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STUDIES ON DECAPOD CRUSTACEA FROM THE INDIAN RIVER
REGION OF FLORIDA. III. *CALLINECTES BOCOURTI* A. MILNE
EDWARDS, 1879 (DECAPODA, PORTUNIDAE) FROM THE
CENTRAL EAST COAST OF FLORIDA

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Callinectes bocourti, a large, swimming crab of some commercial importance, is found predominantly throughout the West Indies and down to Brazil. Holt-huis (1959) noted that the species was the most abundant portunid found in Surinam, probably because it was able to tolerate lower salinities than other swimming crabs in the region. Provenzano (1961) recorded the species for the first time in the continental United States based on a mature male specimen deposited in the University of Miami Marine Laboratory Museum; the specimen was collected at Matheson Hammock, Biscayne Bay, Florida. Recently, Perry (1973) reported a second specimen, from Biloxi Bay, Mississippi, thus extending the known range of the species to the northern Gulf of Mexico. We report here yet a third specimen, a mature male, which was collected in the Indian River, Indian River County, Vero Beach, Florida, during the summer of 1973 by Mr. Gerald Herting then with the Florida State Department of Natural Resources. The Indian River record is approximately 150 miles (250 km) north on the central eastern coast of Florida from the specimen-locality reported by Provenzano, though not as far north latitudinally as Perry's record. Our specimen, as Provenzano's and Perry's material, also agrees well with the description provided by Rathbun (1930: 128) although we noted several apparently minor differences. In her diagnosis, Rathbun noted the lateral spine as less than twice as long as the preceding tooth. In our specimen, the posterolateral spine was 10.9 mm long, whereas the penultimate lateral tooth was 5.0 mm long. Strict adherence to Rathbun's key would place the species as *Callinectes toxotes* Ordway, 1863, an eastern Pacific species and the possible analog of *C. bocourti*. However, all other features, including intramedial ratios, frontal teeth, and male gonopods were in agreement with that indicated by Rathbun in her description for *C. bocourti*.

Neither Provenzano nor Perry gave color notes for their respective specimens. The coloration in our specimen, only recently preserved, was noteworthy. Holt-huis (1959: 203) stated that the color pattern for this species was remarkable, the palm of the chela being dark reddish brown above and whitish below, the

two colors being sharply separated on the outer surface of the palm. This pattern is quite distinct in our specimen, with the dorsal surface of the cheliped being distinctly delimited from the outer surface by these hues. The lower surface of the fixed finger is also the same reddish brown as the upper chela. This color pattern holds for the entire upper surface of both chelipeds so that the impression one gets is of a crab with bicolored claws, dark red brown above and white below. The upper surface of the carapace is similarly, but less distinctly colored, tending to be more mottled with grays, browns and whites. Chace & Hobbs (1969) gave extensive color notes for specimens from Dominica and noted the reddish coloration on the chelipeds, and the walking legs; the pattern is well illustrated in their fig. 35 page 128.

Four other species of *Callinectes* occur in the Indian River region of Florida; viz., *C. sapidus* Rathbun, 1896, *C. ornatus* Ordway, 1863, *C. marginatus* (A. Milne Edwards, 1861) and *C. similis* Williams, 1966. None of these species in the Indian River region are colored quite like *C. bocourti*, most being predominantly blue or greenish, with various mottlings of white, brown or gray (see e.g. Rathbun, 1930; Williams, 1966). Although the chelipeds in these species may be marked with red or carmine, the color is not as widely diffused as in *C. bocourti*. Furthermore, the males of all five species may be easily distinguished by the length of the gonopods, reaching no farther than the level of the third thoracic sternite in all but *C. sapidus* and *C. bocourti*. In the latter species, as in *C. sapidus*, the gonopods reach the first thoracic sternite; however, in *C. sapidus* the tips of the gonopods only meet, while in *C. bocourti* they meet and cross over each other (see Rathbun, 1930: 102, fig. 17c, h; Chace & Hobbs, 1969: 135, fig. 37a, f).

Salinities in the Indian River where the male specimen of *C. bocourti* was collected may vary from 5‰ to 36‰ depending on factors such as rainfall, evaporation, or release of impounded surface waters adjacent to the river by various flood-control agencies. Water temperatures may fluctuate from 13°C in the winter to over 28°C in the summer. These conditions, while perhaps austere, are apparently not entirely exclusionary to the species as evidenced by the large size of the specimen collected. According to Mr. Herting, the specimen he obtained was one of three he observed in the same locality. It thus seems possible, based on the previous two records and the one reported herein, that *C. bocourti* may be attempting continental colonization. The effect, if any, that this large and potentially commercial species would have on the present blue-crab industry is not predictable at this time.

It is interesting to note that Chace & Hobbs found *C. bocourti* on Dominica in heavily polluted or stagnant waters, to the exclusion of *C. sapidus* which was found, contrarily, in waters with a rather high rate of flow, even though they may have been slightly polluted. In the Indian River of Florida the dominant species seems to be *C. sapidus* and an extensive fishery is carried out in some parts of this lagoonal estuary. While the Indian River can not, as yet, be con-

sidered heavily polluted, there are areas of the lagoon under environmental stress, and the river can by no means be considered fast-flowing. It is to be hoped that *C. bocourti* is not a harbinger of future hydrological conditions in the Indian River.

The following measurements of our specimen are provided for purposes of comparison by future workers. Carapace width, 129.5 mm; carapace length, 65.3 mm; carapace width to anterior base of lateral spine, 107.7 mm; intra-medial region anterior width, 24.6 mm; posterior width of same, 12.2 mm; length of same, 13.0 mm; frontal orbital width, 52.1 mm; frontal width, 16.6 mm.

The specimen has been deposited in the National Museum of Natural History, USNM 149178.

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