Moina hemanti sp. nov., a new species of the genus Moina s.l. (Branchiopoda: Anomopoda) from Pune, India

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Abstract

We describe and figure Moina hemanti sp. nov. from ephemeral pools on the campus of Pune University, India. Although the pools flood during the monsoon, the moinid only appears irregularly and for a short period of time. In morphology, it is extremely close to Moina dumonti from Mexico and Cuba. This geographic gap remains unexplained for the time being, although more similar cases among cladocerans are on record. Molecular analysis has suggested that M. hemanti is relatively close to Moinodaphnia, and might form a genus in its own right, presumably together with M. dumonti. The latter, however, remains to be analyzed. Further candidates for this clade are Moina oryzae and M. rostrata, if the presence of an ocellus and/or a rostrum can be shown to be apomorphies.

Key words: Cladocera, Ephemeral water, India, Moinidae, Taxonomy, Western Ghats

Introduction

The Moinidae are a speciose family of anomopods, close relatives of the Daphniidae. The number of named species is currently around 25 but many cryptic species and species living in extreme habitats remain to be discovered. The former are part of complexes that may have a wide, often subcosmopolitan distribution. The latter, conversely, are often point-endemics of extremely specific environments. Examples of the first category are the Moina micrura-group (Petrusek et al. 2004), of the second, Moina diksamensis Van Damme & Dumont, 2008, known only from few semi-terrestrial crab-burrows on the island of Socotra (Van Damme & Dumont 2008) and Micromoina arboricola Dumont et al. 2013 from tree-hole aquaria in regenerated tropical forest in Brazil (Dumont et al. 2013). Some species live in saline environments, others in ephemeral freshwater, and the combination of both (Moina salina Daday, 1888) also occurs.

Eight species of Moinidae have been reported from India (Chatterjee et al. 2013) with one endemic species, M. oryzae Hudec, 1987 (Hudec, 1987) known from South Tamil Nadu, India. Here, we describe an additional, endemic Moina of the type found in ephemeral water with a putative small geographic range, and discuss its status.

Material and methods

Site description. The type and so far only locality of the new taxon is situated in the city of Pune, located on the slopes of Western Ghats of Maharashtra, India, more specifically on Pune University campus. It consists of series of muddy pools under tree canopy (Fig. 1: A, B). The pools are fed by precipitation during monsoon. Pools dry out after few days if no additional rain falls. Only one cladoceran species was found here, along with the ostracod species Clamydotheca sp. (Shinde 2012) and high numbers of odonate nymphs, presumably of Pantala flavescens (Fabricius, 1798). Tadpoles of Duttaphrynus melanostictus (Schneider, 1799) also occur here.
effect on tadpoles of the frog species *Microhyla ornata* has been well documented (Ghate & Padhye 1988). Since this species is only known from a single temporary pool, it thus becomes extremely important to conserve this habitat from these threats.

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**References**


