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A new species of the genus *Ilyocryptus* Sars, 1862 (Cladocera: Anomopoda: Ilyocryptidae) from the East Asian Palaeartic

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Abstract

A new Palaeartic species of the genus *Ilyocryptus* Sars, 1862 (Cladocera: Anomopoda: Ilyocryptidae) is described based on samples from Republic of Korea, Japan, and the Far East of Russia. This taxon was mis-identified by some previous authors as *I. agilis* Kurz, 1878. Among the *agilis*-like species sensu Kotov & Elías-Gutiérrez (2009), *I. yooni* **sp.nov.** is unique in absence of any setules or denticles near preanal teeth on the postabdomen. It also differs from its closest relative *I. agilis* s.str. in (1) a more sharp dorsal keel; (2) short setae at postero-ventral portion of valve; (3) a long abdominal projection; (4) presence of spinules on internal wall of anus; (5) shorter antenna I; (6) distal burrowing spine not projected behind distal end on basal segment of antenna II; (7) spine on proximal segment of antennal exopod not longer than the next segment; (8) setae at bases of the flap at inner-distal portion of limb III of different size and armature. Apparently *I. yooni* **sp. nov.** is a member of the Far East endemic species complex, recently defined by Kotov *et al.* (2011, 2012).

Key words: Crustacea, Cladocera, taxonomy, systematics, new species, Palaeartic

Introduction

The family Ilyocryptidae Smirnov, 1976 emend. Smirnov, 1992 is among best studied groups of the Anomopoda (Crustacea: Cladocera) in taxonomy. The family is represented by a single genus *Ilyocryptus* Sars, 1862 (Smirnov 1996). Kotov & Štifter (2006) have performed a full revision of the world fauna and recognized 28 valid species. The taxonomic investigations of *Ilyocryptus* were not stopped; since that time some few new taxa were added (Kotov & Elmoor-Loureiro 2008), and some unusual records were made (Kotov *et al.* 2010; Van Damme & Eggermont 2011) which could be a source for further descriptions of new taxa in the future. All these descriptions concerned the southern hemisphere, while no new information was obtained on the ilyocryptids from the northern hemisphere since the revision made by Kotov & Štifter (2006).

The Palaeartic ilyocryptids seem to be well-studied, but this situation is an illusion. Only Europe and Western Siberia were adequately covered by previous sampling and revisions (i.e. by Kotov & Štifter 2006). Specially interesting (but unexplored) region is the East Asian Palaeartic, which is now the main source of new taxa revealed by morphological (Sinev *et al.* 2009; Smirnov & Sheveleva 2010; Kotov & Sinev 2011) or genetic methods (Xu S. *et al.* 2009; Xu L. *et al.* 2010; Ishida *et al.* 2011; Millette *et al.*, 2011) or by combination of both (Kotov *et al.*, 2009; Bekker *et al.*, 2012). Our recent faunistic studies of the Far East of Russia (Kotov *et al.* 2011) and Korea (Kotov *et al.* 2012) revealed populations of different ilyocryptid taxa which must be accurately revised. Unfortunately, previous descriptions and illustrations by Chinese (Chiang & Du 1979), Japanese (Mizuno & Takahashi 1991) and Korean (Yoon & Kim 1987; Yoon 2010) authors were mainly not detailed enough for adequate conclusions on the species status.

The aim of the present paper is to describe a new species of *Ilyocryptus* from Korea, Japan and Far East of Russia earlier superficially identified as *I. agilis* (Yoon 2010; Kotov *et al.* 2011).