

MONACHA OECALI NEW SPECIES FROM SOUTHERN TURKEY (GASTROPODA: HYGROMIIDAE)

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Abstract *Monacha oecali* n. sp. from the plain of the Köprülü Çayı in the province Antalya in southern Turkey is characterized by a very short penis, a very short vagina, a long slender vaginal appendix and a large shell with a narrow, almost completely obscured umbilicus.

Key words *Monacha*, *Hygromiidae*, *systematics*, *Turkey*

INTRODUCTION

The highest diversity of the mainly Mediterranean genus *Monacha* Fitzinger 1833 (Hygromiidae) has been recorded in Turkey. A revision of the *Monacha* from Turkey revealed fifty species (Hausdorf, 2000). Some additional species for which no adequate material for a formal description is available are known. Hausdorf (2000) estimated that there are about 70 *Monacha* species in Turkey. In the following, we describe a newly discovered *Monacha* (*Monacha*) species from the province Antalya in southern Turkey.

MATERIAL AND METHODS

The counting of the shell whorls (exactness 0.25) follows Kerney & Cameron (1979: 13).

The material on which this study is based is kept in the Hungarian Natural History Museum, Budapest (HNHM), the Mátra Múzeum, Gyöngyös (MMGY), the Zoological Museum of the University of Hamburg (ZMH) and several private collections.

TAXONOMIC DESCRIPTION

Hygromiidae Tryon 1866

Monacha (*Monacha*) Fitzinger 1833

Monacha (*Monacha*) *oecali* n. sp.

Holotype Turkey, Province Antalya: Melek Çiftliği between Serik and Boğazkent, on the bank of the Köprülü Çayı (= Creek), 36°53'34.6"N 031°08'55.7"E (ZMH 51217, leg. B. Páll-Gergely 24.10.2007, measurements: diameter = 17.6 mm, height = 12.0 mm).

Paratypes Turkey, Province Antalya: Melek Çiftliği between Serik and Boğazkent, on the bank of the Köprülü Çayı (= Creek), 36°53'34.6"N 031°08'55.7"E (HNHM 96904; MMGY 60345; ZMH 51218; private collection of: Z. P. Eröss, A. Hunyadi, B. A. Gümüş, B. Páll-Gergely).

Type locality Turkey, Province Antalya: Melek Çiftliği between Serik and Boğazkent, on *Phragmites* leaves at the bank of the Köprülü Çayı (= Creek), 36°53'34.6"N 031°08'55.7"E.

Shell (Fig. 1–2) depressed conical-globular; with 5–6 convex whorls; protoconch smooth; teleconch with irregular wrinkled growth-ridges; body whorl rarely with indistinct incised spiral striae; light brownish corneous; body whorl rounded; aperture elliptical; upper insertion of the peristome slightly descending; peristome sharp, not expanded, with a whitish internal rib; umbilicus narrow and almost completely obscured by the reflected columellar edge.

Measurements Turkey, Province Antalya: Melek Çiftliği between Serik and Boğazkent (n = 30): diameter: 12.8–17.6 mm, mean ± standard deviation (s. d.) = 15.2 ± 1.1 mm; height: 7.9–12.0 mm, mean ± s. d. = 10.2 ± 0.9 mm; diameter/height: 1.41–1.65, mean ± s. d. = 1.50 ± 0.06.



Figure 1–2 *Monacha (Monacha) oecali* n. sp., Turkey, Province Antalya: Melek Çiftliği between Serik and Boğazkent 1 Holotype (ZMH 51217). 2 Living paratype. Scale bar = 5 mm.

Genitalia (Fig. 3) The penial papilla is short and has a terminal opening. The tube-like vaginal appendix inserts at the atrium. Its long basal part is only indistinctly delimited against the shorter terminal part. The two mucous glands are slightly ramified. The bursa of the bursa copulatrix is \pm rounded triangular. The right ommatophoral retractor passes to the left of the genitalia. The measurements of some parts of the genitalia are compiled in Table 1 and the proportional variations of some parts of the genitalia is compiled in Table 2.

Remarks *Monacha (Monacha) oecali* is probably most closely related to some other *Monacha (Monacha)* species with a long, slender vaginal appendix from southern Turkey. For a comparison of the ratios of some parts of the genitalia of *M. oecali* n. sp. with similar *Monacha (Monacha)* species see Table 2. *M. oecali* n. sp. differs from all other *Monacha (Monacha)* species in the very high epiphallus: vagina ratio (7.3–8.2). The penis is also comparatively shorter than in most other *Monacha (Monacha)* species (epiphallus: penis ratio of *M. oecali* 14.0–20.9). The shell of *M. oecali* is similar to that of *Monacha (Monacha) ignorata* (O. Boettger 1905) from the provinces Konya, Içel and Adana. *Monacha oecali* differs from that species in the possession of a flagellum and the higher epiphallus: vaginal appendix ratio (0.8–1.0 as against 0.3–0.6 in *M. ignorata*). The shell of *M. oecali* differs from that of *M. ignorata* in the lighter colour without a bright periphery band, the lack of irregular impressions and the only slightly descending upper insertion of the peristome. More material is necessary to estab-

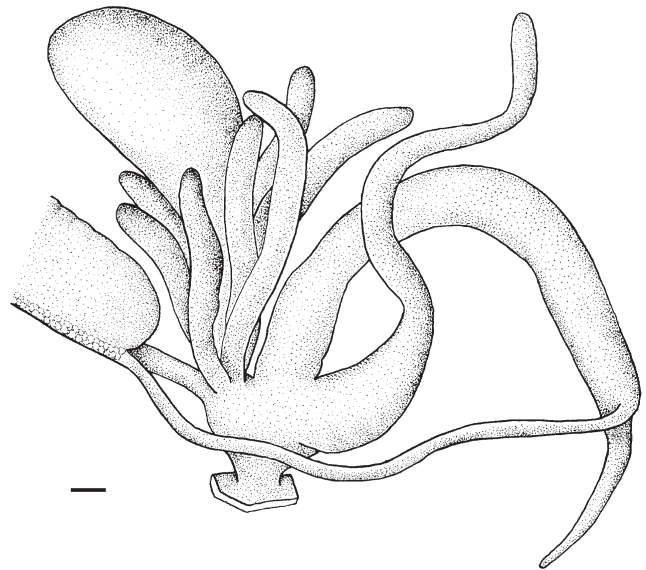


Figure 3 *Monacha (Monacha) oecali* n. sp., Turkey, Province Antalya: Melek Çiftliği between Serik and Boğazkent (holotype ZMH 51217). Genitalia. Scale bar = 1 mm.

Table 1 Measurements of some parts of the genitalia of *Monacha (Monacha) oecali* n. sp. (in mm) from Melek Çiftliği between Serik and Boğazkent (Turkey, Province Antalya). Abbreviations: ap = vaginal appendix; ep = epiphallus; fl = flagellum; p = penis; v_{ap} = vagina up to the base of the vaginal appendix; v_{gm} = vagina up to the mucous glands; v_t = total length of the vagina.

p	ep	fl	ap _b	ap _a	v_{ap}	v_{gm}	v_t
0.7	14.6	5.7	13.2	4.2	0.0	1.2	1.8
0.7	14.5	5.2	12.0	3.2	0.0	0.8	1.8
0.9	14.0	4.0	11.5	4.0	0.0	0.9	1.9
1.0	14.0	4.2	12.5	3.0	0.0	0.9	1.7
0.8	14.5	4.2	13.5	3.4	0.0	1.0	2.0

Table 2 Comparison of the ratios of some parts of the genitalia of *Monacha (Monacha) oecali* n. sp. with similar *Monacha (Monacha)* species. Abbreviations: ap = vaginal appendix; ep = epiphallus; fl = flagellum; p = penis; v_{ap} = vagina up to the base of the vaginal appendix; v_{gm} = vagina up to the mucous glands; v_t = total length of the vagina.

	ep: p	ep: fl	ep: ap	ep: v_t	v_t : v_{ap}	v_t : v_{gm}
<i>M. albocincta</i> (Hesse)	2.7–14.3	3.1–3.9	0.8–1.1	3.4–4.8	∞	3.0–10.5
<i>M. ignorata</i> (O. Boettger)	2.0–16.0	–	0.3–0.6	1.4–2.9	6.8– ∞	1.8–5.2
<i>M. melitenensis</i> (Hesse)	2.0–5.8	0.6–1.0	0.4–0.6	1.0–4.0	2.4– ∞	1.5–4.0
<i>M. oecali</i> n. sp.	14.0–20.9	2.6–3.5	0.8–1.0	7.3–8.2	∞	1.5–2.3
<i>M. pamphylica</i> Hausdorf	13.3–16.0	1.4–1.5	0.6–0.7	3.5–4.4	∞	3.7–7.5
<i>M. saninensis</i> (Pallary)	5.1–9.2	1.5–2.2	0.5–0.9	2.6–4.7	8.0– ∞	2.0–4.0

lish whether these conchological differences are consistent enough to enable definite determinations. *M. oecali* differs from *Monacha (Monacha) pamphylica* Hausdorf 2000, which also lives in the coastal region of the province Antalya, in the larger shell with a wider umbilicus, the higher epiphallus: flagellum ratio (2.6–3.5 as against 1.4–1.5 in *M. pamphylica*) and the higher epiphallus: vaginal appendix ratio (0.8–1.0 as against 0.6–0.7 in *M. pamphylica*). *M. oecali* differs from *Monacha (Monacha) albocincta* (Hesse 1912) from the provinces Hatay and Gaziantep and the adjacent region of Syria in the more depressed shell without distinct incised spiral striae and a slightly wider umbilicus and the insertion of the mucous glands in the centre of the vagina. *M. oecali* differs from *Monacha (Monacha) saninensis* (Pallary 1939) from the province Hatay and the adjacent regions of Syria and the Lebanon in the higher epiphallus: flagellum ratio (2.6–3.5 as against 1.5–2.2 in *M. saninensis*). *M. oecali* differs from *Monacha (Monacha) melitenensis* (Hesse 1915) (= *Monacha (Monacha) nisibis* Şeşen 2000, new synonym) from south eastern Turkey in the wider umbilicus, the lack of distinct spiral striae and hair-scars, in the higher epiphallus: flagellum ratio (2.6–3.5 as against 0.6–1.0 in *M. melitenensis*) and in the higher epiphallus: vaginal appendix ratio (0.8–1.0 as against 0.4–0.6 in *M. melitenensis*).

Derivation of name This species is named in honour of Ural Öcal, a friend of the co-author, who assisted in fieldwork.

Distribution *Monacha (Monacha) oecali* is found only on the plain of the Köprülü Çayı (= Creek) between Serik and Boğazkent in the province Antalya in southern Turkey.

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