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The megalopa stage of *Portunus spinimanus* Latreille, 1819 and *Portunus gibbesii* (Stimpson, 1859) (Decapoda, Brachyura, Portunidae) from the southeastern Atlantic coast of the United States

MARIA LUCIA NEGREIROS-FRANSOZO[1,3], NADIA MEYERS[2], VÍVIAN FRANSOZO[1] & SUSAN THORTON-DE VICTOR[2]

[1]*Nebecc (Crustacean Biology, Ecology and Culture Study Group), Departamento de Zoologia, IBB, Universidade Estadual Paulista, 18618-000 Botucatu, SP, Brazil*
[2]*Southeastern Regional Taxonomic Center, Marine Resources Research Institute, PO Box 12559, Charleston, SC, 29422-2559 U.S.A.*
[3]*Corresponding author. E-mail: mlnf@ibb.unesp.br*

Abstract

The identification of megalopae from plankton samples is difficult, because this larval stage is the least well known among crab larvae, unknown in some species and poorly described in others. Wild megalopa specimens of some swimming crabs (family Portunidae Rafinesque, 1815) were captured alive from neuston samples obtained during summer surveys near the coast of Charleston, South Carolina (U.S.A). For identification purposes, larvae were reared to the 8th juvenile instar. After reaching the 5th juvenile instar, the juvenile crabs exhibited morphological features suitable for identification to the species level. The specimens belonged to two species of Portunidae, *Portunus spinimanus* Latreille, 1819 and *P. gibbesii* (Stimpson, 1859). Their megalopae were described in detail and compared to other portunid megalopae known from the southeastern Atlantic coast of the U.S.A. Species-specific characters of portunid megalopae are the number of carpal spines on the chelipeds, the relative size of the sternal spines (7th sternite), the number of antennal flagellum segments, and the setation of mouthparts.

Key words: *Portunus*, megalopa, neuston, Decapoda, Brachyura, U.S. southern Atlantic coast

Introduction

An adequate knowledge of the zooplankton, including the larval forms, is of great importance for understanding the vital link between primary producers and consumers (Wickstead, 1976). However, larvae of most species remain unknown. Among brachyuran crabs alone, which represent about half of the estimated species of Decapoda, most of their larvae are still not described (Pohle *et al.*, 1999).

While the identification of wild-caught megalopae is problematic because of the lack of general knowledge, there are, nevertheless, some morphological features that characterize members of particular families (Pohle *et al.*, 1999). The megalopae of Portunidae can be distinguished from other brachyurans by the following characters: an acute rostrum projecting almost horizontally; the dactyl of the last pereopods paddle-like as in the adult crab; and, in some species, the larvae bear spine-like projections on the sternum. Such features can be observed in species that belong to the following genera for which melagopae have been described: *Portunus* Weber, 1795 studied by Kurata (1975); *Thalamita* Latreille, 1829, by Fielder and Greenwood (1979); *Charybdis* De Haan, 1833, by Fielder *et al.* (1984); *Arenaeus* Dana, 1851, by Stuck and Truesdale (1988); and *Callinectes* Stimpson, 1860, by Costlow and Bookhout (1959). In the genera *Ovalipes* Rathbun, 1898 described by Costlow and Bookhout (1966), the spine-like projections on the sternum were not present; and in *Liocarcinus* Stimpson, 1870 these were not illustrated or described by Kim and Hong (1999).

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