



## Description of two species in the alpheid shrimp genus *Athanas* Leach, 1814, with remarks on *A. amazone* Holthuis, 1951 (Decapoda, Caridea)

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### Abstract

Two new species of the alpheid genus *Athanas* Leach, 1814 are described and illustrated. *Athanas sydneyensis* n. sp., is described on the basis of several specimens collected near Sydney, New South Wales, Australia. This species is closely related to the polymorphic *A. phyllocheles* Banner & Banner, 1983 known only from La Réunion in the southwestern Indian Ocean. *Athanas ivoiriensis* n. sp., is described on the basis of a single specimen collected off Ivory Coast, West Africa. This species appears to be most closely related to *A. amazone* Holthuis, 1951 from the tropical eastern Atlantic and the Mediterranean Sea. The morphological variability of *A. amazone* and *A. phyllocheles*, including polymorphism of the chelipeds, are discussed.

**Key words:** Alpheidae, *Athanas*, new species, Australia, West Africa, cheliped polymorphism, variability

### Introduction

The ecologically diverse alpheid shrimp genus *Athanas* Leach, 1814 (excluding *Arete* Stimpson 1860) includes at least 30 species in the Indo-West Pacific and eastern Atlantic (e.g., Banner & Banner 1960, 1973; Miya & Miyake 1968; Chace 1988; d'Udekem d'Acoz 1999; Anker *et al.* 2001; Hayashi 2002; Anker 2003). Most of them inhabit shallow waters (0–30 m), on sand, mud, rock, mixed sand-rock, rubble and coral reef bottoms. Several species are facultative or obligate commensals of other marine organisms, such as corals (Morton 1988), mudshrimps (Anker *et al.* 2001), hermit crabs (Crosnier & Forest 1966), mantis shrimps (Atkinson *et al.* 1997; Frogliia & Atkinson 1998; Hayashi 2002), sea urchins (Banner & Banner 1973), feather stars (Anker & Marin 2007) brittle stars (Marin *et al.* 2005), mudskippers (Anker 2003) and mud gobies (A. Anker pers. obs.). A few species are also known from brackish lagoons and mangroves (Kemp 1915; Anker 2003) and from depths well below 300 m (Banner & Banner 1978, 1983).

*Athanas* is one of the most challenging alpheid genera, being notorious for variability in taxonomically important features. This variability involves, for example, the length of the stylocerite, the shape of the orbital spines, the length and shape of the rostrum, the degree of the development of a secondary unguis on the dactylus of the walking legs, and particularly, the development and shape of the often sexually dimorphic chelipeds (Kemp 1915; Miya & Miyake 1968; Banner & Banner 1973, 1983; Anker 2003). Several species as presently known are possibly species complexes, including the common and widely distributed *A. japonicus* Kubo, 1936, *A. dimorphus* Ortmann, 1890 and *A. nitescens* (Leach 1814) (Anker 2001, 2003).

Several specimens of *Athanas* collected in New South Wales, Australia, and a single specimen collected off Côte d'Ivoire (Ivory Coast), West Africa, could not be assigned to any of the previously described species. Both species are characterized by long, slender chelipeds and elongate, scythe-shaped dactylus on the third to