

***Callinectes maracaiboensis* Taissoun (Crustacea, Decapoda, Portunidae), a species common but so far unrecorded in the Northeast of Brazil**

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**ABSTRACT.** *Callinectes maracaibonesis* Taissoun originally recorded from Venezuela is now confirmed to be present in the northeast region of Brazil. In fact, the species is more common than *C. bocourti* and possibly due to its close resemblance to the former may have been identified as the latter. Striking colour patterns of the two species which co-exist in the same habitat drew attention of the authors and a careful examination of several specimens showed distinct morphological differences between the two species.

**KEY WORDS.** *Callinectes maracaiboensis*, new to Northeast Brazil

Of the eight species of *Callinectes* Stimpson (viz. *C. affinis* Fausto-Filho, 1980, *C. bocourti* A. Milne Edwards, 1879, *C. danae* Smith, 1889, *C. exasperatus* (Gerstaecker, 1856), *C. larvatus* Ordway, 1863, *C. maracaiboensis* Taissoun, 1972, *C. ornatus* Ordway, 1863 and *C. sapidus* Rathbun, 1896), *C. maracaiboensis* and *C. sapidus* are so far unknown from the northeast region of Brazil (MELO 1996). *C. affinis* is, however, not included in the recent publication of MELO (1996). While *C. sapidus* is restricted to the region south of Bahia, *C. maracaiboensis* is so far known to occur in the type locality, Curaçao, Colombia and Jamaica (NORSE 1977).

Past investigations in the northeast region of Brazil (FAUSTO-FILHO 1978, 1980, 1984; PEREIRA-BARROS 1981; SAMPAIO & FAUSTO-FILHO 1984; PITA *et al.* 1985; COELHO *et al.* 1986, 1992; SANKARANKUTTY *et al.* 1991) recognised the presence of seven species mentioned above. However, a recent survey of population of *Callinectes* spp. restricted to regions of low salinity in the State of Rio Grande do Norte has evidenced occurrence of two populations with distinct colour patterns co-existing in the same habitat, one with deep blue appendages which is more common (locally known as "siri-do-mangue"), while other with deep brown appendages and reddish blotches on the carapace (locally called "siri pimenta"). A casual examination of the morphological characteristics of the two populations will show

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that they all belong to *C. bocourti*. However, a careful study of several specimens has shown that they belong to two species viz. *C. maracaiboensis* and *C. bocourti*.

## MATERIAL AND METHODS

Examination of the swimming crabs collected from three different localities in the State of Rio Grande do Norte (Fig. 1) forms the basis of the present paper. They were collected with a drag net (at Alto do Rodrigo in November 1996), bought from fishermen who used a cast net (at Macaíba in June 1997) or using a baited scoop net (at Genipabú in July 1977). The salinity at the sites of collections was 2 p.p.m. or lower. At Tabatinga a single drag net haul yielded more than 40 specimens of *C. maracaiboensis* and at Genipabú fishing for a period of about two hours using four baited scoop nets provided 20 specimens (four of them belonged to *C. bocourti* and the rest were all *C. maracaiboensis*). Female specimens were rare; 5 of *C. maracaiboensis* and none of *C. bocourti*. No ovigerous female appeared at the time of collection.

Measurements (in centimeters) of carapace of largest crabs in collection (male/female): greatest width without last antero-lateral spine 10.1/8.2; fronto-orbital width 5.6/4.5; length 5.3/4.2.

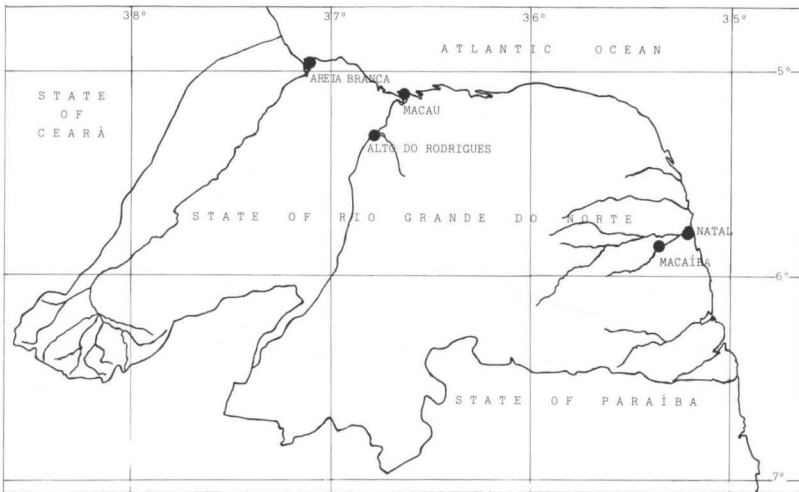


Fig. 1. Map of the Rio Grande Norte showing locations of collection.

## RESULTS

Separation of these two closely related species (*C. bocourti* and *C. maracaiboensis*) was based on the shape of anterolateral teeth of carapace and distal border of sixth abdominal segment of females (key of WILLIAMS 1974). WILLIAMS (1974), in a separate key, also attempted to separate the various species based on the characteristics of the first male gonopod. However, when dealing with these two species, the first male gonopod has limited utility in taxonomy.



Figs 2-3. (2) *Callinectes bocourti* male, carapace length 4.8 cm and width, without last antero-lateral spine, 9.0 cm; (3) *C. maracaiboensis* male, carapace length 4.6 cm and width, without last antero-lateral spine, 8.6 cm.

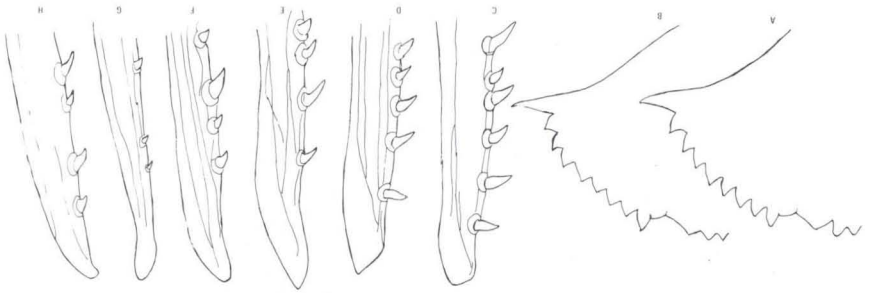


Fig. 4. (A) Frontal and antero-lateral teeth of *C. bocourti*, not to scale; (B) frontal and antero-lateral teeth of *C. maracaiboensis*, not to scale; (C-E) first male gonopod of *C. maracaiboensis*; (F-H) first male gonopod of *C. bocourti*.

A careful examination of the material available with us has indicated some useful characteristics which can facilitate separation of these two species. The shape and armature of the first male gonopod is not a very useful tool in taxonomy as shown in the figure 2). However, the shape of frontal and anterolateral teeth, besides distinctive colouration, are now recognised as reliable characteristics. Following are distinguishing features of the two species observed by us.

*Callinectes bocourti* (Figs 2 and 4A,F,G,H). Frontal teeth with rounded tips, outer frontal tooth with rounded tip and its outer margin not slanting; antero-lateral teeth with narrower base with distinct space between them; carapace with bright reddish/brown bands on carapace (long oblique band on protogastric region; broader and longer band on epibranchial region; reddish patches of different shape and size on cardiac and metabranchial region; chelae and legs deeply reddish in colour.

*Callinectes maracaiboensis* (Figs 3 and 4B,C,D,E). Frontal teeth triangular in shape, outer frontal tooth with pointed tip and with slanting outer border; antero-lateral teeth with wider base; deep blue colouration on walking legs, on ventral part of fixed finger and on lateral side of movable finger in fresh specimens.

*Callinectes bocourti* is extensively reported in the past literature (FAUSTO-FILHO 1968; COSTA *et al.* 1980; PEREIRA-BARROS 1981; PITA *et al.* 1985; COELHO *et al.* 1986, 1992; SANKARANKUTTY *et al.* 1991) while *C. maracaiboensis* was so far recognized as an endemic species restricted to the Gulf of Maracaiba, Venezuela (TAISSOUN 1972, 1973; WILLIAMS 1974). Subsequent investigation of NORSE (1977) on the zoogeographic distribution of *Callinectes* spp. has shown that this species has a wider distribution having been collected from Jamaica, Curaçao and Colombia. Present investigation evidenced even a wider distribution of the species extending to the northeast region of Brazil. Though

these two species are so distinct when alive due to their characteristic colouration, they are not easily separated when preserved. Having seen that this species is clearly more abundant than *C. bocourti*, it is quite likely that earlier reports on *Callinectes* spp. from the Brazilian coastal waters may not exclude its presence from this region as well.

*Callinectes affinis* of FAUSTO-FILHO is, in all probability, *C. maracaiboensis* due to its resemblance to the latter in its morphological characteristics and colour pattern.

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