

GASTROPTYCHUS FORMOSUS (FILHOL, 1884) (DECAPODA,
ANOMURA, CHIROSTYLIDAE): TAXONOMIC HISTORY AND
FIRST RECORD FROM THE WESTERN ATLANTIC

BY

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ABSTRACT

The rare chirostylid *Gastroptychus formosus*, until now known only from the eastern Atlantic, is reported for the first time from the western Atlantic, indicating a boreal circum-Atlantic distribution. This record also represents the first occurrence mentioned of any chirostylid in Canadian Pacific or Atlantic waters. The find was at a shallower depth than any previous occurrences for this species. The specimen has been deposited at the Atlantic Reference Centre, Huntsman Marine Science Centre, St. Andrews, New Brunswick, Canada.

RESUMEN

Un ejemplar del chirostilido *Gastroptychus formosus*, hasta ahora solamente citado en el Atlántico nororiental, fue capturado por primera vez en las costas atlánticas del Canadá lo que indica una distribución circumboreal atlántica de la especie. Este cita representa asimismo la primera aparición de un chirostilido en aguas del Canadá. El ejemplar fue capturado a menos profundidad que en anteriores ocasiones. El ejemplar a sido depositado en el Atlantic Reference Centre, Huntsman Marine Science Centre, St. Andrews. New Brunswick, Canadá.

INTRODUCTION

The family Chirostylidae at present consists of 6 recognized genera with 133 species (Baba, unpublished): *Chirostylis* (4 spp.), *Eumunida* (19 spp.), *Hapaloptyx* (1 sp.), *Pseudomunida* (1 sp.), *Uroptychus* (82 spp.) and *Gastroptychus* (19 spp.). Species of *Gastroptychus* occur mostly in the Indian and Pacific Oceans, only 3 species being known in the Atlantic¹): *Gastroptychus affinis* (Chace, 1942) and *G. spinifer* (A. Milne-Edwards, 1880) from the western central areas, including the Caribbean and Gulf of Mexico (Chace, 1942). The third species, *G. formosus*, has been found only in the eastern Atlantic from Ireland (Selbie, 1914) to the Canary

¹) An additional species of *Gastroptychus*, *G. salvadori*, found off the Bahamas and closely resembling *G. formosus*, has recently been described by Rice & Miller (1991), Proc. biol. Soc. Washington, **104**: 299-308.

Islands (Bouvier, 1922). It is now reported for the first time from the northwest Atlantic, indicating a northern cross-Atlantic distribution. This find also represents the first record of any chirostylid in Canadian waters.

During a fisheries redfish survey cruise ("Alfred Needler" cruise no. 69) an unusual Galathaeoidean specimen, not conforming to any locally known species and later identified as *Gastroptychus formosus*, was recovered on 4 October 1986 on the continental slope off the Scotian Shelf southwest of Banquereau Bank, between Shortland Canyon and The Gully (43°56'N 58°32'W). The specimen was obtained in near perfect condition using a standard Atlantic Western IIA groundfish trawl with a 19 mm knotless nylon codend. Tow duration was 30 minutes covering a distance of 3.1 km. Bottom fishing depth varied from 745 to 800 m, compared to previous specimen records ranging from 800-1786 m (Bouvier, 1922, 1940). The specimen is a mature female with the following dimensions:

Carapace length (excluding rostrum)	12.5 mm
(incl. rostrum)	17.0 mm
Carapace width	12.2 mm
Total length (excl. appendages)	35.7 mm
(incl. cheliped)	99.7 mm
Right Cheliped	42.4 mm

Morphologically and meristically the specimen conforms closely to the combined detailed descriptions by A. Milne-Edwards & Bouvier (1900) and Selbie (1914). The most notable difference in the present specimen (fig. 1A) is an additional spine on the carapace, located behind the central spine of the gastric area (fig. 1B). Another minor variation was noted on the outer antennular flagellum, which is composed of 6 articles as opposed to 10 reported by A. Milne-Edwards & Bouvier (1900). Selbie (1914) found "very few joints" on that part of the appendage. Finally, tergite 5 of the abdomen is not "practically smooth" mid-dorsally, as reported by Selbie, but carried 2 pairs of spines (fig. 1A), as noted by A. Milne-Edwards & Bouvier.

Taxonomy. — Literature indicates that this species has had a confusing taxonomic history, being included under different genera by various authors. The original authorship was also accredited to several persons, which is partially attributable to the fact that the name appeared before a detailed description was published. The species has been variously attributed to A. Milne-Edwards (e.g., Selbie, 1914; Bouvier, 1940), A. Milne-Edwards & Bouvier (Caullery, 1896) and Filhol (Zariquiey Alvarez, 1968). As cited by A. Milne-Edwards & Bouvier (1900), it was first named *Ptychogaster formosus* Milne-Edwards in an unpublished account ("Mss.") but the animal was first mentioned and illustrated in a publication by Filhol (1884), and later by the same author in 1885. Perrier (1886) and A. Milne-Edwards & Bouvier (1894) subsequently also mentioned the species but it was not until 1900 that the first detailed description was given, in French, by A. Milne-Edwards & Bouvier.

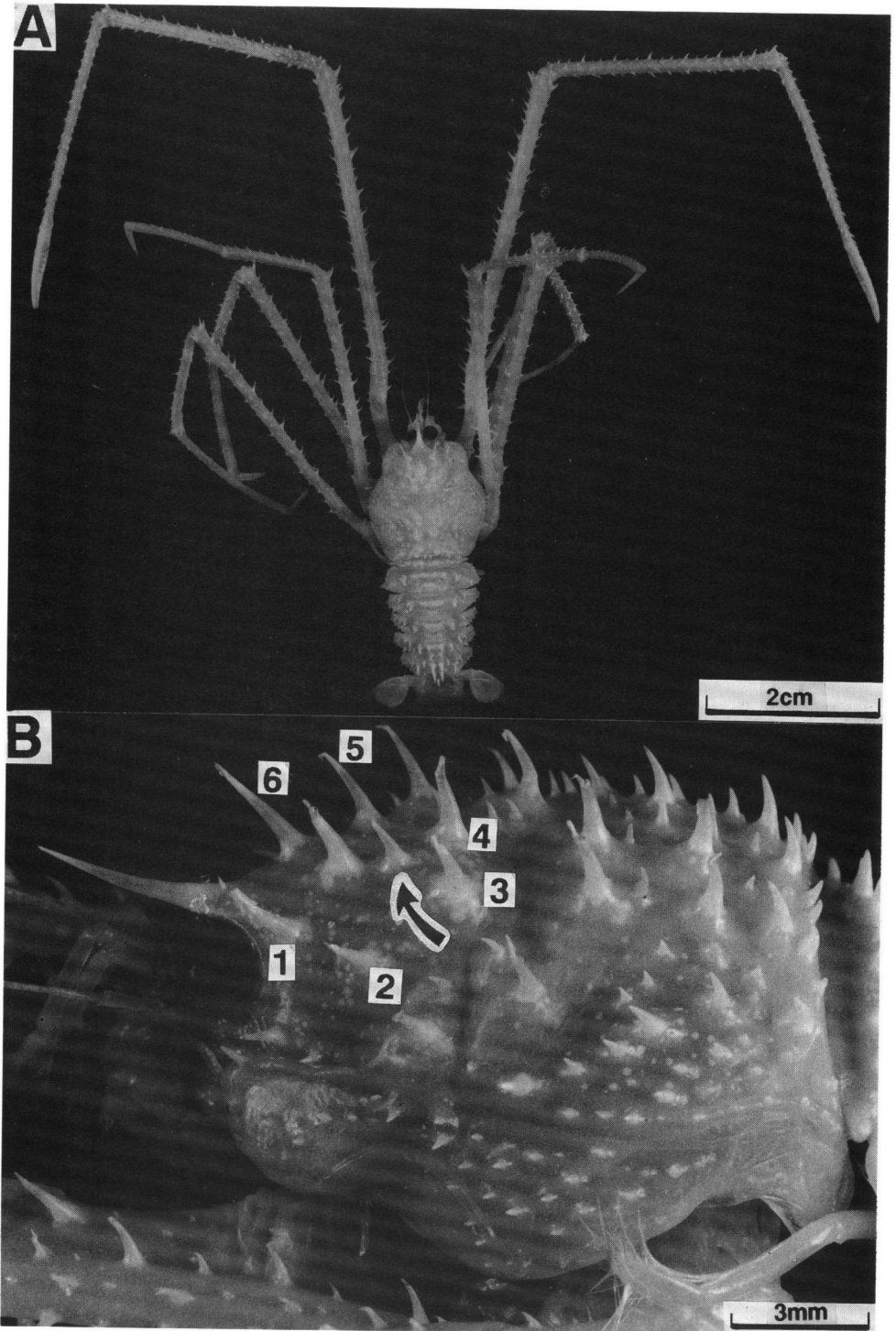


Fig. 1. *Gastroptychus formosus* (Filhol, 1884). A, dorsal view; B, lateral oblique close-up view of carapace, showing gastric area with numbered circle of 6 spines surrounding central and additional (arrow) spine.

This was later complemented by Selbie (1914) with an English description. However, the generic name *Ptychogaster* A. Milne-Edwards (1880) is invalid according to Caullery (1896), as it has been previously assigned to a sea turtle. Caullery substituted *Gastroptychus* for *Ptychogaster* but this later was changed again to *Chirostylus* by Bouvier (1896) who considered *Gastroptychus* a junior synonym of *Chirostylus* Ortmann, 1892.

More recently, the genus *Chirostylus* was subdivided by Miyake & Baba (1968) by separating the true *Chirostylis* group, believed to lack both a rostrum and an antennal scale, from the other species carrying a rostrum and an antennal scale. For the latter group of species the name *Gastroptychus* Caullery was resurrected by Miyake & Baba. This division has since been followed by others (e.g. Pequegnat & Pequegnat (1970). However, subsequent finds of specimens without an antennal scale but with a rostrum (Baba, 1977, 1991), now made the presence of the rostrum the only character for separating *Gastroptychus* from *Chirostylis* (see Baba, 1988). The small rostral spine found in some species of *Chirostylis* (see Tirmizi & Khan, 1979) is not considered by Baba (1988) to be a true rostrum but equivalent to the other "irregularly appearing" small spines on the carapace. Thus, the rostrum is apparently only recognized as such if it is larger than the other spines on the carapace. It would appear that clear generic characters for separating all species of *Gastroptychus* and *Chirostylis* have yet to be determined.

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