



## Illustrated key for the identification of the known zoeal stages of brachyuran crabs (Crustacea: Decapoda) from tropical and subtropical Brazil, southwestern Atlantic

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### Abstract

Approximately 370 brachyuran species have so far been recorded from the Brazilian coast, 123 of which have had their larval stages fully or partially described. The pictorial guide allows the identification of the first zoea of 110 species. The remaining 13 species with known larval stages are treated to the genus level because of difficulties in the morphological differentiation of closely related species.

**Key words:** Brachyura; identification key; first zoea larva, southwestern Atlantic, Brazil

### Introduction

The identification of planktonic larvae to species level is of paramount importance for understanding the life cycle and ecology of brachyuran crabs. Several works have been published since the 1980s describing the larval morphology of a number of brachyuran species from the southwestern Atlantic, specifically Brazil. These studies focused mainly on single species (Table I), while others described larval characters of particular families by means of comparative tables (e.g. Wilson 1980; Fransozo & Hebling 1986; Fransozo *et al.* 1990; Fransozo & Negreiros-Fransozo 1997; Cuesta *et al.* 1999; Negreiros-Fransozo & Fransozo 2001; Fransozo *et al.* 2002; Santana *et al.* 2004a; Santana *et al.* 2004b; Lima & Abrunhosa 2006; Koettker 2008). A number of studies relied on species identification keys for a limited set of brachyuran families (e.g.; Martin 1984; Fransozo *et al.* 1998; Montú *et al.* 1988) or targeted only at family level (Boschi 1981; Pohle *et al.* 1999).

While keys for the identification of brachyuran larvae are available for different regions (e.g. Wear & Fielder 1985; Ingle 1992; Paula 1996; Báez 1997; Pessani *et al.* 1998; Anosov 2000; Bullard 2003; dos Santos & González-Gordillo 2004; Rice & Tsukimura 2007; Kornienko & Korn 2009), no studies exist for the tropical and subtropical southwestern Atlantic. Pohle *et al.* (1999) provided the most comprehensive review on the identification of South Atlantic brachyuran larvae, describing 97 species and providing a key to brachyuran families. Approximately 370 brachyuran species have been recorded along the Brazilian coast (Melo 1996; Melo, personal communication), but only the larvae of 123 species entirely or partially described. The present paper is the first key for the identification of known first zoeal stages of brachyuran crabs from the tropical and subtropical southwestern Atlantic, covering the Brazilian coast. We also provide a comprehensive literature list on brachyuran larvae for this region.

### Methods

The key is primarily based on published descriptions at the species level of brachyuran larvae from Brazil. A few unpublished theses and dissertations have been considered when no published material was available. Since only