

## 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 bromelias 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].

Not *Sesarma angustipes*: Stimpson, 1859: 66  
[?= *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 ro-  
berti* H. Milne Edwards].

Not *Sesarma (Holometopus) angustipes*:  
Hartnoll, 1965: 113, 115, 131-133, 144, 146,  
figs. 10B, 11B, D, 15A, B, table 6 [= *Se-  
sarma 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

Trinidad: Toco, mouth of Rio Salybea,  
under coconut husks, 23 July 1966, J. M.  
Stonley, 3 males, 3 females, USNM 137980.

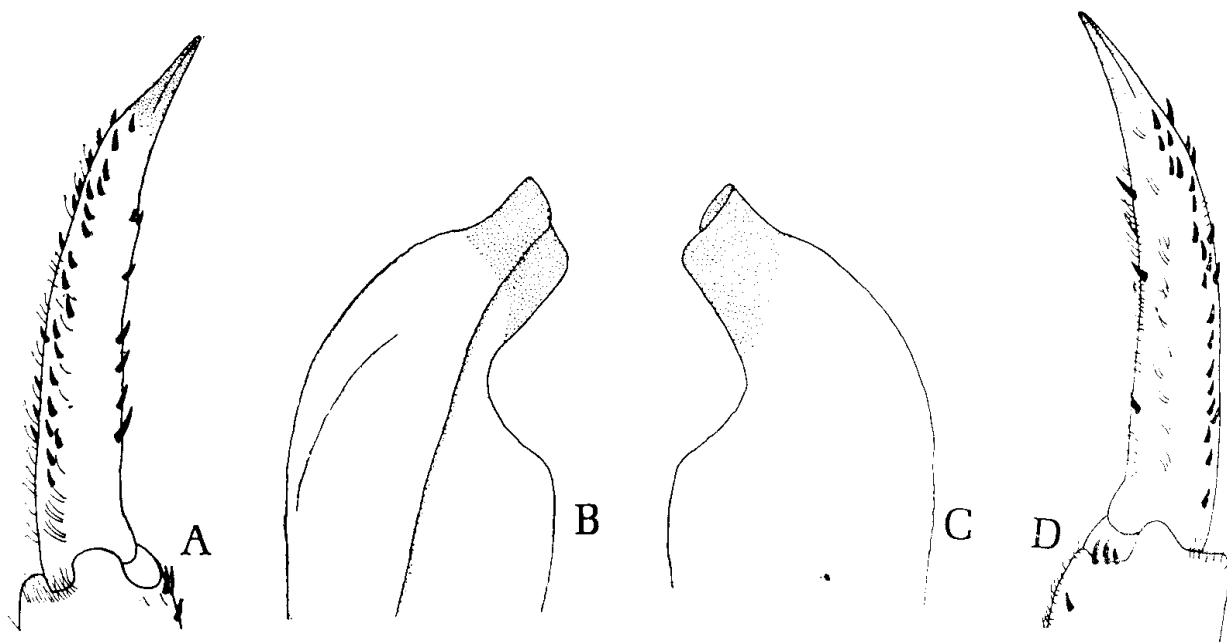


Figure 1 — *Sesarma angustipes* Dana, 1852: A, D, dactylus of third walking leg; B, C, apex of male gonopod. A, D, X 12; B, C, X 50.

Brazil: Rio de Janeiro, 1 female, USNM 40822; Itaparica, State of Bahia, 1 female, USNM 40821; Cabedelo, State of Paraíba, 1 male; USNM 25712; State of São Paulo, 4 males, 3 females, USNM 47830, 122789, 122790; Desterro (Florianópolis), 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. ricordi* 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: Cabedelo, Itaparica, Rio de Janeiro, Caraguatatuba, São Sebastião, Santos, São Paulo, Desterro (Florianópolis).

*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 trichomes, 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. miersii*") 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, 1853 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 *Metopaulius 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 *Aechmea* 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.

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