



## ***Lysmata rauli*, a new species of peppermint shrimp, (Decapoda: Hippolytidae) from the southwestern Atlantic\***

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### **Abstract**

A new peppermint shrimp species, *Lysmata rauli* sp. nov., is described based on a specimen collected in shallow subtidal waters off Salvador, Bahia, Brazil. *Lysmata rauli* sp. nov. was identified from fresh material collected in tide pools. *L. rauli* sp. nov. appears to be rare in the region with only two specimens collected from Salvador, Brazil. The new species can be readily distinguished from all other species by the absences of a well developed accessory branch, number of carpal segments of the second pereopod, presence of a well developed pterygostomial tooth and number of teeth on the rostrum, as well as by color pattern.

**Keywords:** Brazil, Bahia, western Atlantic, *Lysmata*, hermaphrodite

### **Introduction**

Caridean shrimps of the genus *Lysmata* Risso, 1816 have gained popularity among marine biologists and have been extensively studied in recent years (Bauer & Holt 1998; Fielder 1998; Bauer 2000, 2001, 2002a, 2002b; Lin & Zhang 2001a; Baldwin & Bauer 2003; Baeza & Bauer 2004; Rhyne & Lin 2004, 2006; Rhyne *et al.* 2004; Zhang & Lin, 2004; Baeza *et al.* 2009). Much of this work has centered on the group's unusual although not exclusive (Laubenheimer & Rhyne 2008) sexual system; protandric simultaneous hermaphroditism (= PSH, Bauer & Holt 1998).

*Lysmata* species are very popular in the aquarium trade, because of their bright coloration and ability to control aquarium pest anemones, such as *Aiptasia pallida* Verrill (Rhyne *et al.* 2004). The aquarium trade still relies heavily on wild collected specimens, with over 90% of the traded species being removed from coral reefs (Tlustý 2002; Rhyne *et al.* 2009). Efforts have been made to establish rearing protocols (Calado *et al.* 2001, 2003a, 2003b; Lin & Zhang 2001b; Rhyne & Lin 2004; Calado 2008) in order to supply the aquarium industry with captive-bred individuals and reduce the impact caused by wild harvest. Recently, there has been an interest in restricting collection of wild specimens in the United States and/or importation from the South Pacific. Efforts to monitor or regulate the aquarium trade can be greatly hampered by a lack of taxonomic certainty. This would be especially true if legislation mandated an “approved list” of species allowed for importation (Smith *et al.* 2009).

Currently the genus *Lysmata* includes at least 38 species (Chace 1997; Wicksten 2000a, 2000b; Burukovsky 2000; Rhyne & Lin 2006; Rhyne & Anker 2008; Anker *et al.*, 2009), 18 of which occur in the Atlantic Ocean (Chace 1972; d’Udekem d’Acoz 2000; Rhyne & Lin 2006; Rhyne & Anker 2008; Baeza &