A NOTE ON THE BRAZILIAN BROMELIAD CRABS (CRUSTACEA, GRAPSIDAE)

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Recently, two authors (Sattler & Sattler, 1965 and McWilliams, 1969) independently reported on a species of Sesarma Say, 1817 found in Brazil living in water of the basal leaves or tanks of bromeliad epiphytes. Sattler & Sattler (1965) reported the species as Sesarma ricordi H. Milne Edwards, 1853, and gave notes on its habitat, stomach contents and behavior. McWilliams (1969) reported the species as Sesarma miersii Rathbun, 1897, and gave notes on its habitat and color. Both authors report finding the crabs only in bromeliads, despite searching the area for additional specimens. Both S. ricordi and S. miersii have often been confused with a closely related species, S. angustipes Dana, 1852. Examination of some of McWilliams material and the photographs of Sattler & Sattler leave little doubt that both authors were dealing with the same species, S. angustipes. Unfortunately, I overlooked these papers in an earlier report (Abele, 1972) and I wish here to give the first complete synonymy of S. angustipes and to summarize the available information on the biology of this interesting species.

The abbreviation USNM refers to the National Museum of Natural History, Smithsonian Institution, Washington, D.C., and cb refers to carapace breadth measured at midline.

The citation for the Brazilian species of Sesarma living in bromeliads should be as follows.

Sesarma (Holometopus) angustipes Dana, 1852 (figure 1)

Sesarma angustipes Dana, 1852: 353. — 1855, pl. 22, figs. 7a-c.
Not Sesarma angustipes Stimpson, 1858: 106 [= Sesarma ricordi H. Milne Edwards].

(?) Sesarma angustipes: Smith, 1869: 37 (in part, reference to Brazil only).
Not Sesarma angustipes: Smith, 1870: 159 [= Sesarma ricordi H. Milne Edwards].
Not Sesarma angustipes: Cunningham, 1871: 493 [= Metasesarma rubripes (Rathbun)].
Sesarma angustipes: Kingsley, 1880: 214 (in part, reference to Brazil only).
Not Sesarma angustipes?: Miers, 1881: 70 [= Metasesarma rubripes (Rathbun)].
Not Sesarma angustipes: De Man, 1892: 253, pl. 10, fig. 5. [= Sesarma ricordi H. Milne Edwards].
Sesarma miersii Rathbun, 1897: 91 (in part, Brazilian material only).
Sesarma (Holometopus) miersii: Rathbun, 1900: 138.
Not Sesarma angustipes: Stimpson, 1907: 136 [= Sesarma ricordi H. Milne Edwards].
Sesarma (Holometopus) miersii iheringi Rathbun, 1918: 304, pl. 85.
Sesarma (Holometopus) miersii: Rathbun, 1918: 303 (in part, Brazilian material only).
Sesarma (Holometopus) ricordi: Rathbun, 1918: 308 (in part, Brazilian material only).
Not Sesarma (Holometopus) angustipes: Rathbun, 1918: 311, pl. 90 [= Sesarma roberti H. Milne Edwards].
Sesarma ricordi: Sattler & Sattler, 1965: 411, figs. 3-4.
Sesarma miersii: McWilliams, 1969: 80, 3 pls. Sesarma (Holometopus) angustipes: Abele, 1972 : 168, figs. 1A, D, 2A, D.

MATERIAL EXAMINED

Brazil: Rio de Janeiro, 1 female, USNM 40822; Itaparica, State of Bahia, 1 female, USNM 40821; Cabeçedo, State of Paraiba, 1 male; USNM 25712; State of Sao Paulo, 4 males, 3 females, USNM 47830, 122789, 122790; Desterro (Florianopolis), 1 male, USNM 20312; — Salvador, State of Bahia, 1 male, USNM 48299 [type of Sesarma (Holometopus) miersii iheringi Rathbun, 1918].

DIAGNOSIS

Front widening distally; walking legs narrow, length of merus about three times width, dactylus of third armed dorsally and ventrally with short, strong, black spines (figure 1A, D); apex of gonopod with endpiece subrectangular and curved distolaterally (figure 1B, C); carpus and chelae covered with depressed granules; movable finger of male chela not greatly proximally.

Sesarma angustipes has been confused with five other species (see synonymy) and is a senior subjective synonym of Sesarma miersii iheringi. The diagnosis given here and the description of S. miersii iheringi in Rathbun will both serve to distinguish S. angustipes from other members of the genus in the western Atlantic. During the past few years from 1970-1972 a great deal of material of the subgenus Holometopus H. Milne Edwards, 1853 in the National Museum of Natural History was examined. Brazilian records of S. ricordii and S. miersii were found to be based on specimens of S. angustipes. It was surprising that in an area as vast as Brazil only three species of Sesarma (Holometopus) were represented: S. angustipes Dana, 1852, S. rectum Randall, 1840 and S. benedicti Rathbun, 1897. Sesarma subintegra White, 1847 listed by White from Brazil is a junior synonym of S. rectum (cf. Abele, 1973).

Distribution — Trinidad: Toco, Brazil: Cabeçedo, Itaparica, Rio de Janeiro, Caraguatatuba, Sao Sebastiao, Santos, Sao Paulo, Desterro (Florianopolis).

Type locality — South America (Dana, 1852) probably near Rio de Janeiro (Smith, 1869: Chace & Hobbs, 1969).

Measurements — Males, cb 16.2 to 24.0 mm; females, cb 14.8 to 18.0 mm.

Habitat — The species occurs in the water of the basal leaves (tanks) of the following bromeliads: Neoregelia cruenta (R. Graham) L. B. Smith, Wittrockia superba Lindm., Aechmea coelestis (C. Koch) E. Mor and A. pectinata Baker. The bromeliads were growing in partial shade on granite boulders along brackish streams. Data accompanying some other material from Brazil (Rathbun, 1900) indicates that the species were collected from mangrove areas.

Although bromeliads related to those listed above occur in Trinidad, the only data accompanying the specimens from that place indicated that they were collected under coconut husk at the mouth of the Rio Salybea at Toco. The habitat is similar to that described for the Brazilian material from bromeliads, but no bromeliads are mentioned.

Remarks — The stomach contents of specimens collected from bromeliads included chi-
tinous parts of insects, detritus, plant material and many stellate trichormes, characteristic of bromeliads, suggesting that the crabs feed on the bromeliads.

When disturbed the crabs moved quickly backwards into a leaf axis and could be removed from the plant only with difficulty. If the crabs were removed from the plant they would return immediately upon release.

McWilliams (1969) notes the color of adult specimens as having bluish-black carapaces with orange markings on the dorsal surface and abdomen.

This author noted that Rathbun (Andrews in Rathbun, 1918) pointed out that this species ("S. mierit") can complete its life cycle in fresh water and quite logically suggested that the crabs breed in bromeliads. Andrews’ comments, however, probably refer to Sesarma bidentatum Benedict, 1892 or to S. roberti H. Milne Edwards, 1833 as the life history of S. angustipes is unknown.

DISCUSSION

Only one other American species of crab is known definitely to occur in bromeliads. This is Metopaulias depressus Rathbun, 1896 which is endemic to Jamaica and appears to be restricted to bromeliads growing in limestone areas, at elevations greater than 270 meters (Laessle 1961; Hartnoll, 1964). The species completes its life cycle in bromeliads and has been reported from species of Achmea Ruiz & Pavon, 1794; Hohenbergia Schultes, 1830; Vriesea Lindley, 1843 and Tillandsia Linnaeus, 1758 (Hartnoll, 1964). A single specimen of Sesarma jarvisi Rathbun, 1914 has been reported from a bromeliad in Jamaica, while two other specimens from the same locality were collected among damp leaf litter (Lewis in Hartnoll, 1964).

I thank Robert Work for pointing out the reference of McWilliams and Rose Golberg for translating the reference of Sattler & Sattler.

SUMMARY

The species of grapsid crab inhabiting bromeliads in Brazil is shown to be Sesarma (Holometopus) angustipes Dana, 1852. The extensive synonymy of this species is reviewed and information on its biology is summarized.

LITERATURE CITED


Stimpson, W. — 1858 — Prodromus descriptionum animalium everebratorum, quae in Expeditione ad Oceanum Pacificum Septentriionalem, a Republica Federata missa, Cadwaladara Ringgold et Johanne Rodgers ducibus, observavit et descripsit. Pars V.

