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Shallow-water Pycnogonida from Martinique, French Antilles, with description of *Nymphon macabou* n. sp.

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Abstract. 14 species of shallow-water Pycnogonida in 4 families are recorded from the island Martinique, French Antilles. The distributional data for most species are summarized. *Nymphon macabou* n. sp. is described and the female of *Tanystylum birkelandi* Child, 1979 is figured in detail.

Key words. Pycnogonida, Martinique, records, *Nymphon macabou* n. sp.

14 species of pycnogonids have been collected during a three weeks' survey of marine invertebrates at Martinique, French Antilles in April 1990, mainly from nearshore coral reefs and seagrass beds along the east coast. Only two species are new to science, implying that the pycnogonid fauna of the Caribbean is relatively well known. One other report (Bourdillon 1955) deals with some pycnogonid records from Martinique. Bourdillon recorded 9 species, of which 3 have also been found by the author. Additionally, 11 other species could be collected, increasing the number of pycnogonid species known from that island up to 20.

Besides a new species of Nymphonidae, *Nymphon macabou* n. sp., an unknown species of *Tanystylum* (Ammonotheidae) was found. However, the latter will be described elsewhere. That species has also been collected at the Caribbean coast of Colombia some years ago by the author and will be included in a monograph of pycnogonids from that area (Müller, in prep.).

The research has been carried out in cooperation with the Laboratoire de Biologie Marine et de Malacologie in Perpignan, France (director: Dr. Bernard Salvat). Specimens are deposited in the Zoologisches Forschungsinstitut und Museum Alexander Koenig, Bonn, Germany (ZFMK) and the Museum National d'Histoire Naturelle, Paris, France (MNHN).

Systematic Account

Ammonotheidae

Achelia Hodge, 1864

Achelia sawayai Marcus, 1940

Material: 1 ♂ (ZFMK), Cap Chevalier; reef-flat of nearshore fringing reef, exposed locality; from mainly dead corals (*Porites*), 0.5—1.5 m, 11 April 1990.

A common shallow-water species of pantropical distribution. It has been more often found in the Western Atlantic.

Ammothella Verrill, 1900

Ammothella exornata Stock, 1975

Material: 1 ♀ (ov.) (ZFMK), Ilet Cabrits; dead corals covered with algae, moderately exposed, 0–1 m, 2 April 1990. 1 juv. (ZFMK), Petite Anse de Macabou; seagrass-beds (*Syringodium*, *Thalassia*), 0–1 m, 7 April 1990. 1 juv. (ZFMK), same location, algal vegetation on rocks and dead corals from nearshore patch reef, moderately exposed, 0–1 m, 6–10 April 1990. 1 ♀ (MNHN), same location; dead corals on nearshore patch reef; exposed reef-flat and reef-margin, 0–2 m, 6–15 April 1990. 1 ♀ (ov.) (MNHN), Madras, Baie de Tartane; dead corals in seagrass beds (mainly from *Porites*), moderately exposed, 1–2 m, 18 April 1990.

Since its original description based on specimens from St. Martin and Bonaire, it has been reported from some other Caribbean localities: Panama (Child: 1979: 9); Belize (Child 1982: 358); Curacao, Jamaica (Stock 1979: 975).

Ammothella marcusii Hedgpeth, 1948

Material: 1 ♂ (ZFMK), Madras, Baie de Tartane; dead corals in seagrass beds (mainly from *Porites*), moderately exposed, 1–2 m, 18 April 1990.

A. marcusii was known from both sides of the isthmus of Panama and the Pacific coast of Mexico (Child 1979: 9), Belize (Child 1982: 358), Florida (Hedgpeth 1948: 247), the Virgin Islands (Stock 1975a: 975) and from the Netherlands Antilles (Bonaire, Curaçao) (Stock 1975a: 975; 1979: 9).

Ammothella spinifera Cole, 1904

Material: 1 ♀ (ZFMK), Le Vauclin, Pointe Faula; seagrass beds (*Syringodium*, *Thalassia*) on sand-mud and sand, sheltered location, 0–0.5 m, 1 April 1990. 3 ♂, 1 ♀ (ov.), 2 juv. (MNHN), Petite Anse de Macabou; seagrass beds (*Syringodium*, *Thalassia*), 0–1 m, 7 April 1990. 1 ♂ (ZFMK), Madras, Baie de Tartane; dead corals in seagrass beds (mainly from *Porites*), moderately exposed, 1–2 m, 18 April 1990.

A. spinifera was known from the west coast of America, from California south to Panama and also from the Caribbean coast of Panama (Child 1979: 12). Recently, Müller (in press) reported on that species from the eastern Caribbean island Barbados.

Tanystylum Miers, 1879

Tanystylum acuminatum Stock, 1954

Material: 1 ♂ (ZFMK), Petite Anse de Macabou; dead corals on nearshore patch reef; exposed reef-flat and reef-margin, 0–2 m, 6–15 April 1990.

T. acuminatum was known only from the eastern Caribbean islands St. Barthélemy and Anguilla (Stock 1954: 125; 1979: 11).

Tanystylum birkelandi Child, 1979 (Figs. 1–5)

Material: 1 ♀ (ov.) (ZFMK), Petite Anse de Macabou; dead corals on nearshore patch reef; exposed reef-flat and reef-margin, 0–2 m, 6–15 April 1990.

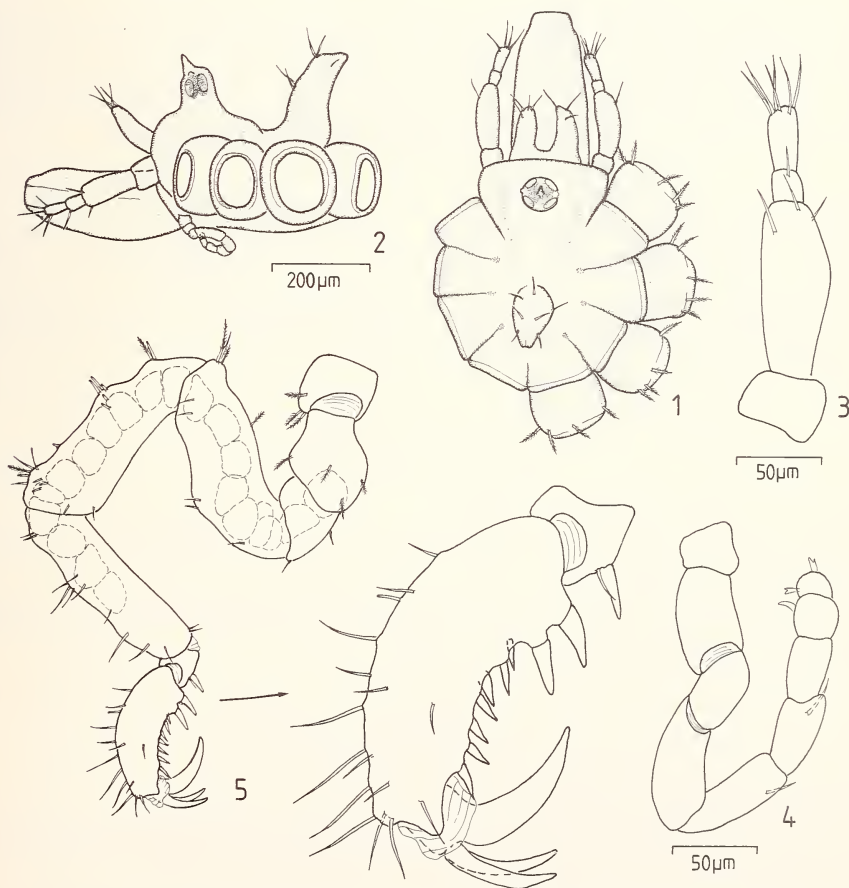
Although Child (1979: 23) mentioned in the text of the original description the differences between ♂ and ♀ of that species, the ♀ has never been figured to show the sexual dimorphism in more detail. In its general habitus the ♀ from Martinique

is very similar to the ♂. The fringed dorsolateral and dorsal setae of the first coxae of the walking legs do not insert on small cylindrical tubes. Fringed setae are less numerous on femur and tibia 1. Tibia 2 and propodus are provided with simple setae only. The ♀-oviger is very small and 9-segmented, with the 2 distal segments much smaller than in the ♂. Segments 5 and 6 bear a short seta, segment 8 with one and segment 9 with two short spines.

T. birkelandi is only reported from the Caribbean coast of Panama (Child 1979: 23) and Belize (Child 1982: 363). Its distribution is now considerably extended from Middle America to the eastern Caribbean.

Tanystylum geminum Stock, 1954

Material: 1 ♂ (ov.), 1 ♀ (ZFMK), Petite Anse de Macabou; seagrass-beds (*Syringodium*, *Thalassia*), 0–1 m, 7 April 1990. 1 ♀ (ov.) (ZFMK), same locality; algal vegetation on rocks and dead corals from nearshore patch reef, moderately exposed, 0–1 m, 6–10 April 1990.



Figs. 1–5: *Tanystylum birkelandi* Child, 1979, ♀: 1) dorsal view; 2) lateral view; 3) palp; 4) oviger; 5) 3rd leg.

5 ♂ (1 ov.), 4 ♀ (1 ov.) (MNHN), same locality; dead corals on nearshore patch reef; exposed reef-flat and reef-margin, 0–2 m, 6–15 April 1990. 1 ♂ (ZFMK), Madras, Baie de Tartane; dead corals in seagrass-beds (mainly *Porites*), moderately exposed, 1–2 m, 18 April 1990.

Specimens from Martinique are in good agreement with the descriptions from the literature, with the exception that some have tiny rounded anterolateral tubercles on the lateral processes.

T. geminum is already known from Martinique (Bourdillon 1955: 587), other records are from the Atlantic coast of Mexico and Panama (Child 1979: 28), Florida and Puerto Rico (Stock 1975a: 983), Barbados (Müller, in press), Bonaire, Margarita, St. Martin and Jamaica (Stock 1979: 13). Stock (1982: 187) determined one ♂ from Somalia with “some reservation” as *T. geminum*.

Tanystylum isthmiacum Stock, 1955

Material: 1 ♀ (ov.) (ZFMK), Petite Anse de Macabou; seagrass-beds (*Syringodium*, *Thalassia*), 0–1 m, 7 April 1990.

In the Pacific *T. isthmiacum* has been reported from Costa Rica and Mexico (Child 1979: 29) as well as from Panama (Stock 1955: 247) and Ecuador (Stock 1975b: 74). In the western Atlantic it has been found in Panama (Child 1979: 29), Brazil (Stock 1975a: 984) and Curaçao (Stock 1979: 11). In the eastern Atlantic there is only one record from the Cape Verde Islands (Fage & Stock 1966: 389).

Tanystylum n. sp.

Material: 1 ♂, Petite Anse de Macabou; dead corals on nearshore patch reef; exposed reef-flat and reef-margin, 0–2 m, 6–15 April 1990.

This species will be described in the author's monograph on the pycnogonida from the Caribbean coast of northern Colombia, where it has also been found some years ago (Müller, in prep.).

Callipallendiae

Callipallene Flynn, 1929

Callipallene emacinata (Dohrn, 1881)

Material: 1 ♂ (ov.) (ZFMK), Petite Anse de Macabou; seagrass-beds (*Syringodium*, *Thalassia*), 0–1 m, 7 April 1990.

A common shallow-water species, recorded from several localities in the Mediterranean and Atlantic (cf. Child 1982: 365).

Nymphonidae

Nymphon Fabricius, 1794

Nymphon macabou n. sp. (Figs. 6–13)

Holotype: ♀ (ov.) (ZFMK), Petite Anse de Macabou; dead corals on nearshore patch-reef; exposed reef-flat and reef-margin, 0–2 m, 6–15 April 1990. Paratypes: 1 ♂, 1 ♀ (ov.), 1 subadult specimen (ZFMK), collected together with holotype.

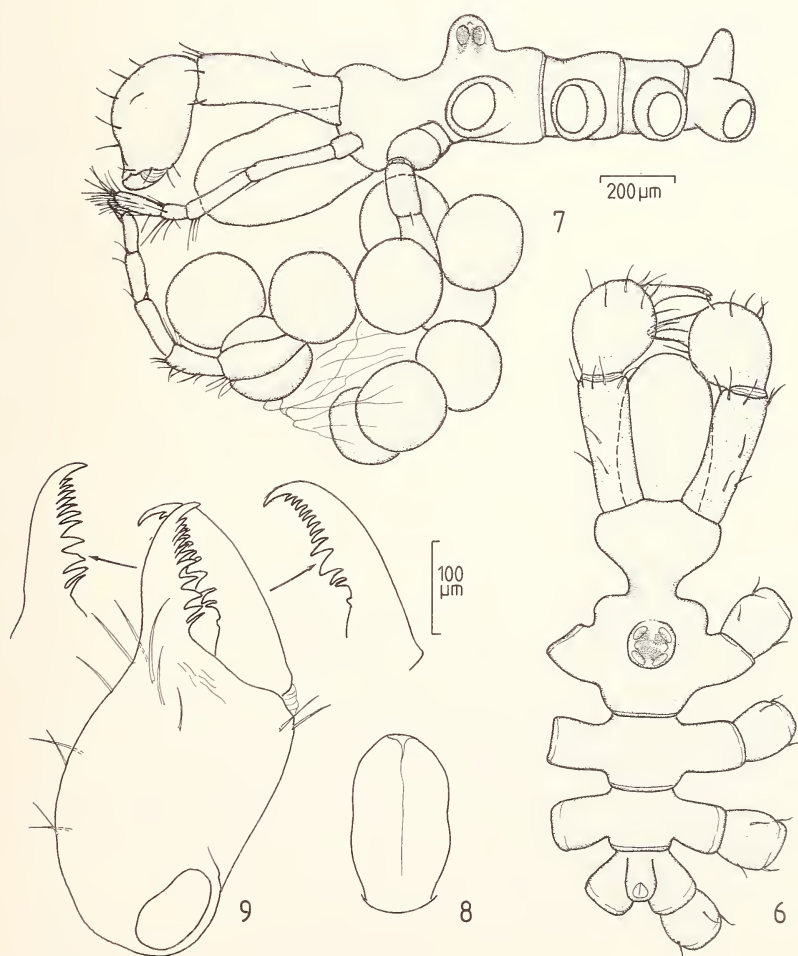
Diagnosis: *Nymphon macabou* n. sp. is characterized through its robust chelae and denticulation of the chelifore-fingers: immovable finger with 11 teeth, 4 in proximal

half being more robust than others; movable finger with 13 teeth, 2 in proximal half more robust than others. Legs relatively short; tibia 2 with pair of short ventrodistal spines. Propodus well curved, with many simple setae and 7 slender sole spines. Auxiliaries slightly shorter than main claw, robust, with many tiny denticulations in proximal half.

Description (ov. ♂, holotype): A small, robust species with fully segmented trunk. Lateral processes smooth, little longer than their diameters, separated by distance less to their diameters, bare of any setae. Neck short and broad. Ocular tubercle at anterior of first lateral processes, with 2 small lateral papillae.

Eyes large, oval and well pigmented.

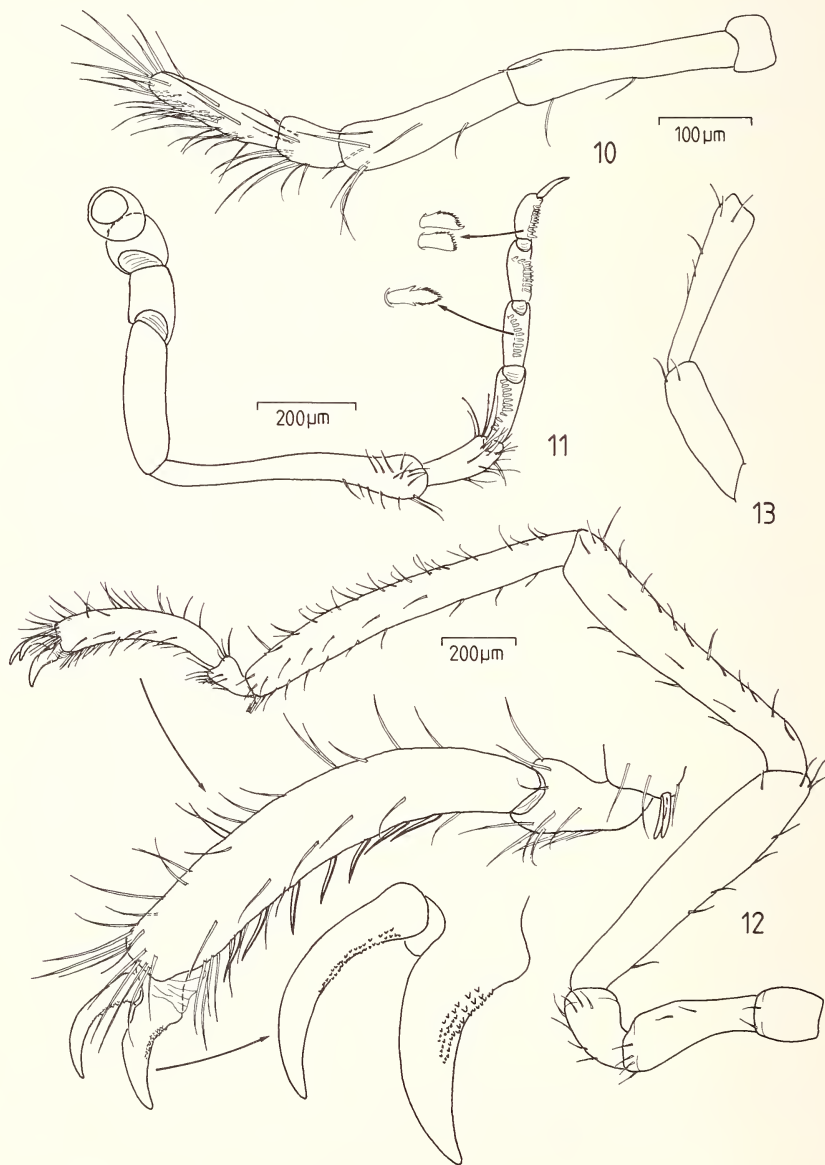
Proboscis robust, oval and distally rounded, of $\frac{2}{5}$ trunk length.



Figs. 6–9: *Nymphon macabou* n. sp., ov. ♂, holotype: 6) dorsal view; 7) lateral view; 8) proboscis, ventral view; 9) chela.

Abdomen a short, erect and distally rounded stump bare of any setae.

Chelifore scape robust, 2.5 times longer than wide, armed with some short setae. Chela very robust, almost globular, with some short setae. Chelifore fingers short and robust; immovable finger with 11 teeth, 4 in proximal half more robust than others; movable finger with 13 teeth, 2 in proximal half more robust than others.



Figs. 10–13: *Nymphon macabou* n. sp. — ov. ♂, holotype: 10) palp; 11) oviger; 12) 3rd leg. — ♀, paratype: 13) 4th and 5th oviger-segment.

Palp 5-segmented, with first segment very short; second segment longest, 1.3 times longer than third; distal segment 2 times longer than fourth, bearing many setae longer than segment diameter.

Oviger slender, 10-segmented; three proximal segments short; 5th segment longest, two times longer than fourth, somewhat widened distally, with some distal setae; strigilis segments subequal in length, with row of denticulate, leaflike spines in the formula 11:9:9:9.; terminal claw slightly shorter than distal segment. Eggs of very large size, 5 times larger than strigilis segments diameter.

Legs moderately short and robust; several short setae on all segments, more numerous on dorsum of tibiae and propodus; coxae 1 and 3 subequal in length; coxa 2 about 2 times longer than first or second coxa; femur more robust than other segments, subequal in length to first tibia; tibia 2, 1.2 longer than tibia 1 or femur, with 2 short ventrodistal spines; tarsus short, about $\frac{1}{4}$ length of propodus; propodus well curved, with several simple setae; propodal sole bearing 7 slender spines; claws short and robust, well curved, internal proximal margin with many denticulations; main claw 0.3 times length of propodus, slightly longer than auxiliaries.

Measurements (mm):

Length of trunk (anterior margin of cephalic segment to posterior edge of 4th lateral processes)	1.13
Width of trunk (across second lateral processes)	0.54
Length of proboscis	0.48
Length of abdomen	0.13
Third leg:	
Coxa 1	0.18
Coxa 2	0.37
Coxa 3	0.17
Femur	0.82
Tibia 1	0.83
Tibia 2	0.94
Tarsus	0.13
Propodus	0.44
Main claw	0.13
Auxiliaries	0.11

♀: Similar in its general features to male, 5th oviger segment only 1.3 times longer than 4th segment.

Etymology: The specific name is derived from the type locality, Petite Anse de Macabou.

Distribution: Martinique.

Remarks: *N. macabou* n. sp. resembles more closely *Nymphon aemulum* Stock, 1975 from the tropical western Atlantic. It can easily be distinguished from that species by its shorter neck and the more robust chelifores with much shorter fingers (cf. Stock 1975a: 998, Figs. 16–17).

Phoxichilidiidae

Anoplodactylus Wilson, 1878

Anoplodactylus batangensis (Helfer, 1938)

Material: 1 ♂ (ZFMK), Ilet Cabrits; dead corals covered with algae, moderately exposed location, 0–1 m, 2 April 1990. 1 juv. (ZFMK), Cap Chevalier; reef-flat of nearshore fringing reef,

exposed locality; from mainly dead corals (*Porites*), 0.5–1.5 m, 11 April 1990. 1 ♀ (ZFMK), Petite Anse de Macabou; under stones and rocks, intertidal and shallow rock-pools, sheltered and moderately exposed locality, 10 April 1990. 2 ♂ (1 ov.), 1 ♀ (ov.), 1 juv. (MNHN), Madras, Baie de Tartane; dead corals in seagrass-beds (mainly *Porites*), moderately exposed, 1–2 m, 18 April 1990.

A common shallow-water species of circumtropical distribution, more often collected in the western Atlantic. *A. batangensis* is already known from Martinique (Bourdillon 1955: 587).

Anoplodactylus californicus Hall, 1912 (= *A. portus* Calman, 1927)

Material: 1 ♀ (ZFMK), Petite Anse de Macabou; algal vegetation on rocks and nearshore patch reef, moderately exposed, 0–1 m, 6–10 April 1990.

A circumtropical species, common in algal vegetation of shallow waters. It is already reported from Martinique (Bourdillon 1955: 586).

Anoplodactylus monotrema Stock, 1979

Material: 2 ♂, 1 ♀ (ZFMK), Petite Anse de Macabou; algal vegetation on rocks and nearshore patch reef, moderately exposed, 0–1 m, 6–10 April 1990.

Widely distributed in the eastern Pacific and western Atlantic, formerly it has been confused with *Anoplodactylus robustus* (Dohrn, 1881) (see Child 1982: 372, Stock 1979: 15).

Zusammenfassung

Es wird über 14 Arten von Flachwasser-Pantopoden berichtet, die vom Verfasser auf Martinique vorwiegend in Korallensubstrat und Seegrasbeständen gesammelt wurden. *Nymphon macabou* n. sp. wird beschrieben und das Weibchen von *Tanystylum birkelandi* Child, 1979 im Detail abgebildet.

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