

**CONTRIBUTIONS TO THE KNOWLEDGE OF THE
BIODIVERSITY OF CRUSTACEAN DECAPODS OF
VENEZUELA. II.- FIRST RECORDS OF *Eucinetops blakianus*
AND *Inachoides forceps* (DECAPODA: BRACHYURA:
MAJOIDEA) WITH KEYS TO SPECIES**

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ABSTRACT

The spider crabs, *Eucinetops blakianus* Rathbun, 1896 (Inachidae) and *Inachoides forceps* A. Milne-Edwards, 1879 (Inachoididae) are here reported for the first time for Venezuelan waters. *Eucinetops blakianus* is a very rare crab, with few records along the Caribbean Sea. Although *Inachoides forceps* is not rare, the record presented here fills a gap in the distribution of this species previously known from Cape Lookout, North Carolina, US to Santa Catarina, Brazil.

Keywords: brachyuran crabs, spider crabs, Inachidae, Inachoididae, Caribbean Sea.

**Contribuciones al conocimiento de la biodiversidad de
crustáceos decápodos de Venezuela. II.- Primeros
registros de *Eucinetops blakianus* e *Inachoides forceps*
(Decapoda: Brachyura: Majoidea)
con claves para las especies**

RESUMEN

Los cangrejos araña, *Eucinetops blakianus* Rathbun, 1896 (Inachidae) e *Inachoides forceps* A. Milne-Edwards, 1879 (Inachoididae) son reportados por primera vez para aguas marinas venezolanas. *E. blakianus* es un cangrejo muy poco común, con escasos registros a lo largo del mar Caribe. A pesar de que *I. forceps* no es infrecuente, el presente registro llena un vacío en la distribución previamente conocida de esta especie, que abarca desde Cape Lookout, Carolina del Norte, EE. UU. hasta Santa Catarina, Brasil.

Palabras clave: cangrejos braquiura, cangrejos araña, Inachidae, Inachoididae, mar Caribe.

INTRODUCTION

Majoid spider crabs are represented in Venezuela by the families Epialtidae MacLeay, 1838, Inachidae MacLeay, 1838, Inachoididae Dana, 1851 and Mithracidae MacLeay, 1838. These families form one of the groups of brachyuran crabs with the largest number of marine species found in Venezuela (Lira *et al.*, 2013).

Traditionally, crabs of family Inachidae present eyes without orbit, long eyestalks and basal article of antenna extremely slender and usually elongated (Rathbun, 1925), while the Inachoididae present a dorsal exposure of the pleurites 5–8 and the first abdominal somite (Santana, 2008; Guinot, 2012). The genus *Stenorhynchus* Lamarck, 1818, is placed by Guinot (2012) among the Inachoididae in its own subfamily, Stenorhynchinae Dana, 1851, due to significant morphological differences presented by this genus (seen Santana, 2008).

Inachidae is represented in Venezuela by *Coryrhynchus riisei* (Stimpson, 1860), *Ericerodes botti* (Türkay, 1968), *Podochela grossipes* Stimpson, 1860 and *Podochela macrodera* Stimpson, 1860 (Türkay, 1968; Rodríguez, 1980; Marcano and Bolaños, 2001), while Inachoididae is represented by *Anasimus latus* Rathbun, 1894, *Batrachonotus fragosus* Stimpson, 1871, *Collodes inermis* A. Milne-Edwards, 1878, *Pyromaia tuberculata* (Lockington, 1877), *Stenorhynchus seticornis* (Herbst, 1788) (Rathbun, 1925; Türkay, 1968; Rodríguez, 1980; Marcano and Bolaños, 2001) and *Paulita tuberculata* (Lemos de Castro, 1949) (Rodríguez *et al.*, 2025).

The Research Group on Carcinology of the Universidad de Oriente, Venezuela (GICUDONE) carries out inventories of decapod crustaceans in different localities of Venezuela. As a result, an initial contribution to the knowledge of the biodiversity of decapod crustaceans was made by Lira *et al.* (2013) with the additions of *Macrocoeloma concavum* Miers 1886 and *Omalacantha interrupta* (Rathbun, 1920) (as *Microphrys interruptus* Rathbun, 1920), both Mithracidae species. Here, we present a second contribution of this series, with new records for *Eucinetops blakianus* Rathbun, 1896 (Inachidae) and *Inachoides forceps* A. Milne-Edwards, 1879 (Inachoididae) collected in Venezuelan waters.

MATERIALS Y METHODS

The material analyzed comes from several field trips, including samples collected by students of the Carcinology course at the Universidad de Oriente in Boca del Río, Venezuela, while other specimens were collected

during a study of the decapod carcinofauna from the seashore of El Manglillo, Margarita Island. One specimen of *Inachoides forceps* was part of the master's thesis of one of the authors (JVC), conducted in the Mochima National Park, Anzoátegui state (Figure 1).

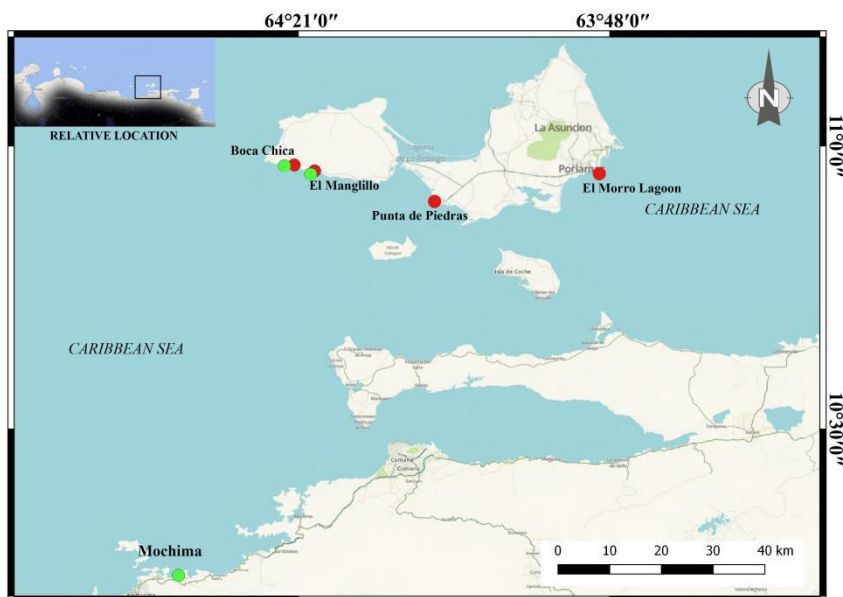


Figure 1. Distribution of *Eucinetops blakianus* Rathbun, ● 1896 and *Inachoides forceps* A. Milne-Edwards, 1879 ● in Venezuela.

The samples were preserved in 95% ethyl alcohol and/or 5% formalin and subsequently identified with the help of a stereoscopic microscope. Carapace length (CL, dorsal distance between the distal part of the front and the posterior margin of the carapace) and the carapace width (CW, widest distance between the lateral margins of the carapace) were measured using a millimeter calibration electronic vernier. Other abbreviations and symbols include: USNM, National Museum of Natural History, Smithsonian Institution; MNHN Muséum National d'Histoire Naturelle; coll. collector or collected by; m, meters; mm, millimeters; ♂, male; ♀, female; ♀♀, ovigerous female. Synonymic list not exhaustive.

RESULTS

Superfamily Majoidea Samouelle, 1819

Family Inachidae MacLeay, 1838

Eucinetops blakianus Rathbun, 1896 (Figure 2)



Figure 2. *Eucinetops blakianus* Rathbun, 1896, specimen collected at El Manglillo, Margarita Island, Venezuela.

Eucinetops blackiana Rathbun, 1896: 141 (type locality: Port Royal, Jamaica, USNM 19405). – Rathbun, 1925: 88, pl. 23, figs., 1-2, text fig. 24A, B; 1933: 10, fig. 6; Rodríguez, 1980: 270; Coelho, 1999: 151.

Eucinetops blakianus – Ng *et al.*, 2008: 111; Carmona-Suárez and Poupin, 2016: 362, fig. 1B; Poupin, 2018: 189.

Material examined: Venezuela, Margarita Island, Punta de Piedras (10°54'15"N – 64°06'37"W): 29/X/08, 2 ♀ (5.2 mm CL – 4.4 mm CW and 5.2 mm CL – 4.5 mm CW respectively), 1 ♂ (parasited by a sacculinid; 6.4 mm CL – 4.9 mm CW); coll. M. Marval, 0.5 m, rocky bottom (GIC-162). – El Manglillo (10°57'26"N – 64°19'14"W): 29/I/11, 1 ♂ (6.4 mm CL – 4.9 mm CW), 1 ♀ (5.0 mm CL – 4.1 mm CW), coll. C. Lira and R. López, 0.75 m, rocky bottom (not preserved). – 31/VI/11, 1 ♀ (7.2 mm LC – 5.1 mm AC), coll. C. Lira and R. López, 0.25 m, rocky bottom (GIC-886). – 29/X/11, 1 ♂ (7.6 mm CL – 6.5 mm CW), 1 ♀♀ (5.7 mm CL – 4.5 mm CW), coll. C. Lira and R. López, 0.75 m, rocky bottom (not preserved). – Boca Chica (10°57'40"N – 64°21'57"W): 10/XI/05, 1 ♂ (5.6 mm CL – 4.3 mm CW), 1 ♀♀ (5.5 mm CL – 4.5 mm CW), coll. D. Fernández and T. Blanco, 0.75 m, rocky bottom (GIC-633). – El Morro Lagoon (10°57'25"N – 63°49'25"W), 1 ♀♀ (6.0 mm CL – 4.8 mm CW), 18/VII/11, coll. H. Montoya, 0.25 m, rocky bottom (GIC-263).

Distribution: Western Atlantic: In Bahamas, Jamaica, Puerto Rico, Guadeloupe, Bonaire, Colombia (Rathbun, 1925; Coelho, 1999; Carmona-Suárez and Poupin, 2016), and Venezuela (present study).

Remarks: This species was described by Rathbun (1896) based on material collected in Jamaica. Rathbun (1925, 1936) recorded this species for Bahamas, Porto Rico and Bonaire and she indicated that this is a rare species (1933: 10). Although Rodriguez (1980: 270) included this species in his report of the Venezuelan decapods, he mentioned that this species was never recorded by him, and the only material known from the region of Venezuela was reported by Rathbun (1925). After that, the only records of this species were made by Coelho (1999) for Colombia, Carmona-Suárez and Poupin (2016) and Poupin (2018) for Guadeloupe, with very few specimens collected.

Eucinetops blakianus appears to be more common on the eastern coasts of Venezuela, however it does not figure in the inventories available up to date. Its cryptic habits and relatively small body size and a similar general body shape could lead to confuse it with a juvenile *Macrocoeloma* Miers, 1879, causing its absence in these inventories. The specimens collected and herein presented are the first for Venezuelan waters and an addition to the knowledge of this species as all specimens were collected in rocky bottoms and shallow waters of about or less than 1 m depth.

Family Inachoididae Dana, 1851.

Inachoides forceps A. Milne-Edwards, 1879 (Figure 3).



Figure 3. *Inachoides forceps* A. Milne-Edwards, 1879, specimen collected at El Manglillo, Margarita Island, Venezuela.

Inachoides forceps A. Milne-Edwards, 1879: 199, pl. 33, figs. 4-4d (type locality: Guiana, and Desterro, Brazil, types material in MNHN, Paris). - Garth, 1958: 99, 101; Powers, 1977: 45; Melo, 1996: 206; 1998: 146; Camp., 1998: 146; Boschi, 2000: 88; Nizinski, 2003: 129; McLaughlin *et al.*, 2005: 251, 311; Coelho, 2006: 18; Ng *et al.*, 2008: 115; Santana and Tavares 2009: 62, figs., 1B, D, 2C, 3B.

Inachoides obtusus A. Milne-Edwards, 1879: 199, pl. 33, figs. 3, 4d.

Inachoides intermedius Rathbun, 1894: 57. - Rathbun, 1901: 59.

Podochela meloi Sankarankutty, Ferreira and Cunha, 2001: 552, figs. 1,2.-Coelho, 2006: 678.

Material examined: *Venezuela*, Margaita Island, Boca Chica (10°57'40"N – 64°21'57"W): 30/IV/07, 1 ♀, 4.10 mm CL – 2.60 mm CW, coll. D. Fernández and T. Blanco, 0.3 m, associated with unidentified brown algae (GIC-389). – El Manglillo (10°57'26"N – 64°19'14"W): 24 / XI / 11: 1 ♂, 5.10 mm CL – 3.60 mm CW, coll. C. Lira and R. López, 0.75 m, rocky bottom (GIC-543). - Anzoátegui State, Mochima, Vencemos Beach (10°14'30"N – 64°33'41"W): 01/VIII / 12, 1 ♀, 6.80 mm CL - 4,00 mm CW, coll. J. Vera-Caripe, 5 m, coral rocks (GIC-587).

Distribution: Western Atlantic: In North Carolina to Florida (USA), Gulf of Mexico, Antilles, Guianas and Brazil (Amapá to Santa Catarina) (Santana and Tavares, 2009) and Venezuela (present study).

Remarks: *Inachoides forceps* is a small spider crab, commonly found on some types of algae and in shallow waters. Specimens of *I. forceps* can be confused with other *Podochela* species due to their overall morphology (see Santana and Tavares, 2009 for details). The absence in previous reports from Venezuela can be a consequence of these misidentifications. This species presents a broad and discontinuous distribution from North Carolina (USA) to Santa Catarina (Brazil) (Santana and Tavares, 2009) and had not been previously recorded for Venezuelan waters.

DISCUSSION

The family Inachidae is represented in the Americas by at least 34 species (Boschi, 2000), of which 15 have been recorded in the Caribbean and only 4 in Venezuela, while the Inachoididae family includes 31, 16 and 6 species for Americas, Caribbean and Venezuela, respectively. Table 1 shows the species of both families found in Venezuela.

Eucinetops Stimpson, 1860 is a genus of spider crabs restricted to America, composed of four species of which *E. blakianus* is the only representative in the western Atlantic, while the other three species are circumscribed to the Pacific coasts of America (Coelho 1999, Boschi, 2000). The classification of this genus has undergone numerous modifications

within Majoidea, being placed in Mithracinae (= Mithracidae) by some authors whereas others have included it among Inachoidinae, Ophthalmiinae and Anomalipinae (Coelho, 1999).

Table 1. Species of Inachidae and Inachoididae recorded from Venezuelan waters.

Family	Species	Localities	First record
Inachidae	<i>Coryrhynchus riisei</i>	Sucre state, Margarita Island, Los Frailes Archipelago	Rodríguez (1980)
	<i>Ericerodes botti</i>	Margarita Island	Türkay (1968)
	<i>Eucinotops blackianus</i>	Punta de Piedras El Manglillo Boca Chica El Morro Lagoon	Present study
	<i>Podochela grossipes</i>	La Guaira state	Rodríguez (1980)
	<i>Podochela macrodera</i>	La Tortuga, Margarita and Cubagua islands	Marcano and Bolaños (2001)
Inachoididae	<i>Stenorhynchus seticornis</i>	Zulia, Falcón, Miranda and Sucre states, La Tortuga, Margarita, Cubagua and La Blanquilla islands, Los Lobos and Caribe islets, Los Roques and Los Frailes archipelagos.	Chace (1956)
	<i>Anasimus latus</i>	Falcón and Sucre states, Margarita, Coche and Cubagua islands	Rathbun (1925)
	<i>Batrachonotus fragosus</i>	Zulia, Falcón and Sucre states, Margarita Island.	Rodríguez (1980)
	<i>Collodes inermis</i>	Margarita Island.	Sánchez (1997)
	<i>Inachoides forceps</i>	Boca Chica El Manglillo Mochima	Present study
	<i>Pyromaia tuberculata</i>	Cubagua Island	Marcano and Bolaños (2001)
	<i>Paulita tuberculata</i>	Margarita Island	Rodríguez <i>et al.</i> (2025)

The genus *Inachoides* H. Milne Edwards and Lucas, 1842, on the other hand, includes three species, *I. laevis* Stimpson, 1860 and *I. lambriformis* (De Haan, 1839), on the Pacific coast of America and *I. forceps*, on the Atlantic coast. With these findings, the number of species of Inachidae and Inachoididae, recorded for Venezuela is increased to five and seven, respectively. Keys for the Majoidea families, as well as species of Inachidae and Inachoididae reported to date for Venezuela are presented below.

KEY TO MAJOIDEA FAMILIES PRESENT IN VENEZUELA modified from Rathbun (1925) and Poore and Ah Yong (2023):

- 1A. Pleurites of the thoracic somites 5–8 and of the first abdominal somite dorsally exposed; branchiostegite weakly developed or absent Inachoididae
- 1B. Pleurites of the thoracic and abdominal somites not exposed dorsally; branchiostegite well developed 2
- 2A (1). Eyes with complete or almost complete orbits Mithracidae
- 2B. Eyes without orbits or with vestigial ones 3
- 3A (2). Eyes without orbit. Basal article of antenna long and thin Inachidae
- 3B. Eyes with vestigial orbits. Basal article of antenna not long nor thin Epialtidae

KEY TO INACHIDAE SPECIES PRESENT IN VENEZUELA modified from Rathbun (1925) and Coelho (2006):

- 1A. Third pair of maxillipeds podiformes, with the ischium wider than the merus, palp elongated 2
- 1B. Third pair of maxillipeds not podiformes, with the ischium of the same width as the merus, palp not extended *Euclinetops blakianus*
- 2A (1). Rostrum triangular, not ending in spine (*Podocheila*) 3
- 2B. Rostrum rounded or ending in spine 4
- 3A (2). Propodus of first walking leg four or more times as long as the dactylus; propodus of last two legs considerably longer than the dactylus and slightly curved *Podocheila macrodera*
- 3B. Propodus of the first walking leg two or at most three times as long as the dactylus; propodus of the last two legs slightly longer than the dactyl and strongly curved *Podocheila grossipes*
- 4A (2). Rostrum rounded, hood-shaped *Coryrhynchus riisei*
- 4B. Rostrum triangle, tapering to a tip *Ericerodes botti*

KEY TO INACHOIDIDAE SPECIES PRESENT IN VENEZUELA modified from Poore and Ah Yong (2023):

- 1A. Rostrum single, longer than carapace. Postorbital spine small, distant from eyestalk. Carapace and exposed thoracic pleurites 5–8 smooth *Stenorhynchus seticornis*
- 1B. Rostrum single, shorter than carapace. Postorbital process triangular or cup-shaped, close to eyestalk. Carapace and exposed thoracic pleurites 5–8 granular or tuberculate 2
- 2A (1). Pereopod 2 shorter than pereopod 3. Carapace broadly triangular, regions convex, tuberculate, divided by deep transverse parallel grooves *Paulita tuberculata*
- 2B. Pereopod 2 as long or longer than pereopod 3. Carapace not as in 2A 3
- 3A (2). Antennal basal article with carina or row of tubercles subparallel to lateral margin of antennular fossa 4
- 3B. Antennal basal article without carina subparallel to lateral margin of antennular fossa, sometimes with few tubercles, sometimes with tooth 12
- 4A (3). Rostrum longer than wide at base, tapering or with distal spine *Inachoides forceps*
- 4B. Rostrum not longer than wide, truncate or triangular, sometimes bifid or with medial notch (Fig. 14.84e–g, i) 5
- 5A (4). Carapace about as wide as long, with 1 gastric, 1 cardiac and 1 intestinal spines; postorbital spine triangular, shorter than hepatic angle *Batrachonotus fragosus*
- 5B. Carapace pyriform, longer than wide, spines or tubercles; postorbital spine triangular, as long as hepatic angle, or elongate, remote from hepatic margin *Collodes inermis*
- 6A (3). Antennal basal article with strong tooth near midpoint. Pereopods 2–5 dactyli with 2 rows of setae, one on mesial margin, other lateral *Anasimus latus*
- 6B. Antennal basal article without or with few tubercles subparallel to lateral margin of antennular fossa, usually with subterminal marginal tooth. Pereopod 2–5 dactyli without setae or with setae all around *Pyromaia tuberculata*

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LITERATURE CITED

- Boschi, E.E. 2000. Species of decapod crustaceans and their distribution in the American marine zoogeographic provinces. *Rev. Invest. Des. Pesq.* 13: 1-136.
- Camp, D. K. 1998. Checklist of shallow-water marine malacostracan Crustacea of Florida. In: *Checklists of selected shallow-water marine invertebrates of Florida* (D. K. Camp, W. G. Lyons and T.H. Perkins, eds.). Florida Marine Research Institute Technical Report TR-3. St. Petersburg, FL: Florida Department of Environmental Protection. Pp. 123-189.
- Carmona-Suárez, C. and J. Poupin. 2016. Majoidea crabs from Guadeloupe Island, with a documented list of species for the Lesser Antilles (Crustacea, Decapoda, Brachyura, Majoidea). *Zoosystema* 38(3): 353-387.
- Chace, F. A., Jr. 1956. Crustáceos decápodos y estomatópodos del Archipiélago de Los Roques e Isla de La Orchila. (A. Méndez et al., eds.) *Archipiélago de Los Roques y la Orchila*. 145-168 p., 4 pl. Sociedad de Ciencias Naturales La Salle, Editorial Sucre, Caracas.
- Coelho, P.A. 1999. Revision of the genera *Eurypodius* Guérin, 1825, *Anomalothir* Miers, 1879 and *Eucinotops* Stimpson, 1860, in the Caribbean and Atlantic coasts of South America (Crustacea, Decapoda, Majidae). *Trab. Oceanogr. da Univ. Federal de PE, Recife* 27(1): 149-168.
- Coelho, P.A. 2006. Revisão de *Podocheila* Stimpson e gêneros afins nas costas caribenha e atlântica da América do Sul (Crustácea; Decapoda, Inachidae). *Rev. Bras. Zool.* 23(3): 678-691.
- Dana, J.D. 1851. On the classification of the maioid Crustacea or Oxyrhyncha. *Am. J. Sci., series 2*, 11(33): 425-434.
- De Haan, W. 1833-1850. Crustacea. In: Siebold, P.F. von (ed.) *Fauna Japonica sive Descriptio Animalium, Quae in Itinere per Japoniam, Jussu et Auspiciis Superiorum, qui Summum in India Batava Imperium Tenent, Suscepto, Annis 1823-1830 Collegit, Noitis, Observationibus et Adumbrationibus Illustravit. Leiden: Lugduni-Batavorum*. Pp. i-xvii, i-xxxix, ix-xvi, 1-243, Plates A-J, L-Q, 1-55, circ. Table 2.
- Garth, J.S. 1958. Brachyura of the Pacific coast of America: Oxyrhyncha. *Allan Hancock Pacific Expeditions*, 21(1): 1-499.
- Guinot, D. 2012. Remarks on Inachoididae Dana, 1851, with the description of a new genus and the resurrection of Stenorhynchinae Dana, 1851, and recognition of the inachid subfamily Podocheilinae Neumann, 1878 (Crustacea, Decapoda, Brachyura, Majoidea). *Zootaxa* 3416: 22-40.
- Herbst, J.F.W. 1782-1804. *Versuch einer Naturgeschichte der Krabben und Krebse, nebst einer systematischen Beschreibung ihrer verschiedenen Arten. Erster*

- Band. Mit XXI Kupfer-Tafeln und Register. Krabben. Joh. Casper Fuessly, Zürich / Gottlieb August Lange, Berlin und Stralsund, iv + 274 pp., 21 pls
- Lamarck, J.B. 1818. *Histoire naturelle des Animaux sans Vertèbres, présentant les caractères généraux et particuliers de ces animaux, leur distribution, leurs classes, leurs familles, leurs genres, et la citation des principales espèces qui s'y rapportent; precedes d'une Introduction offrant la détermination des caracteres essentiels de l'Animal, sa distinction du vegetal et des autres corps naturels, enfin, l'Exposition des Principes fondamentaux de la Zoologie*. Paris, Deterville. vol 5: 612 pp.
- Lemos de Castro, A. 1949. "*Dasygygius tuberculatus*", uma nova espécie de Crustáceo do Brasil (Decapoda, Majidae). *Revista Brasil. Biol.* 9(3): 349-352.
- Lira, C., D. Fernández, J. Bolaños, G. Hernández and I. Hernández-Ávila. 2013. Contribuciones al conocimiento de la biodiversidad de crustáceos decápodos de Venezuela. I. Primeros registros de *Macrocoeloma concavum* Miers 1886 y *Microphrys interruptus* Rathbun 1920 (Brachyura: Majoidea: Majidae). *Bol. Centro Invest. Biol. Univ. Zulia* 47(1): 47-62.
- Lockington, W.N. 1877. Description of seventeen new species of Crustacea. *Proc. Calif. Acad. Sci.* 7 [for 1876]: 41-48.
- MacLeay, W.S. 1838. On the brachyurous decapod Crustacea brought from the Cape by Dr. Smith. In: Smith, A. (ed.) *Illustrations of the Annulosa of South Africa; being a portion of the objects of natural history chiefly collected during an expedition into the interior of South Africa, under the direction of Dr. Andrew Smith, in the years 1834, 1835. and 1836; fitted out by "The Cape of Good Hope Association for Exploring Central Africa"*. Published under the Authority of the Lords Commissioners of Her Majesty's Treasury, London, pp. i-iv + 53-71, pls. 2, 3.
- Marcano, J. and J. Bolaños. 2001. Cangrejos májidos (Decapoda: Brachyura: Majidae) de las aguas marinas someras venezolanas. *Bol. Inst. Oceanogr. Venez.* 40: 71-82.
- McLaughlin, P. A., D. K. Camp, M. Angel, E. L. Bousfield, P. Brunel, R. C. Brusca, D. Caden, A. C. Cohen, K. Conlan, L. G. Eldredge, D. L. Felder, J. W. Goy, T. A. Haney, B. Hann, R. W. Heard, E. A. Hendrycks, H. H. Hobbs III, J. Holsinger, B. Kensley, D. R. Laubitz, S. E. Lecroy, R. Lemaitre, R. F. Maddocks, J. W. Martin, P. Mikkelsen, E. Nelson, W. A. Newman, R. M. Overstreet, W. J. Poly, W. W. Price, J. W. Reid, A. Robertson, D. C. Rogers, A. Ross, M. Schotte, F. R. Schram, C. T. Shih, L. Watling, G. D. F. Wilson and D. D. Turgeon. 2005. Common and scientific names of aquatic invertebrates from the United States and Canada: Crustaceans. *American Fisheries Society* (Special Publication), 31, 1-545.
- Melo, G.A.S. 1996. Manual de identificação dos Brachyura (Caranguejos e Siris) do litoral brasileiro. Sao Paulo, Brasil. Pp. 1-362.
- Melo, G.A.S. 1998. Malacostraca – Eucarida. Brachyura. Oxyrhyncha and Brachyrhyncha, In: *Catalogue of Crustacea of Brazil* (P. S. Young, ed.). Rio de Janeiro, Museu Nacional, Série Livros, n° 6. pp. 455-515.
- Miers, E.J. 1879. Descriptions of new or little-known species of maioid Crustacea (Oxyrhyncha) in the collection of the British Museum. *Ann. Mag. Nat. Hist.* 4(19): 1-28.
- Miers, E.J. 1886. Report on the Brachyura collected by H.M.S. Challenger during the years 1873-1876. In: *Zoology. Report on the Scientific Results of the Voyage of H.M.S. Challenger During the Years 1873-76 Under the Command of Captain George S. Nares, R.N., F.R.S. and the Late Captain Frank Tourle Thomson, R.N. Wyville (J. Murray, ed.) Thomson, C. and J. Murray (series eds.)* Vol. 17. Edinburgh: Neill and Company. Pp. 1-362, Plates 1-29.

- Milne-Edwards, A. (1873-1880). *Études sur les xiphosures et les crustacés de la région mexicaine*. In: *Mission scientifique au Mexique et dans l'Amérique centrale, ouvrage publié par ordre du Ministre de l'Instruction publique. Recherches Zoologiques pour servir à l'histoire de la faune de l'Amérique centrale et du Mexique, publiées sous la direction de M. H. Milne Edwards, membre de l'Institut. Imprimerie nationale, Paris. Cinquième partie. Tome premier*. [8 unpaginated] + 1-368 + [63 unpaginated plate legends] pp., Pls. 1-61 + 5A + 31A [= 63 plates]. Dates of publication—Livraison 1: [6 unpaginated] + 1-24 pp., Pls. 1-7: 20 September 1873; Livraison 2: 25-56 pp., Pls. 8-14: 28 October 1873; Livraison 3: 57-120 pp., Pls. 15-20: 4 December 1875; Livraison 4: 121-184 pp., Pls. 21-27, 29, 30: 1878; Livraison 5: 185-224 pp., Pls. 31-39: 1879; Livraison 6: 225-264 pp., Pls. 40-43, 45-48, 5A: 1879; Livraison 7: 265-312 pp., Pls. 31A, 44, 49-54: 1880; Livraison 8: 313-368 + [8 unpaginated] pp., Pls. 55-61: 1880.
- Milne-Edwards, H. and H. Lucas. 1842-1844. Crustacés. In: *Voyage dans l'Amérique méridionale (le Brésil, la république orientale de l'Uruguay, la république Argentine, la Patagonie, la république du Chili, la république de Bolivie, la république du Pérou), exécutée pendant les années 1826, 1827, 1828, 1829, 1830, 1831, 1832 et 1833* (A, d'Orbigny, ed.). Vol. 6(1). Paris, Strasbourg: P. Bertrand, Vve Levrault. Pp. 1-37, 1-17.
- Nizinski, M.S. 2003. Annotated checklist of decapod crustaceans of Atlantic coastal and continental shelf waters of the United States. *Proc. Biol. Soc. Wash.* 116(1): 96-157.
- Ng, P.K.L., D. Guinot and P. Davie. 2008. Systema Brachyurorum: Part I. An annotated checklist of extant brachyuran crabs of the world. *Raffles Bull. Zool.* 17: 1-286.
- Poore, G. and S. Ah Yong. 2023. *Marine Decapod Crustacea. A guide to families and genera of the world*. CSIRO Publishing - CRC Press. Australia and New Zealand, 916 p.
- Poupin, J. 2018. Les Crustacés décapodes des Petites Antilles: Avec de nouvelles observations pour Saint-Martin, la Guadeloupe et la Martinique. Muséum national d'Histoire naturelle, Paris, 264 p. (Patrimoines naturels; 77).
- Powers, L.W. 1977. Crabs of the Gulf of Mexico. *Contrib. mar. sci.* 20: 1-190.
- Rathbun, M.J. 1894. Notes on the crabs of the family Inachidæ in the United States National Museum. *Proc. U.S. Natl. Mus.* 17(984): 43-75.
- Rathbun, M.J. 1896. Description of a new genus and four new species of crabs from the West Indies. *Proc. U.S. Natl. Mus.* 19(1104): 141-144.
- Rathbun, M.J. 1901. The Brachyura and Macrura of Porto Rico. *Bulletin of the United States Fish Commission* for 1900 2(2): 3-127.
- Rathbun, M.J. 1920. New species of spider crabs from the Straits of Florida and Caribbean Sea. *Proc. Biol. Soc. Wash.* 33: 23-24.
- Rathbun, M.J. 1925. The spider crabs of America. *Bull. U.S. Natl. Mus.* 166: 1-758.
- Rathbun, M.J. 1933. Scientific survey of Porto Rico and the Virgin Islands Volume XV - Part 1 Brachyuran crabs of Porto Rico and the Virgin Islands. New York: New York Academy of Sciences. 121 pp.
- Rathbun M.J. 1936. Zoologische ergebnisse einer Reise nach Bonaire, Curaçao und Aruba in Jahre 1930. 17. Brachyuran Crustacea from Bonaire, Curaçao and Aruba. *Zool. Jahrb. Abt. Syst.* 67: 379-388.
- Rodríguez, G. 1980. Crustáceos decápodos de Venezuela. IVIC. Caracas. 1-444 pp.
- Rodríguez, P., C. Lira and W. Santana. 2025. First record of *Paulita tuberculata* (Brachyura, Majoidea, Inachoididae) in the Caribbean Sea. *Bol. Invest. Mar. Cost.* 54(1): 175-184.

- Sánchez, L. 1997. Crustáceos presentes en la pesca industrial de arrastre al norte del estado Sucre y alrededores de la isla de Margarita, Venezuela. MSc. dissertation Thesis in Marine Sciences. Universidad de Oriente. Cumaná, Venezuela. 154 pp.
- Samouelle, G. 1819. The entomologist's useful compendium; or an introduction to the knowledge of British insects, comprising the best means of obtaining and preserving them, and a description of the apparatus generally used; together with the genera of Linné, and the modern method of arranging the classes Crustacea, Myriapoda, Spiders, Mites and Insects, from their affinities and structure, according to the views of Dr. Leach. Also, an explanation of the terms used in entomology; a calendar of the times of appearance and usual situations of near 3,000 species of British insects; with instructions for collecting and fitting up objects for the microscope. London, Thomas Boys. Pp 1-496.
- Santana, M. 2008. Revisão taxonômica e relações filogenéticas em Inachoididae Dana, 1851 (Crustacea, Brachyura, Majoidea). Dr. Dissertation Thesis in Zoology. Universidade de São Paulo. São Paulo, Brazil. 240 pp.
- Santana, W. and M. Tavares. 2009. *Podocheila meloi* Sankarankutty, Ferreira & Cunha, 2001, a junior synonym of the spider crab *Inachoides forceps* A. Milne-Edwards, 1879. *Zootaxa* 2294: 62-68.
- Sankarankutty, C., A.C. Ferreira and I.M.C. Cunha. 2001. On a new species of spider crab (Crustacea, Brachyura, Majidae) from the Northeast of Brazil. *Rev. Bras. Zool.* 18(2): 551-556.
- Stimpson, W. 1860. Notes on North American Crustacea, in the Museum of the Smithsonian Institution, No. II. *Ann. Lyceum Nat. Hist. New York* 7: 177-246, Plates II and V.
- Stimpson, W. 1871. Preliminary report on the Crustacea dredged in the Gulf Stream in the Straits of Florida by L.F. de Pourtales, Assist. U. S. Coast Survey. Part I. Brachyura. *Bull. Mus. Comp. Zool.* 2: 109-160.
- Türkay, M. 1968. Dekapoden von den Margarita-Inseln (Venezuela) (Crustacea). *Senckenbergiana Biol.* 49(3/4): 249-257.