

## Pycnogonida of the MUSORSTOM campaigns to the Philippines

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### ABSTRACT

Nineteen species of Pycnogonida are recorded from the Philippines, mostly from the continental shelf (73-200 m), except for two samples from the continental slope (266-668 m). Of these, four species are new : *Ascorhynchus foresti*, *A.*

*verrucosus*, *Nymphon grus*, and *Pycnosomia coxata*. The remaining species were previously known from the western Pacific islands, the Indo-Malayan islands, Australia and the Bay of Bengal.

### RÉSUMÉ

**Pycnogonida : Pycnogonides des campagnes MUSORSTOM aux Philippines.**

Dix-neuf espèces de Pycnogonides sont signalées des Philippines. Tous les échantillons proviennent du plateau continental (73-200 m), à l'exception de deux récoltés sur la

penne continentale (266-668 m). Parmi ces espèces, quatre sont nouvelles : *Ascorhynchus foresti*, *A. verrucosus*, *Nymphon grus* et *Pycnosomia coxata*. Les autres étaient déjà connues des îles de l'Ouest-Pacifique, des îles indo-malaises, de l'Australie ou du golfe du Bengale.

### INTRODUCTION

The Pycnogonida from the central part of the Indo-Pacific are relatively well studied. It is not surprising, therefore, that the MUSORSTOM cam-

paigns 2 and 3 to the Philippines yielded a relatively low number of new species (4 out of 19, or 21 %). For comparison, I may quote my other

paper in this volume in which the collections of Pycnogonida of the French campaigns to the New Caledonian region are treated, containing not less than 66 % new species.

The species already known demonstrate the uniformity of the pycnogonid fauna of the central Indo-Pacific : they have been recorded from the western Pacific islands, the Indo-Malayan islands, Australia and the Bay of Bengal.

The new species belong to large, circumglobal genera (*Ascorhynchus*, *Nymphon*), except for a

new species of *Pycnosomia*, a genus of which only three species are known, all from the north-eastern and central-eastern Pacific.

The material treated in this report has been preserved in the Muséum national d'Histoire naturelle, Paris (MNHN), but for some duplicates which are stored in the Zoölogisch Museum, Amsterdam (ZMA).

The characters preceding the station number indicate the type of gear used : DR = rectangular dredge 1.20 x 0.50 m ; CP = beam trawl 4 m.

### SYSTEMATIC ACCOUNT

The following taxa have been encountered :

#### Family Ammotheidae

- Ascorhynchus cactoides* Stock, 1954  
*A. verrucosus* sp. nov.  
*Cilunculus compactus* Stock, 1991  
*C. hirsutus* Clark, 1963  
*Nymphopsis korotnewi* Schimkewitsch, 1887  
*Achelia socors* (Loman, 1908)

#### Family Nymphonidae

- Nymphon aequidigitatum*-group  
*N. grus* sp. nov.

#### Family Callipallenidae

- Parapallene nierstraszi* Loman, 1908

*Pseudopallene zamboangae* Stock, 1953

#### Family Phoxichilidiidae

- Pallenopsis (P.) virgata* Loman, 1908  
*Pallenopsis (Bathypallenopsis) tydemani* Loman, 1908  
*Anoplodactylus tubiferus* (Haswell, 1884)  
*A. versluysi* Loman, 1908  
*A. sp.* (cf. *micros* Bourdillon, 1955)  
*A. sp.*  
*Pycnosomia coxata* sp. nov.  
*Endeis flaccida* Calman, 1923

#### Family Rhynchothoracidae

- (Rhynchothoracidae auct.)  
*Rhynchothorax orientalis* Child, 1988.

### Family AMMOTHEIDAE

Genus *ASCORHYNCHUS* Sars, 1877

*Ascorhynchus cactoides* Stock, 1954

*Ascorhynchus cactoides* Stock, 1954 : 132-135, figs 63 d-f, 66 ; 1991 : 128. — ARNAUD & CHILD, 1988 : 127.

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 3 : stn DR 117, 12°31.2' N, 120°39.3' E, 92-97 m, 3 June 1985 : 1 young ♀ (MNHN Py 798).

REMARKS. — The distal palp segments are somewhat more slender than in the holotype, and the curved abdomen is longer. Otherwise, this specimen agrees well with *A. cactoides*.

Previously recorded from the Kei Islands, Indonesia (STOCK, 1954) and New Caledonia (STOCK, 1991), in 90 to 515 m.

*Ascorhynchus foresti* sp. nov.

Figs 1-2

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 3 : stn DR 117, 12°31.2' N, 120°39.3' E, 92-97 m, 3 June 1985 : 1 ♀ holotype, 1 juv. (MNHN Py 799).

DESCRIPTION. — *Holotype* : Trunk completely segmented ; trunk segments 1, 2, and 3 with strongly swollen posterior rim, acuminating in small mid-dorsal point. Lateral processes separated by less than own diameter ; dorsodistally with pointed prominence. Neck without anterior tubercles. Ocular tubercle ending in narrow point ; two small lateral tubercles ; eyes distinct.

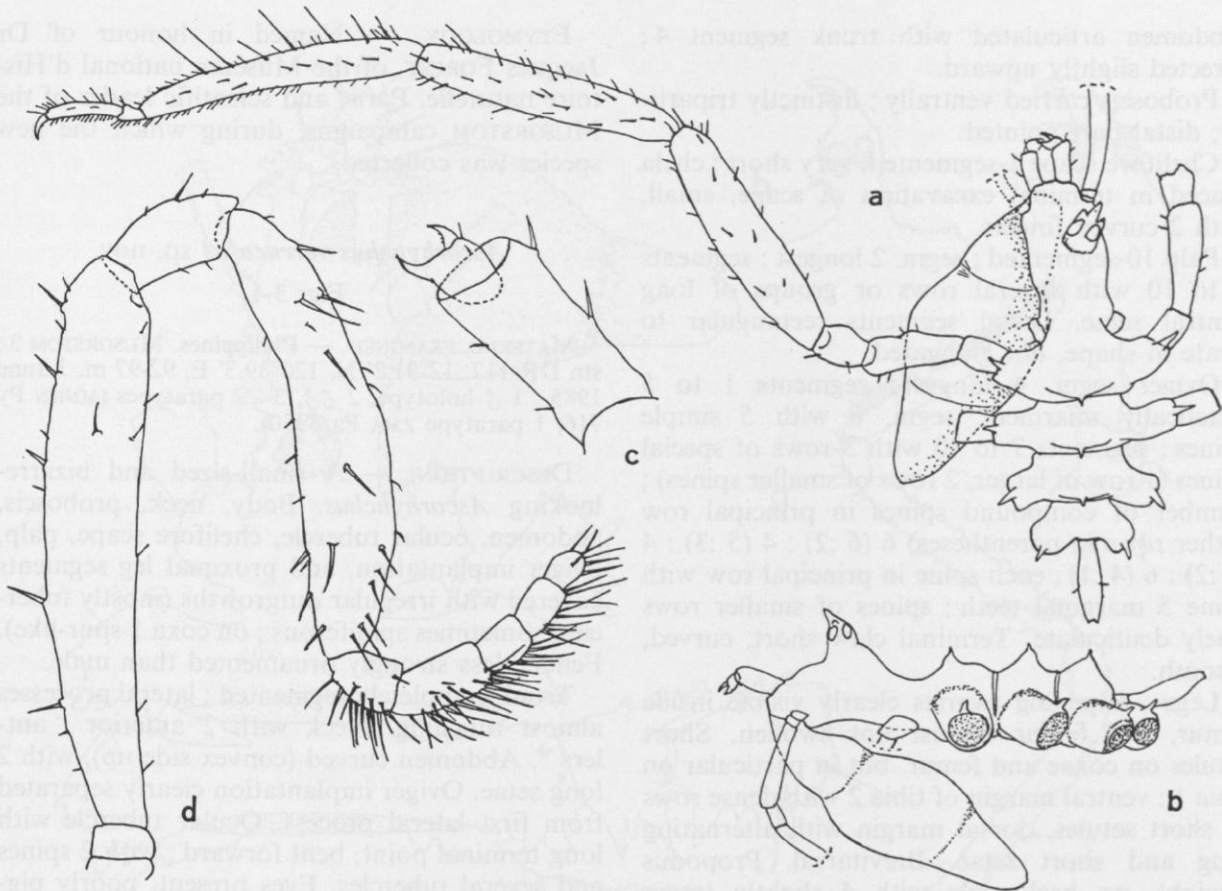


FIG. 1. — *Ascorhynchus foresti* sp. nov., ♀ holotype : a, trunk and first leg, dorsal ; b, trunk, from the left ; c, chelifore ; d, palp.

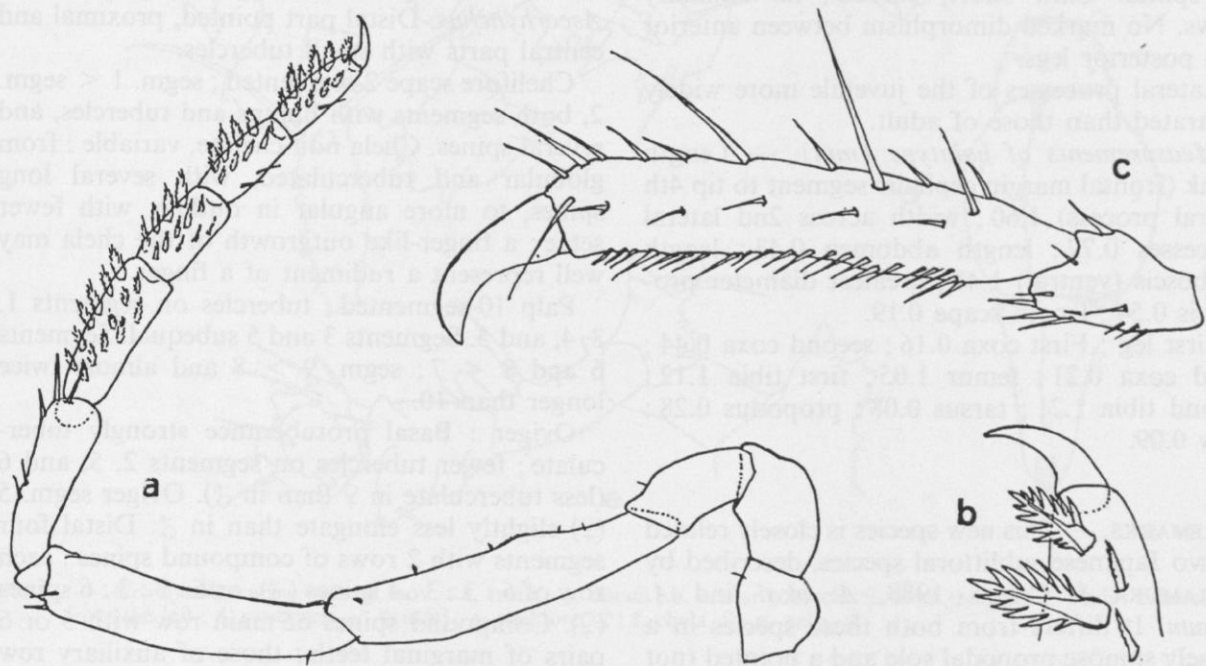


FIG. 2. — *Ascorhynchus foresti* sp. nov., ♀ holotype : a, oviger ; b, distal part of oviger ; c, distal segments of leg 1.

Abdomen articulated with trunk segment 4; directed slightly upward.

Proboscis carried ventrally; distinctly tripartite; distal part pointed.

Chelifore scape 1-segmented, very short; chela placed in terminal excavation of scape, small, with 2 curved fingers.

Palp 10-segmented; segm. 2 longest; segments 6 to 10 with several rows or groups of long ventral setae. Distal segments rectangular to ovate in shape, not elongated.

Oviger segm. 4 longest; segments 1 to 5 practically unarmed; segm. 6 with 5 simple spines; segments 7 to 10 with 3 rows of special spines (1 row of larger, 2 rows of smaller spines); number of compound spines in principal row (other rows in parentheses) 6 (6 : 2) : 4 (5 : 3) : 4 (4 : 2) : 6 (4 : 1); each spine in principal row with some 5 marginal teeth; spines of smaller rows finely denticulate. Terminal claw short, curved, smooth.

Legs: Ripening ovaries clearly visible inside femur, but femur almost not swollen. Short setules on coxae and femur, but in particular on tibia 1; ventral margin of tibia 2 with dense rows of short setules, dorsal margin with alternating long and short setae. Brevitarsal. Propodus straight, no heel; sole with 4 slightly larger spines, alternating with numerous slightly smaller spines. Claw short, curved; no auxiliary claws. No marked dimorphism between anterior and posterior legs.

Lateral processes of the juvenile more widely separated than those of adult.

*Measurements of holotype (mm).* — Length trunk (frontal margin cephalic segment to tip 4th lateral process) 1.60; width across 2nd lateral processes 0.77; length abdomen 0.43; length proboscis (ventral) 1.41; greatest diameter proboscis 0.54; length scape 0.19.

First leg: First coxa 0.16; second coxa 0.44; third coxa 0.21; femur 1.05; first tibia 1.12; second tibia 1.21; tarsus 0.08; propodus 0.28; claw 0.09.

**REMARKS.** — This new species is closely related to two Japanese sublittoral species, described by NAKAMURA & CHILD, 1988, *A. okai* and *A. prosum*. It differs from both these species in a densely spinose propodal sole and a pointed (not obtuse) tip of the proboscis.

**ETYMOLOGY.** — Named in honour of Dr Jacques FOREST, of the Muséum national d'Histoire naturelle, Paris, and scientific leader of the MUSORSTOM campaigns, during which the new species was collected.

*Ascorhynchus verrucosus* sp. nov.

Figs 3-4

**MATERIAL EXAMINED.** — **Philippines.** MUSORSTOM 3: stn DR 117, 12°31.2' N, 120°39.3' E, 92-97 m, 3 June 1985: 1 ♂ holotype, 2 ♂♂, 3 ♀♀ paratypes (MNHN Py 716, 1 paratype ZMA Pa 3330).

**DESCRIPTION.** — A small-sized and bizarre-looking *Ascorhynchus*. Body, neck, proboscis, abdomen, ocular tubercle, chelifore scape, palp, oviger implantation, and proximal leg segments covered with irregular outgrowths (mostly tubercles, sometimes spiniferous; on coxa 1 spur-like). Female less strongly ornamented than male.

Trunk completely segmented; lateral processes almost touching. Neck with 2 anterior "antlers". Abdomen curved (convex side up), with 2 long setae. Oviger implantation clearly separated from first lateral process. Ocular tubercle with long terminal point, bent forward; with 2 spines and several tubercles. Eyes present, poorly pigmented.

Proboscis tripartite, as typical for the genus *Ascorhynchus*. Distal part pointed, proximal and central parts with small tubercles.

Chelifore scape 2-segmented; segm. 1 < segm. 2, both segments with humps and tubercles, and several spines. Chela non-chelate, variable: from globular and tuberculated, with several long spines, to more angular in outline, with fewer setae; a finger-like outgrowth of the chela may well represent a rudiment of a finger.

Palp 10-segmented; tubercles on segments 1, 3, 4, and 5. Segments 3 and 5 subequal. Segments 6 and 8 < 7; segm. 9 > 8 and almost twice longer than 10.

Oviger: Basal protuberance strongly tuberculate; fewer tubercles on segments 2, 5, and 6 (less tuberculate in ♀ than in ♂). Oviger segm. 5 (♀) slightly less elongate than in ♂. Distal four segments with 2 rows of compound spines; each row of 6 : 3 : 3 : 4 spines (♂), or 6 : 3 : 3 : 6 spines (♀). Compound spines of main row with 5 or 6 pairs of marginal teeth; those of auxiliary row with fewer teeth. Terminal claw unadorned.

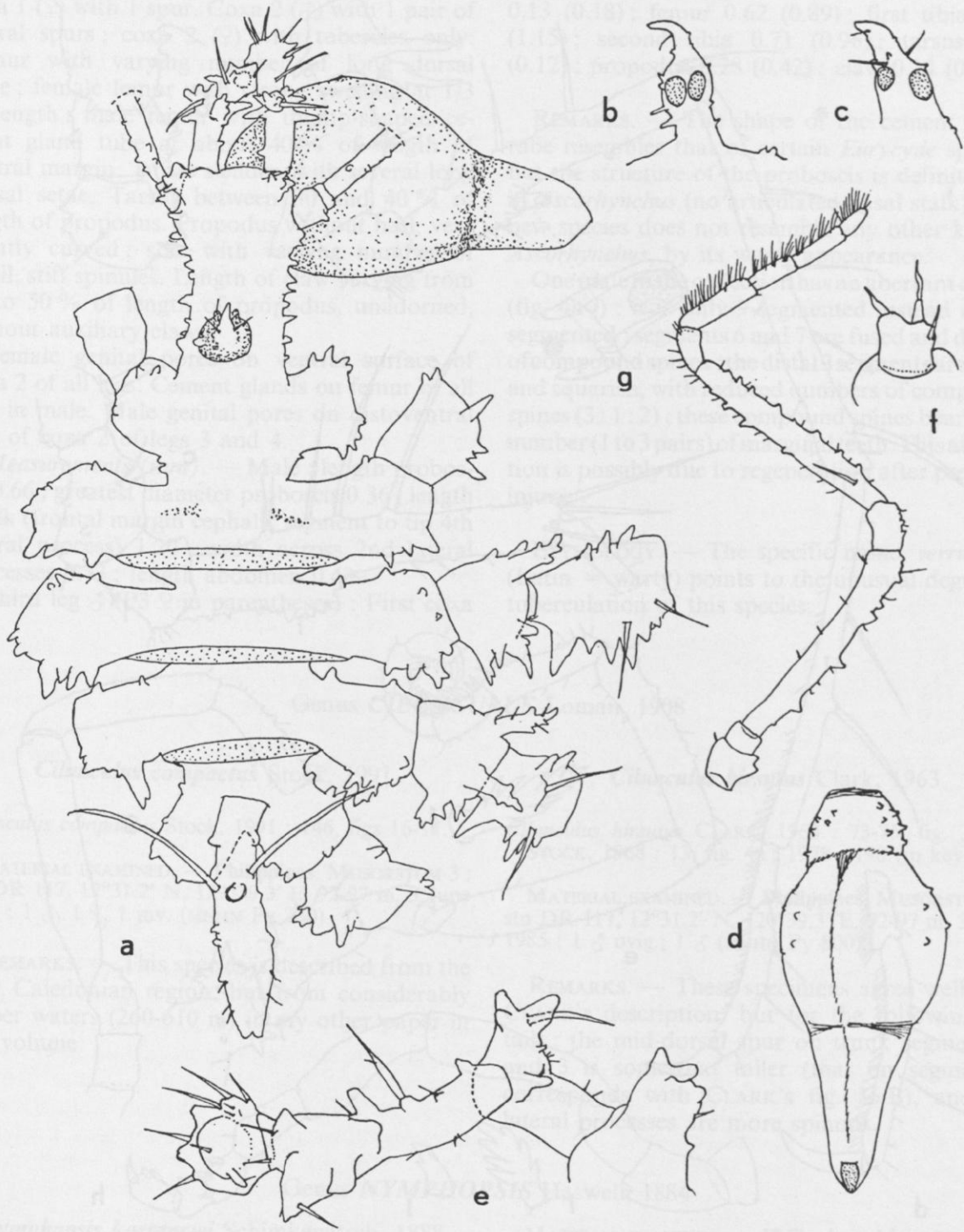


FIG. 3. — *Ascorhynchus verrucosus* sp. nov. : a, trunk, ♂, dorsal ; b, ocular tubercle, ♀, from the left ; c, ocular tubercle, ♂, from the left ; d, proboscis, ♀, ventral ; e, chelifore, ♂ ; f, chela, ♀ ; g, palp, ♂.

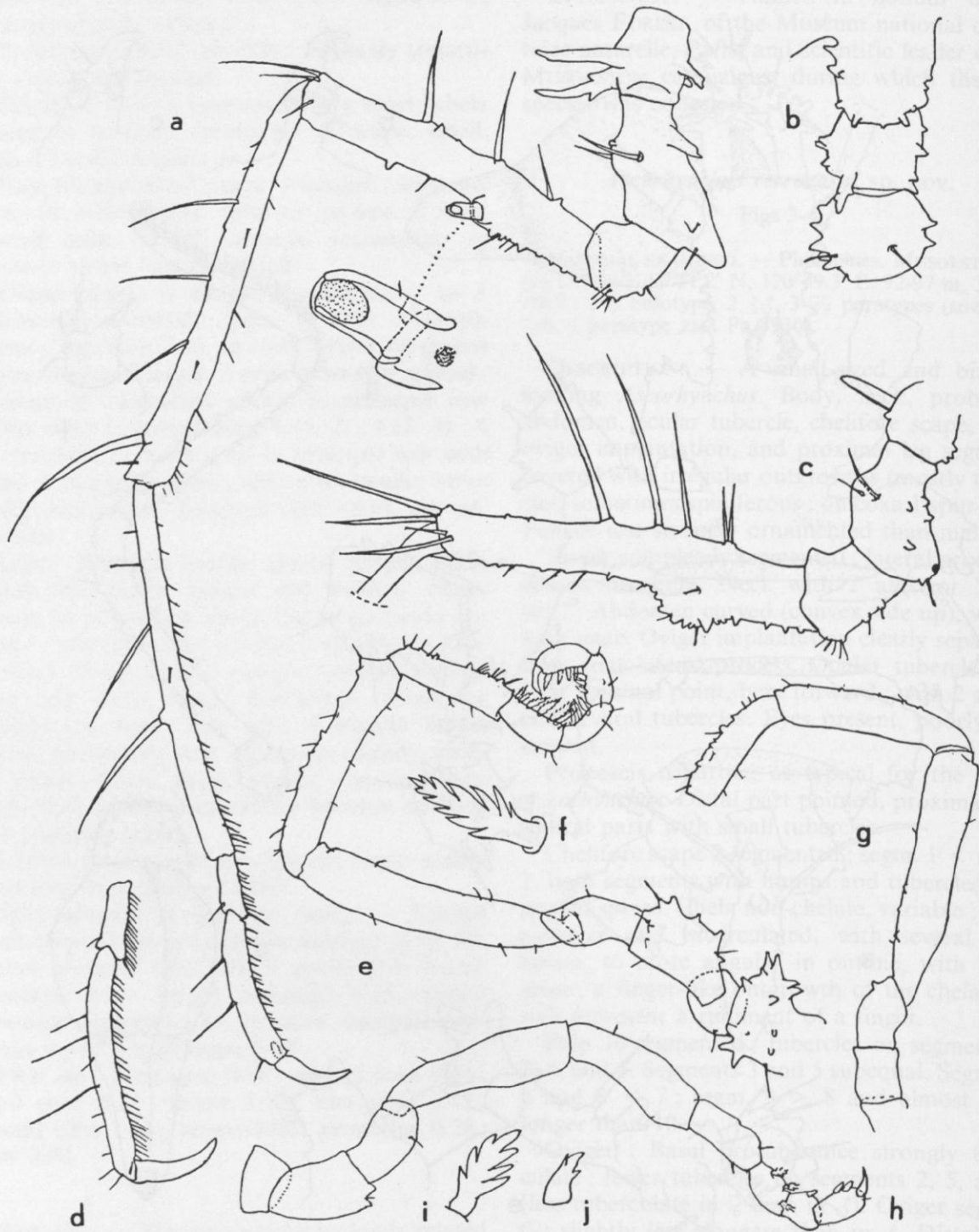


FIG. 4. — *Ascorhynchus verrucosus* sp. nov. : a, leg 3, ♂ ; b, lateral process and first and second coxae of leg 3, ♀, dorsal ; c, proximal segments of leg 3, ♀, lateral ; d, distal segments of leg 3, ♀ ; e, oviger, ♂ ; f, compound spine of oviger segment 7, ♂ ; g, proximal part of oviger, ♀ ; h, oviger of aberrant ♂ ; i, same, special spine of segment 7 ; j, same, special spine of segment 8.

Legs : Coxa 1 (♂) with 2 strong dorsal spurs ; coxa 1 (♀) with 1 spur. Coxa 2 (♂) with 1 pair of lateral spurs ; coxa 2 (♀) with tubercles only. Femur with varying number of long dorsal setae ; female femur with strong swelling at 1/3 of length ; male femur with thump-shaped cement gland tube at about 40 % of length of ventral margin. Tibiae slender, with several long dorsal setae. Tarsus between 30 and 40 % of length of propodus. Propodus without heel, very slightly curved ; sole with varying number of small, stiff spinules. Length of claw varying from 36 to 50 % of length of propodus, unadorned, without auxiliary claws.

Female genital pores on ventral surface of coxa 2 of all legs. Cement glands on femur of all legs in male. Male genital pores on distoventral side of coxa 2 of legs 3 and 4.

*Measurements (mm)*. — Male : length proboscis 0.66 ; greatest diameter proboscis 0.36 ; length trunk (frontal margin cephalic segment to tip 4th lateral process) 1.20 ; width across 2nd lateral processes 0.73 ; length abdomen 0.43.

Third leg ♂ (P3 ♀ in parentheses) : First coxa

0.16 (0.18) ; second coxa 0.27 (0.29) ; third coxa 0.13 (0.18) ; femur 0.62 (0.89) ; first tibia 0.80 (1.15) ; second tibia 0.71 (0.96) ; tarsus 0.11 (0.12) ; propodus 0.28 (0.42) ; claw 0.14 (0.15).

**REMARKS.** — The shape of the cement gland tube resembles that of certain *Eurycyde* species, but the structure of the proboscis is definitely as in *Ascorhynchus* (no articulated basal stalk). The new species does not resemble any other known *Ascorhynchus*, by its warty appearance.

One male in the collection has an aberrant oviger (fig. 4h-j) : it is only 9-segmented instead of 10-segmented ; segments 6 and 7 are fused and devoid of compound spines ; the distal 3 segments are short and squarish, with reduced numbers of compound spines (3 : 1 : 2) ; these compound spines bear a low number (1 to 3 pairs) of marginal teeth. This aberration is possibly due to regeneration after previous injury.

**ETYMOLOGY.** — The specific name, *verrucosus* (Latin = warty) points to the unusual degree of tuberculation of this species.

### Genus *CILUNCULUS* Loman, 1908

#### *Cilunculus compactus* Stock, 1991

*Cilunculus compactus* Stock, 1991 : 146, figs 16-17.

**MATERIAL EXAMINED.** — **Philippines.** MUSORSTOM 3 : stn DR 117, 12°31.2' N, 129°39.3' E, 92-97 m, 3 June 1985 : 1 ♂, 1 ♀, 1 juv. (MNHN Py 740).

**REMARKS.** — This species is described from the New Caledonian region, but from considerably deeper waters (260-610 m) in my other paper in this volume.

#### *Cilunculus hirsutus* Clark, 1963

*Cilunculus hirsutus* CLARK, 1963 : 73-75, fig. 36. — STOCK, 1968 : 13, fig. 4a ; 1978 : 198 (in key).

**MATERIAL EXAMINED.** — **Philippines.** MUSORSTOM 3 : stn DR 117, 12°31.2' N, 129°39.3' E, 92-97 m, 3 June 1985 : 1 ♂ ovig., 1 ♂ (MNHN Py 800).

**REMARKS.** — These specimens agree well with CLARK's description, but for the following details : the mid-dorsal spur on trunk segments 2 and 3 is somewhat taller (that on segment 1 corresponds with CLARK's fig. 36 B), and the lateral processes are more spinous.

### Genus *NYMPHOPSIS* Haswell, 1884

#### *Nymphopsis korotnewi* Schimkewitsch, 1888

*Nymphopsis korotnewi* Schimkewitsch, 1888 : 127-134, pl. 5 ; 1929 : 91-92. — LOMAN, 1908 : 50-52, pl. 13 figs 179-181 ; 1912, fig. F. — D'ARCY THOMPSON, 1909 : 534. — CHILD, 1975 : 27, fig. 11 a-b.

**MATERIAL EXAMINED.** — **Philippines.** MUSORSTOM 3 : stn CP 121, 12°08.3' N, 121°17.3' E, 73-84 m, 3 June 1985 : 1 ♂ ovig. (MNHN Py 801).

**REMARKS.** — This is the fourth reported specimen. Like all previous specimens, it is a

male. The female remains unknown. The species has been recorded from the Sunda Islands (In-

donesia), and between Geraldton and Perth (Western Australia); depth range 34-144 m.

### Genus *ACHELIA* Hodge, 1864

#### *Achelia socors* (Loman, 1908)

*Ammothea socors* Loman, 1908 : 61-62, pl.1 figs 14-19.  
*Achelia socors* - STOCK, 1985 : 157, figs 13-22.

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 3 :

stn DR 117, 12°31.2' N, 120°39.3' E, 92-97 m, 3 June 1985 : 1 ♂ ovig., 2 ♂♂, 1 ♀ (MNHN Py 802).

REMARKS. — Previously recorded from Indonesia (between Ceram and Buru and the Strait of Makassar), in depths between 34 and 36 m.

### Family NYMPHONIDAE

#### Genus *NYMPHON* Fabricius, 1794

#### *Nymphon aequidigitatum*-group

See : CHILD, 1988a : 67-68.

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 3 : stn DR 117, 12°31.2' N, 120°39.3' E, 92-97 m, 3 June 1985 : 3 ♂♂, 2 ♀♀ (MNHN Py 803).

REMARKS. — All specimens are devoid of legs, and therefore cannot be identified properly. The males of this sample appear to have a gonfate chelar palm, the females a more slender palm. All specimens have a functional articulation at the base of the neck, just in front of the oviger implantation.

#### *Nymphon grus* sp. nov.

Figs 5-6

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 3 : stn DR 126, 11°49.2' N, 121°22.1' E, 266 m, 4 June 1985 : 1 ♂ holotype (MNHN Py 804).

DESCRIPTION. — A medium-sized, oculate, uninguiculate *Nymphon*. Neck long; posterior 70 % of neck parallel-sided; anterior part moderately expanded. Ocular tubercle low, truncate; eyes large, well-pigmented. Trunk completely segmented; lateral processes distally armed with 2 to 4 setae; separated by intervals at least 3 times as wide as own diameter; lateral processes 1, 2, and 3 more than twice as long as diameter trunk.

Abdomen overreaching distal end of lateral process 4.

Proboscis swollen in middle, slightly narrower at base and at rounded tip.

Scapes divergent, shorter than chela. Hand of chela shorter than fingers; hand and fingers narrow, elongate. Movable finger with ca. 35 slightly curved teeth of one size; immovable finger with ca. 29 teeth, similar in size and shape to those of the other finger.

Palp segm. 2 ca. 30 % longer than segm. 3; segm. 5 as long as 4. Long setae, especially on segments 4 and 5.

Oviger with long, curved segm. 5; latter with small distal apophysis. Segm. 6 setose. Compound spine formula 7 : 6 : 5 : 5; each compound spine with 2 pairs of marginal teeth. Terminal claw with 7 short, obtuse, somewhat curved teeth.

Legs thin. Coxae long (together longer than femur). Tibia 1 > tibia 2 >> femur. Tarsus about 70 % of length of propodus; ventral margin with very few, minute spinules. Propodus almost straight, without trace of heel : sole armed with low number of minute spinules. Claw long, almost 2/3 of propodus; no auxiliary claws.

Femoral cement glands discharging through ovate, slightly raised pores; there are 3 such pores on legs 1, 2, and 3; 1 pore on leg 4; pores situated in middle of ventral surface of segment.



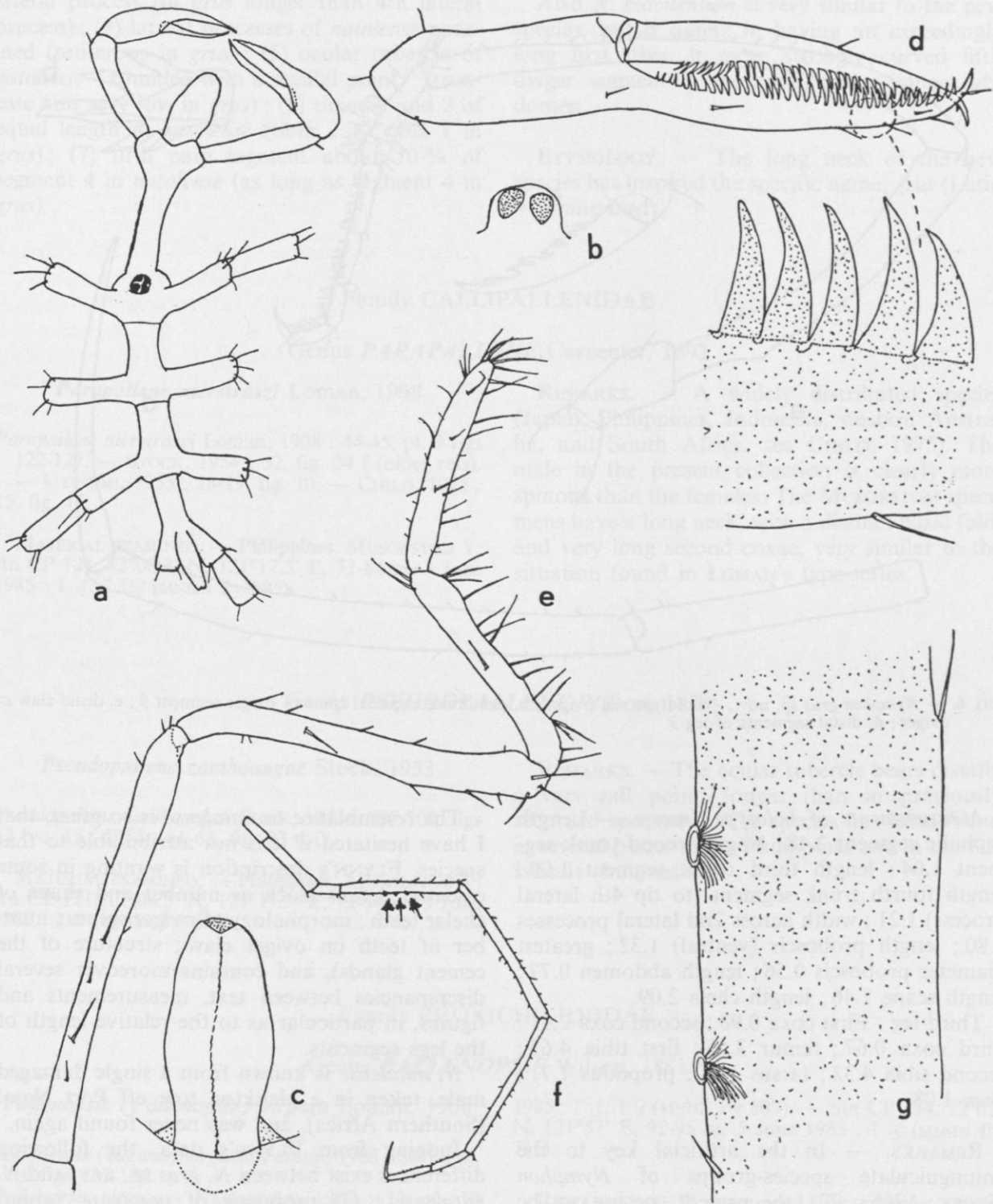


FIG. 5. — *Nymphon grus* sp. nov., ♂ holotype : a, trunk, dorsal ; b, ocular tubercle from the left ; c, proboscis, ventral ; d, chela (teeth of encircled area more strongly enlarged) ; e, palp ; f, leg 2 (arrows indicate cement gland apertures) ; g, two cement gland apertures.

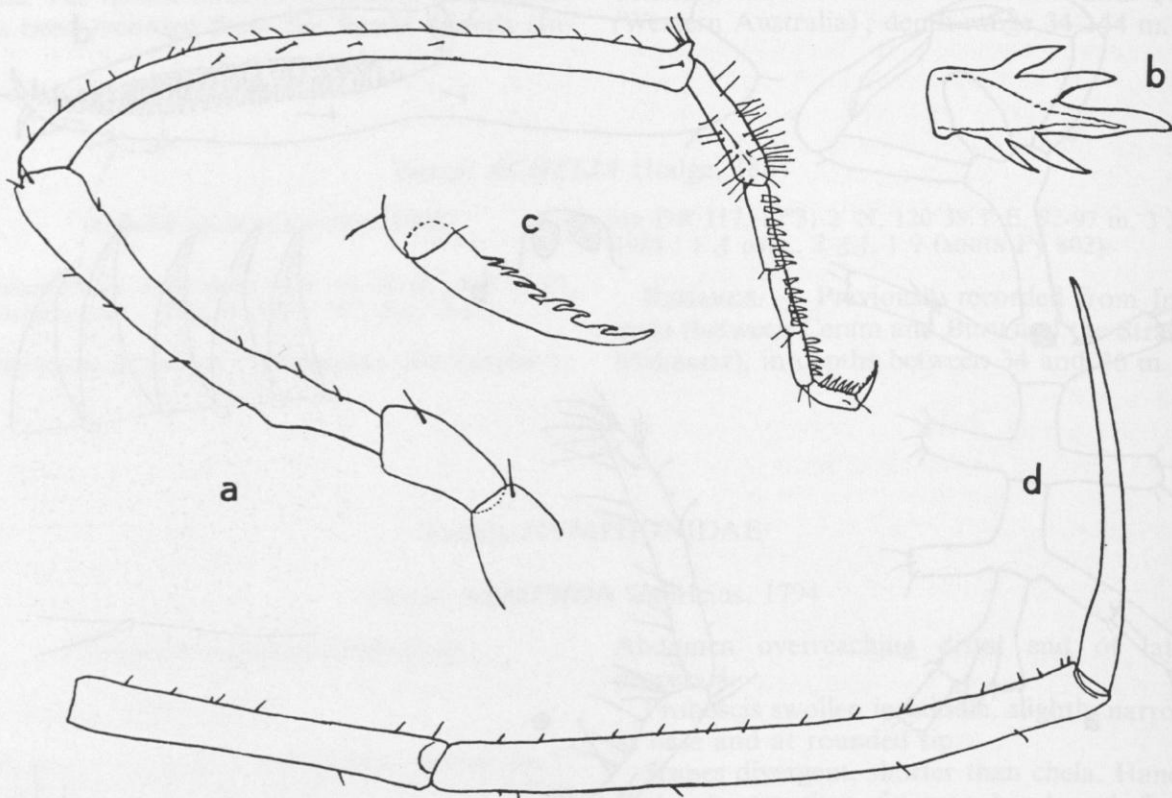


FIG. 6. — *Nymphon grus* sp. nov., ♂ holotype : a, oviger ; b, penultimate special spine of oviger segment 9 ; c, distal claw of oviger ; d, distal segments of leg 3.

*Measurements of holotype (mm).* — Length cephalic segment 2.48 ; length second trunk segment 1.04 ; length third trunk segment 1.00 ; length fourth trunk segment (to tip 4th lateral process) 1.21 ; width across 2nd lateral processes 2.80 ; length proboscis (ventral) 1.32 ; greatest diameter proboscis 0.56 ; length abdomen 0.77 ; length scape 1.46 ; length chela 2.09.

Third leg : First coxa 0.98 ; second coxa 2.11 ; third coxa 0.67 ; femur 3.55 ; first tibia 4.63 ; second tibia 4.32 ; tarsus 1.21 ; propodus 1.71 ; claw 1.08.

**REMARKS.** — In the artificial key to the uniunguiculate species-groups of *Nymphon* (STOCK, 1965 : 22), the present species can be followed to couplet 4a. In its very long neck and long lateral processes, it agrees only with *Nymphon natalense* Flynn, 1928, and *N. macilentum* Stock, 1981.

The resemblance to *natalense* is so great, that I have hesitated if it is not attributable to that species. FLYNN's description is wanting in some essential details (such as number and shape of chelar teeth ; morphology of oviger spines ; number of teeth on oviger claw ; structure of the cement glands), and contains moreover several discrepancies between text, measurements and figures, in particular as to the relative length of the legs segments.

*N. natalense* is known from a single damaged male, taken in a plankton tow off Port Natal (Southern Africa), and was never found again.

Judging from FLYNN's data, the following differences exist between *N. grus* sp. nov. and *N. natalense* : (1) proboscis of *natalense* "about equal in length to the cephalon, i.e. from the anterior margin of the cephalon to the posterior end of the neck" (in *grus* : about 77 % of the neck) ; (2) abdomen of *natalense* shorter than 4th

lateral process (in *grus* longer than 4th lateral process); (3) lateral processes of *natalense* unarmed (setiferous in *grus*); (5) ocular tubercle of *natalense* "rounded with a medial point" (truncate and very low in *grus*); (6) tibiae 1 and 2 of equal length in *natalense* (tibia 2 < tibia 1 in *grus*); (7) fifth palp segment about 70 % of segment 4 in *natalense* (as long as segment 4 in *grus*).

Also *N. macilentum* is very similar to the new species, but it differs in having an exceedingly long first tibia, a more strongly curved fifth oviger segment in the male, and a longer abdomen.

ETYMOLOGY. — The long neck of the new species has inspired the specific name, *grus* (Latin = crane bird).

### Family CALLIPALLENIDAE

#### Genus *PARAPALLENE* Carpenter, 1892

##### *Parapallene nierstraszi* Loman, 1908

*Parapallene nierstraszi* Loman, 1908 : 44-45, pl. 9 figs 122-127. — STOCK, 1954 : 52, fig. 24 f (older refs). — UTINOMI, 1955 : 18-19, fig. 10. — CHILD, 1975 : 15, fig. 15.

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 3 : stn CP 121, 12°08.3' N, 121°17.3' E, 73-84 m, 3 June 1985 : 1 ♂, 2 ♀ (MNHN Py 805).

REMARKS. — A widely distributed species (Japan, Philippines, Indonesia, western Australia, and South Africa, see CHILD, 1975). The male in the present collection is clearly more spinous than the females. The MUSORSTOM specimens have a long neck, with a distinct basal fold, and very long second coxae, very similar to the situation found in LOMAN's type-series.

#### Genus *PSEUDOPALLENE* Wilson, 1878

##### *Pseudopallene zamboangae* Stock, 1953

*Pseudopallene zamboangae* Stock, 1953 : 297-300, figs 12 b-c, 13; 1954 : 61-63, fig. 27 d-f.

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 3 : stn CP 121, 12°08.3' N, 121°17.3' E, 73-84 m, 3 June 1985 : 1 ♀ (MNHN Py 806).

REMARKS. — The ocular tubercle bears distally a very tall point, longer than in previously recorded specimens. The species has been found in several places in the Philippines and in the Kei Islands (Indonesia).

### Family PHOXICHILIDIIDAE

#### Genus *PALLENOPSIS* Wilson, 1881

##### *Pallenopsis (Pallenopsis) virgata* Loman, 1908

*Pallenopsis (Rigona) virgatus* Loman, 1908 : 69-70, pl. 10 figs 135-136.

*Pallenopsis virgata* - NAKAMURA, 1987 : 13, pl. 10 (refs.).

*Pallenopsis (Pallenopsis) virgata* - STOCK, 1991 : 197.

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 3 : stn CP 121, 12°08.3' N, 121°17.3' E, 73-84 m, 3 June

1985 : 1 ♂, 1 ♀ (MNHN Py 807). — Stn CP 134, 12°01' N, 121°57' E, 92-95 m, 5 June 1985 : 1 ♂ (MNHN Py 715).

REMARKS. — I compared the present specimens with LOMAN's holotype, a male from Indonesia (E. of Sumbawa), and found a close correspondence with the Philippine specimens.

NAKAMURA's figure 10(5) does not show the

presence of 3 spine-tipped processes (or tubercles) at the dorsodistal end of the femur and first tibia. Several spines on the dorsal, posterior, and anterior surface of these segments are likewise implanted on low tubercles.

Distributed from Japan to New Caledonia.

*Pallenopsis (Bathypallenopsis) tydemani*

Loman, 1908

*P. (P.) tydemani* Loman, 1908 : 65-66, pl. 10 figs 139-145.

*P. tydemani* - HEDGPETH, 1949 : 277, fig. 36 i-j.

*P. (B.) tydemani* - STOCK, 1975 : 1032, 1036, fig. 31 c.  
— CHILD, 1990 : 308.

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 3 :

stn CP 106, 13°47'0 N, 120°30'3 E, 640-668 m, 2 June 1985 : 1 ♂, 3 ♀♀, 1 juv. (MNHN Py 714).

REMARKS. — I have compared these specimens with LOMAN's syntypes and found them identical. LOMAN's fig. 142 does not do justice to the setation of the legs : these bear numerous setae on the dorsal and ventral margins of the two tibiae, as illustrated by LOMAN, but also a row of very long setae on the anterior and posterior surface of the segments [not unlike the situation in *P. (B.) mollissima* (Hoek, 1881), see STOCK, 1975, fig. 35 e ; or in *P. (B.) comosa* Stock, 1975, fig. 37 h].

The species is known from Indonesia (Flores Sea, 558-794 m) and from Japan (SW of Honshu, 934 fms = 1709 m).

Genus *ANOPLODACTYLUS* Wilson, 1878

*Anoplodactylus tubiferus* (Haswell, 1884)

Syn. : *A. pulcher* Carpenter, 1907 ; *A. stylops* Loman, 1908 (see STAPLES, 1982 : 457).

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 3 : stn DR 117, 12°31.2' N, 120°39.3' E, 92-97 m, 3 June 1985 : 5 ♂♂, 5 ♀♀ (MNHN Py 808).

REMARKS. — Widely distributed in the Indo-West Pacific, from the Red Sea to Madagascar and the Mozambique Channel in the west, to the Australian east coast in the east.

*Anoplodactylus versluysi* Loman, 1908

*Anoplodactylus versluysi* Loman, 1908 : 73-74, pl. 3 figs 33-39. — STOCK, 1954 : 84-85, figs 38a, 39 ; 1965 : 29, fig. 46 ; 1968b : 50, fig. 18i ; 1983 : 304-305.

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 3 : stn DR 117, 12°31.2' N, 120°31.3' E, 92-97 m, 3 June 1985 : 1 ♂ ovig. (MNHN Py 809). — Stn. CP 121, 12°08.3' N, 121°17.3' E, 73-84 m, 3 June 1985 : 5 ♂♂, 8 ♀♀ (11 spms MNHN Py 810, 2 spms ZMA Pa 3326).

REMARKS. — Known from Singapore, various localities in Indonesia, and Madagascar. New to the Philippines. Bathymetrical range from 0 to 400 m, usually between 0 and 100 m.

*Anoplodactylus* sp. (cf. *micros* Bourdillon, 1955)

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 3 : stn CP 100, 14°00.0' N, 120°17.6' E, 189-199 m, 1 June 1985 : 1 ♀ (MNHN Py 811).

REMARKS. — It is not well possible to identify isolated female specimens in this large and difficult genus. The present specimen agrees with *A. micros* Bourdillon, 1955, in body segmentation, tiny body size, shape of proboscis, denticulation of the fingers of the chela, presence of vestigial auxiliary claws, presence of a very long propodal lamina. In absence of the male sex, the identification should be taken with reservation.

*A. micros* is known from the Antilles and E. Australia.

*Anoplodactylus* sp.

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 3 : stn CP 139, 11°52.9' N, 122°14.7' E, 240-267 m, 6 June 1985 : 1 ♂ (legs lacking) (MNHN Py 812).

REMARK. — A large, slender species with a strong, pointed spur on the dorsal surface of coxa 1.

Genus *PYCNO SOMIA* Losina-Losinsky, 1961*Pycnosomia coxata* sp. nov.

Fig. 7

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 2 : stn CP 29 13°42.1' N, 120°50.1' E, 119-204 m, 23 Nov. 1980 : 1 ♀ holotype, 1 ♀ paratype (MNHN Py 718).

DESCRIPTION. — *Holotype* : Very similar to *P. asterophila* Stock, 1981, but with longer neck. Segmentation line between trunk segments 1 and 2, and 2 and 3 distinct ; that between segments 3 and 4 distinct on ventral side only. Lateral processes separated by narrow intervals. Abdomen reaching to middle of coxa 2 of leg 4, unarmed.

Proboscis distinctly down-curved, slender ; basal part (more than 50 % of total proboscis length) slightly swollen ; distal part (less than 50 % of length) tubiform.

Chelifore similar to that of *P. asterophila*.

No ovigers in female sex.

Legs characterized by long coxa 3 (more than half as long as femur). Tibiae 1 and 2 subequal. Propodal sole with 4 minute spines in distal part only. Otherwise as in *P. asterophila*.

Unfortunately, the male of this species is unknown.

*Measurements of ♀ holotype (mm).* — Length first trunk segment 0.72 ; length second trunk

segment 0.93 ; length trunk segments 3 + 4 (to tip 4th lateral process) 0.77 ; length abdomen 0.65 ; width across second lateral processes 1.20 ; length proboscis (ventral) 1.55 ; greatest diameter proboscis 0.30 ; length scape 0.72.

Third leg : First coxa 0.33 ; second coxa 0.59 ; third coxa 0.83 ; femur 1.26 ; first tibia 1.08 ; second tibia 1.09 ; tarsus 0.11 ; propodus 0.56 ; claw 0.32.

REMARKS. — The long coxa 3, the longer neck, the equal length of the tibiae (instead of tibia 2 < tibia 1), and the proboscis shape (tubiform part less than half the total length and more strongly down-curved, instead of tubiform part more than half the total length and almost straight) distinguish this species from the closely related *P. asterophila*, likewise from the Philippines.

For comparison, the lengths of the segments (in mm) of leg 3 ♀ of a paratype of *P. asterophila* are listed here : First coxa 0.39 ; second coxa 0.68 ; third coxa 0.76 ; femur 1.69 ; first tibia 1.48 ; second tibia 1.32 ; tarsus 0.15 ; propodus 0.79 ; claw 0.43.

ETYMOLOGY. — The specific name, *coxata*, alludes to the long third coxa.

Genus *ENDEIS* Philippi, 1843*Endeis flaccida* Calman, 1923

*Endeis flaccida* - STOCK, 1970 : 3-4 (refs) ; 1986 : 440 (refs).

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 3 :

stn DR 117, 12°31.2' N, 120°39.3' E, 92-97 m, 3 June 1985 : 1 ♂ (fragm.) (MNHN Py 813).

REMARKS. — Widely distributed both in the West Indian region and in the Indo-West Pacific.

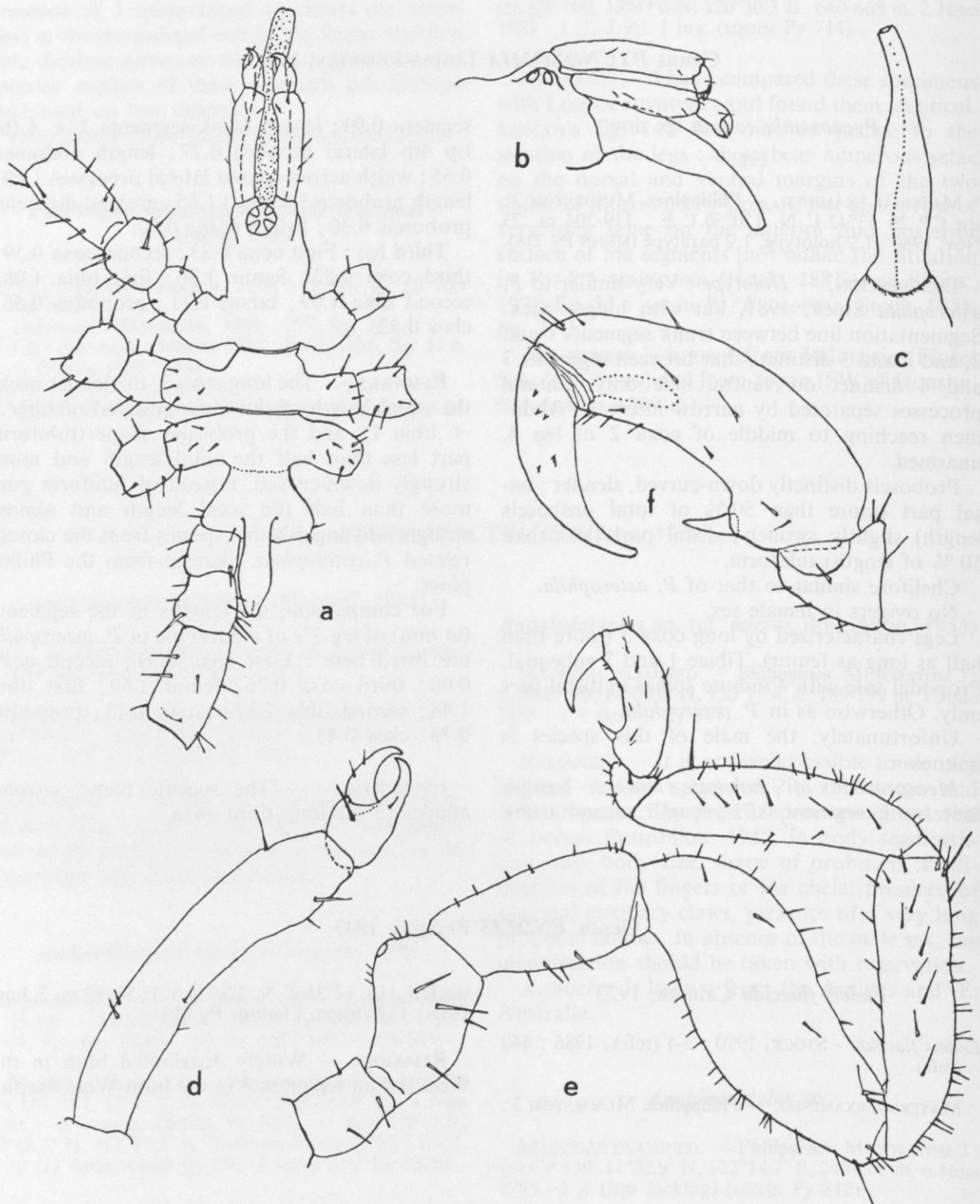


FIG. 7. — *Pycnosomia coxata* sp. nov., ♀ holotype : a, body, dorsal ; b, anterior part of body, from the right ; c, proboscis, ventral ; d, chelifore ; e, leg 3 ; f, distal part of leg 3.

## Family RHYNCHOTHORACIDAE

Genus *RHYNCHOTHORAX* Costa, 1861*Rhynchothorax orientalis* Child, 1988

*Rhynchothorax orientalis* Child, 1988 : 28-29, fig. 12.

MATERIAL EXAMINED. — **Philippines.** MUSORSTOM 3 : stn DR 117, 12°31.2' N, 129°39.3' E, 92-97 m, 3 June 1985 : 4 spms (MNHN Py 814).

REMARKS. — This species was recently described by CHILD, likewise from the Philippines (Negros Island, Apo Island, depth 1 m). The present material, collected at a depth of 92-97 m, agrees closely with CHILD's description. The

development of the distodorsal tubercles on the second and third lateral processes is somewhat variable : in one specimen, they are virtually absent, like in the holotype, but in other specimens they range from vestigial to quite well-developed. The smallest specimen, probably a juvenile, has moreover 2 tubercles on the posterior side of coxa 2.

This species is at once distinguished from *R. percivali* Clark, 1976 (from Lyttleton, New Zealand) by the absence of auxiliary claws.

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