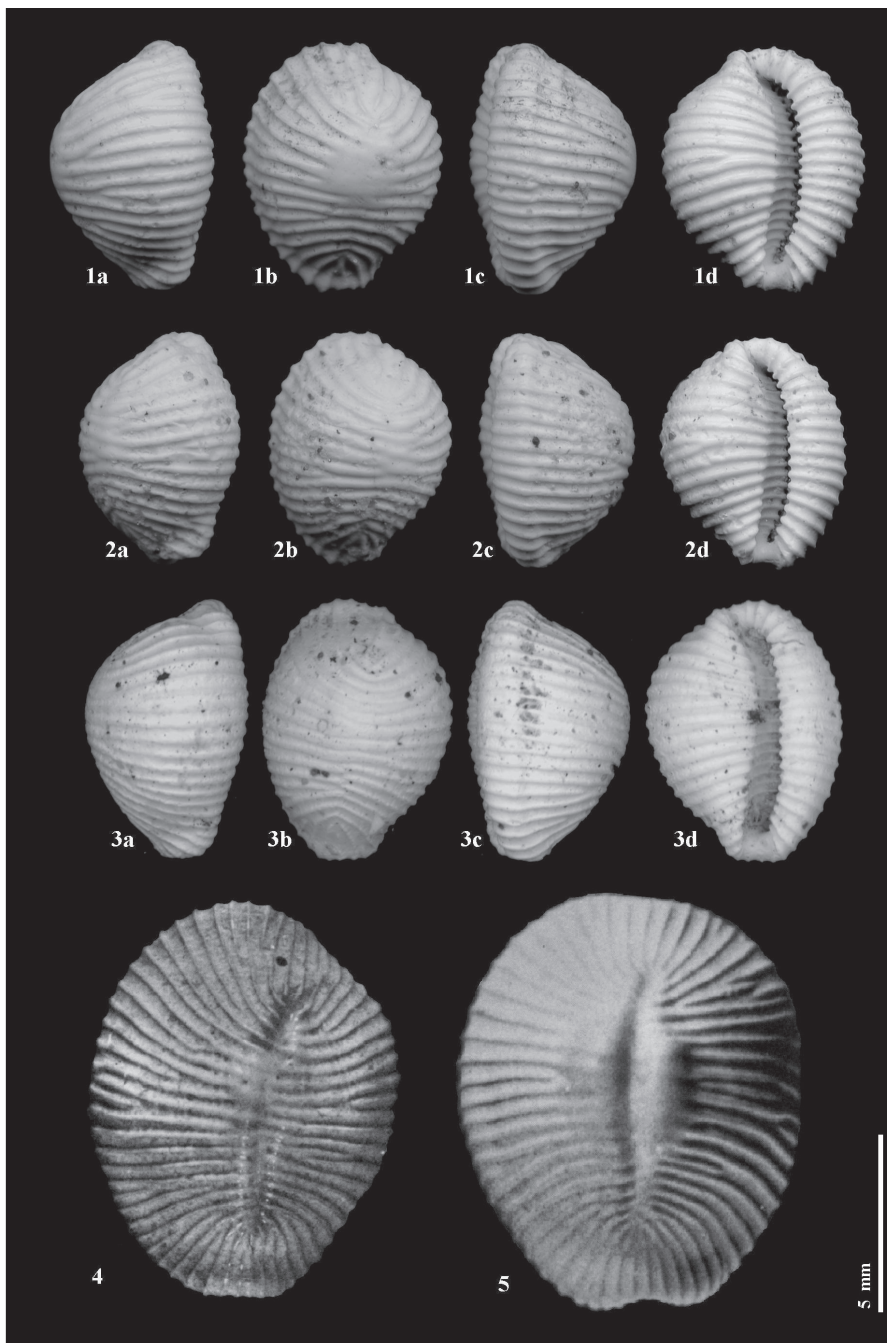


Fig. 2. 1a,b,c,d — *Niveria jozefgregoi* nov. sp. Paratype 2, coll. DFB, No. 10094-1, Middle Badenian, Middle Miocene, Borsodbóta, county Borsod-Abaúj-Zemplén, Hungary. 2a,b,c,d — *Niveria jozefgregoi* nov. sp. Paratype 6, coll. JGS, No. T0701/4, Middle Badenian, Middle Miocene, Borsodbóta, county Borsod-Abaúj-Zemplén, Hungary. 3a,b,c,d — *Trivia eszterae* Fehse & Vicián, 2006. Holotype, GIH, No. M.06.24, Middle Badenian, Middle Miocene, Borsodbóta, county Borsod-Abaúj-Zemplén, Hungary. 4 — *Niveria floridana* (Olsson & Harbison, 1952). Holotype, ANSP, No. 18611. Pinecrest Beds, Zanclean, Early Pliocene, St. Petersburg, Florida, U.S.A. Length 11.1 mm. 5 — *Niveria incomparabilis* Fehse, in print. Pinecrest Beds, Zanclean, Early Pliocene, Bird Road dig, Miami, Dade County, Florida, U.S.A. (after Petuch, 1994: pl. 24, figs. L, M). Length 12 mm.

Niveria jozefgregoi sp. nov. is separated from all Miocene Triviidae by its mid-dorsal callosity. The paratype 5 in Fig. 1.4 shows only traces of the callosity between the dorsal ribs four and six. In other specimens the dorsal callosity is much more developed (e.g. holotype). The congener *Trivia eszterae* Fehse & Vicián, 2006 has a similar shell outline and dorsal hump but lacks the dorsal depression and especially the dorsal callosity. Furthermore, the ribs are coarser in *N. jozefgregoi* sp. nov. The first species with dorsal callosities were so far known only from the Pliocene with *Niveria permixta* (De Cristofori & Jan, 1832) from the north-western Mediterranean, *N. floridana* (Olsson & Harbison, 1952) and *N. incomparabilis* Fehse, in print, from Florida (Fehse & Landau 2003; Fehse, in print). The new species differs from *N. permixta* by coarser and less numerous ribs (16–20 ribs in *N. jozefgregoi* sp. nov. vs. 30–34 in *N. permixta*), by a smaller size (average 7.5 mm in *N. jozefgregoi* sp. nov. vs. 12.6 mm in *N. permixta* (Fehse & Landau, 2003)), by a less developed dorsal depression, narrower columella and fossula and a more circular shell outline. *Niveria floridana* and *N. incomparabilis* differ from *N. jozefgregoi* sp. nov. by their well-developed dorsal sulcus and the formation of their dorsal callosities. The new species has its callosity on the dorsal summit and the Florida species have callosities on both sides of their sulcus. The Florida species also have a different shell morphology. *Niveria floridana* has an ovate shell, narrower columella and fossula, finer ribs and a more developed parietal lip. *Niveria incomparabilis* has a broader labrum, a very unique columella and fossula and finer dorsal ribs. The Pleistocene and Recent *N. pulloidea* from the Islas Galápagos is separated from the new species by the broader labrum, narrower columella and fossula, indented terminal tips and well-developed parietal lip. The Recent *N. grohorum* Fehse & Grego, 2008 is separated from *N. jozefgregoi* sp. nov. by the elongated shell outline, the narrow columella and fossula, well-developed parietal lip, shorter terminals and less elevated dorsum.

Conclusion

Niveria jozefgregoi sp. nov. appears to be the oldest member of a group of species with dorsal callosities. The shell shape of all the species is superficially similar and indicates their relationship. At the moment there is a large stratigraphic gap between *N. jozefgregoi* sp. nov. and *N. permixta* in the

Late Miocene. Further research in the layers of the Late Miocene especially of the Messinian should close the gap.

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