A new species of *Islamia* (Caenogastropoda: Hydrobiidae) from Lakes region of Turkey

MEHMET ZEKİ YILDIRIM¹, DUYGU CEREN ÇAĞLAN KAYA², MUSTafa EMRE GÜRLEK³* & SEVAL BAHADIR KOCA⁴

¹ Mehmet Akif Ersoy University, Bucak School of Health, Burdur, Turkey, e-mail: mzekiyildirim@gmail.com
² Mehmet Akif Ersoy University, Faculty of Science and Arts, Department of Biology, Burdur, Turkey, e-mail: caglan@mehmetakif.edu.tr
³ Mehmet Akif Ersoy University, Burdur Vocational School of Health Services, Burdur, Turkey, *e-mail: malacoturk@gmail.com
⁴ Süleyman Demirel University, Fisheries Faculty, Isparta, Turkey, e-mail: sevalkoca@sdu.edu.tr

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Abstract
A new species *Islamia burduricus* is described from Lakes Region of Turkey. Shell photographs and genitalia illustrations of the new species and also comparisons between new taxon and *Islamia* species previously described from Turkey are provided.

Key words: Hydrobiidae, *Islamia*, Burdur, Lakes Region.

Introduction
Valvatiform Hydrobiids are rich in European fauna and it is hard to describe them because of their minute size, and their shell shapes are very convergent (Arconada & Ramos, 2006). *Islamia* Radoman, 1973 is a genus of Hydrobiidae family with valvatoïd shell and roundish aperture, further characterized by wide muscular penis split at distal end and absence of genital chamber in female genitalia (Radoman, 1983). Genus *Islamia* has been found in Iberian peninsula, Croatia, Bosnia and Herzegovina, Greece, Italy, Western Europe and Turkey (Kabat & Hershler, 1993, Arconada & Ramos, 2006, Beran et al., 2016). Schütz described *Horatia bunarbasa* in 1964 and he positioned the species in genus *Horatia* Bourguignat, 1887. Later, Radoman (1973) described 3 *Islamia* species (*Islamia anatolica*, *I. bunarbasa*, and *I. pseudorientalica*) and revised *Horatia bunarbasa* as *Islamia bunarbasa* from Kırkgöz springs 24 km NW Antalya.

In further investigations in Lakes Region, a species of *Islamia* which is described in this paper was found to inhabit karst springs of Burdur Province.
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Material and Methods

Specimens were obtained from Burdur Aziziye (near trout farm, Çibiş pınarı) (Figure 1, 2). They were collected from spring waters with 0.5-1.0 mm mesh size sieves and preserved in 80% ethanol. For dissection and measurements Olympus SZX7 microscope was used. Photos were taken with digital camera system (Olympus DP26).

The holotype and some paratypes are stored in the Zoological Museum of Hacettepe University (HUZOM).

Results and Discussion

Family: Hydrobiidae Stimpson, 1865
Genus: Islamia Radoman, 1973
Type species: Hydrobia valvataeformis Möllendorf, 1873

Figure 1. Map of the study area.
Shell valvatoid with pointed apex and tumid whorls, umbilicus semi open to perforate and deep. Penis large and muscular, split at the distal tip. Genital chamber lost and two rs (\textit{rs}_1 \text{ and } \textit{rs}_2) at the same level are present (Radoman, 1983).

**Figure 2.** Type locality of the *Islamia burduricus* n. sp.

*Islamia burduricus* n. sp.

*Islamia falknorskii*, Bahadır Koca, S., 2007 [nomen nudum]

**Holotype:** SH 1.30 mm, SW 0.90 mm, AH 0.71 mm AW 0.63 mm, from type locality in HUZOM-M1101.

**Paratype:** 1 specimens from type locality in HUZOM-M1102.

**Additional material examined:** 12 ex. from Type locality, 1 specimen in coll. Gürlek (Mehmet Akif Ersoy University, Turkey).

**Type Locality:** Çibiş pınarı, Can Alabalık Tesisleri (trout farm), Aziziye, Burdur, Turkey.

**Etymology:** Named after Burdur province.

**Description:** Shell trochiform, translucent, with 3-3.5 convex whorls and blunt apex. Last whorl nearly twice broader than the penultimate whorl. Sutures deep. Aperture roundish oval, umbilicus slit shaped, columellar margin thickened tough not covering umbilicus. Operculum rounded. Head not pigmented except the eye region. Penis proximally thick, gradually tapering towards the tip; forked with two unequal lobes, smaller of which being proximal. Ovary canal thick and unpigmented, with a distinct seminal receptacle (Figure 3, 4).

Measurements (n=20): SH: 1.24 mm (min 1.07/max 1.39), SW: 1.04 mm (min 0.93/max 1.15), SH/SW: 1.19 ah/SH: 0.49
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Figure 3. *Islamia burduricus* n. sp. A: shell of holotype, B: penis in situ C: Penis with two lobes (L1: Distal lobe of the penis, L2: Proximal lobe of the penis). Abbreviations: p = penis, s = snout, t= tentacle.

Habitat: The specimens were collected from the outflow of a spring with gravel bottom and aquatic vegetation (*Juncus* sp., *Veronica anagallis-aquatica* and *Nasturtium officinale*). Small sized pebbles were covered by periphyton. Specimens were collected on stones and aquatic plants.

Discussion: The shell of *Islamia burduricus* n. sp. relatively delicate and thinner. Shell dimensions closer to that of *I. bunarbasa* (SH: 1.32-1.65, SW: 1.1-1.16, SH/SW: 1.31, n=10, according to Radoman, 1983), differing from it by a lower SH/SW ratio (1.19). Umbilicus narrower than other species described from Turkey. Columellar thickening is also typical for the new species. The penial lobes are equal or subequal in the previously described species, while the proximal lobe is distinctly smaller in the new species. *Islamia burduricus* n. sp. similar to *Islamia valvataeformis* (Möllendorf, 1873) described from Balkans by the penis morphology but *I. valvataeformis* has no pigmentation on the penis and separate from each other by the shell morphology.

*Islamia* lives in non-polluted springs rich with aquatic vegetation. Many of them have narrow distribution and are only known from their type localities (Beran et al., 2016). The new species *I. burduricus* n. sp. also seems to be locally endemic. The locality is close to the trout farm but it is not affected by farm. It is upper side of the farm. This genus is widespread on the lakes region so there may be new species in the region.

Figure 4. Anatomical drawings of *Islamia burduricus* n. sp. a. female genital tract b. central tooth of radula c. operculum (scale: 1mm).
References


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