Tyche sulae (Crustacea: Majidae) a new spider crab from Gorgona Island, Colombia

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Resumen: Se reporta una nueva especie de cangrejo majido, *Tyche sulae*, colectado en la Isla de Gorgona en el Pacífico de Colombia. La nueva especie se diferencia de las demás especies conocidas por la estructura de sus gonopodios, que se caracterizan por presentar una acentuada cresta, armada de una fuerte espina.

The genus *Tyche* Bell has a wide geographical distribution, ranging from Agua Verde Bay in the Gulf of California, to Esmeraldas, Ecuador, including the islands of Galápagos and Clarion (Garth, 1958). *Tyche lamellifrons* Bell, 1835 was considered for a long time the only species (Rathbun, 1925) until Garth (1958) described *Tyche clarionensis* and *T. galapagensis*.

During the Expedition Sula III (1979, Colciencias-Uniandes) to Gorgona Island, two adult crabs were collected. Their external anatomy is similar to that of *Tyche lamellifrons*, but the gonopods are different. Based on these differences, the crabs are considered as an undescribed species.

Material examined: Male holotype and one paratype, deposited in the Invertebrate Collection, of the Universidad de los Andes, Bogotá, Colombia.

Measurements -male holotype:

Length of rostrum	2.5 mm
Width of rostrum	3.0 mm
Length of carapace	17.0 mm
Hepatic width of carapace	9.0 mm
Branchial width of carapace	10.5 mm
Length of chela	5.0 mm
Length of gonopods (first pleopod)	3.2 mm

Family MAJIDAE Samonelle, 1819
Genus *Tyche* Bell, 1835

Tyche sulae new species
(Fig. 1)

Description: Carapace broad at hepatic level, with gastric and cardiac region elevated; branquial region depressed. Frontal region with four horns, the two parallel rostral horns exceed the preorbital horns, and present two spinous projections, extending inwards at the midpoint of each horn. Preorbital spines divergent. The posterior projection of the orbit and the hepatic lobe form a flattened leaflike process that cancels the eyestalk. External maxilliped broad, smooth, and inflated. Cheliped more robust than walking legs; merus cylindrical. First ambulatory legs longer than the cephalothorax, covered with clusters of hooked hairs, dactyle curved, with corneus tips. Gonopods straight, with two anterior flaps, one well-developed, forming a crest, armed with a strong spine, directed forward. The terminal orifice is not cancelled by the flaps. The concave margin presents a row of papillae (Fig. 2).

Color in life: Carapace and quelipeds Sudan brown.

Habitat: On hard substrate, down to 10 m, associated with algae of the genera *Ulva* and

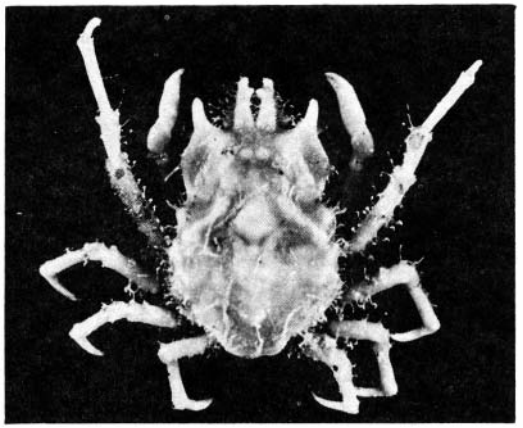

Fig. 1. Dorsal view of *Tyche sulae*, new species.

Padina. The holotype was captured with pieces of algae anchored in the hooked rostral and walking leg hairs, which permits the crab to camouflage itself with the substrate.

Remarks: The name *sulae* was given in memory of the Sula Expeditions to Gorgona Island.

The general anatomy of *Tyche sulae* n.sp. is similar to that of *T. lamellifrons*. According to Garth (1958) "It is the maxilliped and pleopods upon which the new species should rest, rather than relative length of rostral to preorbital horns". *Tyche galapagensis* (Fig. 3a) has a curved gonopod, with a triangular shaped opening and a rudimentary protecting flap, not extending to the tip. *Tyche lamellifrons* (Fig. 3b) has a gonopod provided with a rounded flap, which scarcely cancels the terminal orifice. The concave border has a row of papillae. *Tyche clarionensis* (Fig. 3c) has a gonopod with a fold along the convex margin terminating in a square-cut flap which cancells the terminal opening. The concave margin has a row of papillae (Garth, 1958).

Comparing these descriptions and drawings of the different gonopods of the known species, with those of *Tyche sulae* n.sp. (Figs. 2, and 3d), the general shape is straighter and not curved at the end. The crest flap has a strong and well-developed spine, directed forward on the anterior border, a structure not observed in the other gonopods. Dr. J.S. Garth (personal communication) examined the known species and could not detect spines on the flaps. The flaps do not cancel the genital orifice. We consider that these differences in the shape and

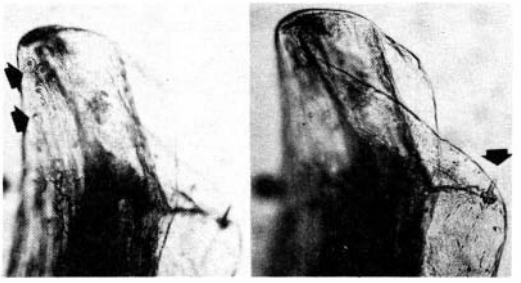

Fig. 2. Right first pleopod (gonopod) of *Tyche sulae* n.sp. a. Spine, b. Papillae.

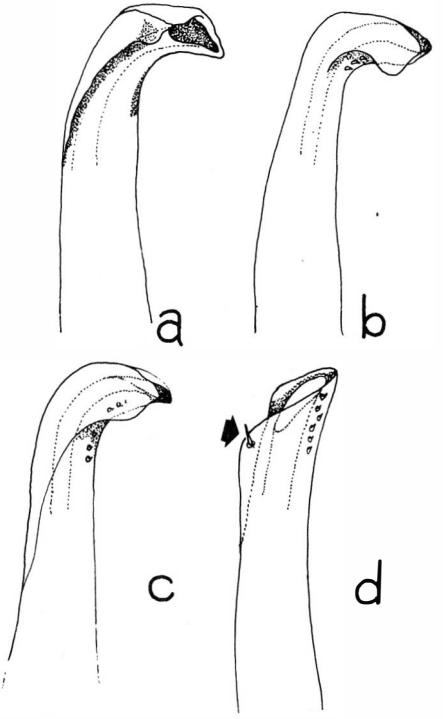

Fig. 3. Right first pleopod (gonopods) of:
a. *Tyche galapagensis* Garth, 1958.
b. *Tyche lamellifrons* Bell, 1835.
c. *Tyche clarionensis* Garth, 1958.
d. *Tyche sulae*, new species

structure of the gonopods justify the identification of this crab as a new species.

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