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## *Syrticola mediterraneus* n. sp., a harpacticoid copepod from the Bay of Calvi, Corsica

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### Abstract

*Syrticola mediterraneus* n. sp. belonging to the family Cylindropsyllidae Sars (*sensu* Lang, 1948) is described from the Bay of Calvi (Corsica). The species is closely related to (?) *Notopontia galapagoensis* Mielke, 1982 and *Syrticola flandricus* Willems & Claeys, 1982. The former species is now transferred to the genus *Syrticola* as *Syrticola galapagoensis* n. comb.

### Introduction

A sampling survey of the fauna of the Bay of Calvi, Corsica, by Dr. K. Wouters (Koninklijk Belgisch Instituut voor Natuurwetenschappen, Brussels) and by members of the Marine Biology Section (Zoology Institute, State University of Ghent) revealed an abundant interstitial harpacticoid fauna. Several harpacticoid specimens were collected, representing a species new to science and belonging to the family Cylindropsyllidae. They were found in open patches of coarse sand within a *Posidonia*-field at 10–20 m depth.

### Description

#### Type material

8 ♀♀, 6 ♂♂.

The following description is based on the dissection of one female (holotype), one male (allotype) with additional observations from four paratypes (2 ♀♀, 2 ♂♂). The specimens have been deposited at the "Koninklijk Belgisch Instituut voor

Natuurwetenschappen", Vautierstraat 31, B-1040 Brussels, under no. I.G. 26627.

The following drawings are made from the holotype: Fig. 1: A, B and D; Fig. 2: A and B; Fig. 3: A, B, D, E, F and G; Fig. 4: A, B, C and D. Figures of the allotype are: Fig. 1: C; Fig. 2: C and D; Fig. 3: C, H and I; Fig. 4: E. The other drawings are from the dissected paratypes.

#### Type locality

*Posidonia*-fields, Bay of Calvi, Corsica.

#### Female

n = 5; length = 0.54–0.66 mm (with rostrum and caudal rami); 0.46–0.56 mm (without).

Body cylindrical and elongated, tapering gently towards the posterior end (Fig. 1A). Rostrum prominent, triangular, with a sensory seta on either side at about half the distance between base and top (Fig. 1B). Genital double somite without any trace of subdivision. Abdominal somites, except for the last one, with an incised hyaline fringe. Third

and fourth abdominal somites encircled by a row of tiny teeth and two slightly visible lines (Fig. 2G). On the genital somite the lines are interrupted; several tooth rows are present (Fig. 2A, B). Last ab-

dominal somite with one row of teeth and only one complete cuticular line; ventral posterior edge bearing a row of spinules (Fig. 2E, F). Anal operculum with four, three or two dentiform processes along

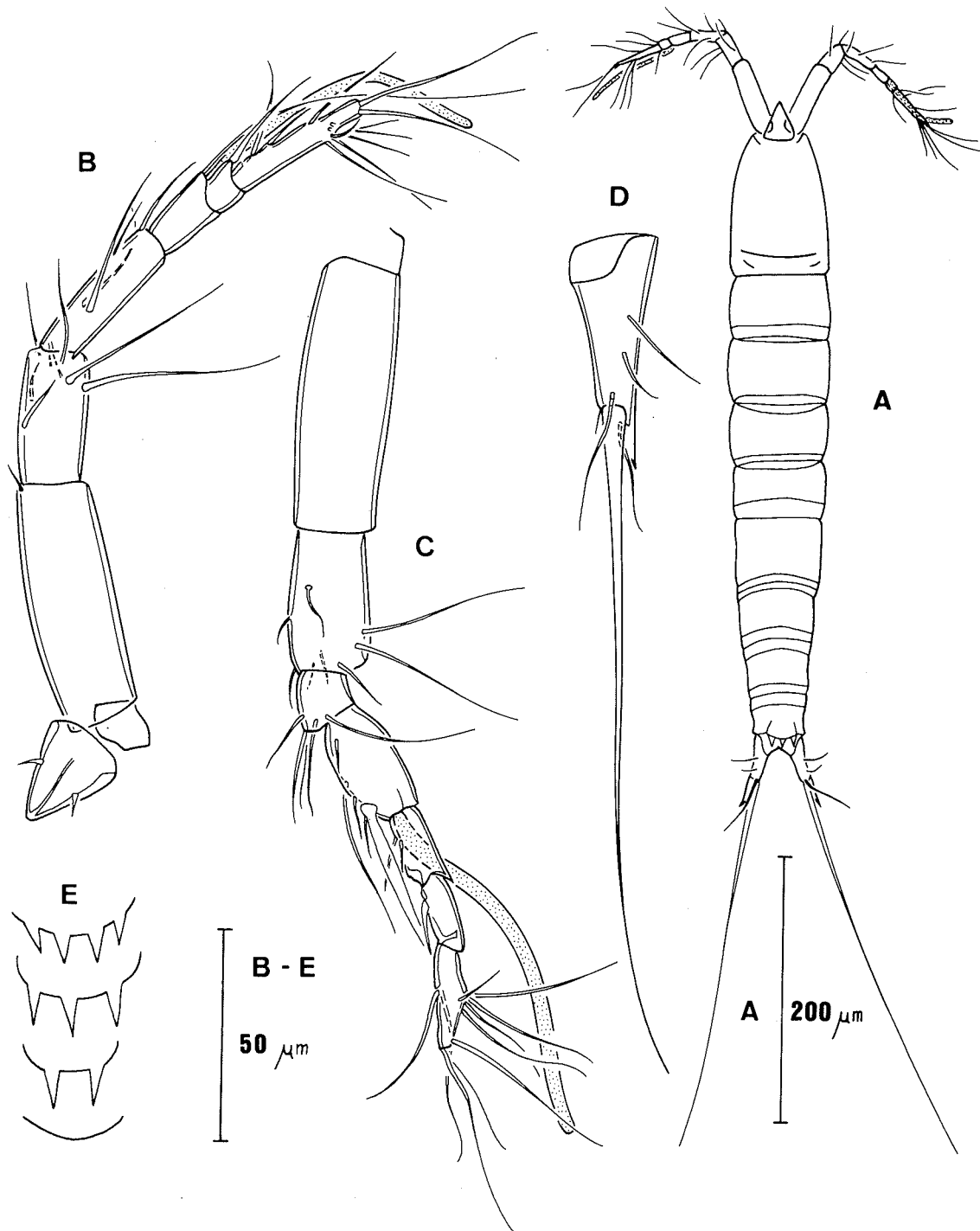


Fig. 1. *Syrticola mediterraneus* n. sp., A. female, dorsal; B. female, rostrum, antennule; C. male, antennule; D. furca, dorsal; E. anal opercula.

the convex margin (Fig. 1E). Furcal rami 3.5 times as long as wide, with one well-developed terminal seta. Ventral surface with undulating lines. Distal outer corner extended into a strong process. One short, spiniform seta at inner corner. Distal surface bearing three setae, the most distal one merging

near the base of the well-developed terminal seta (Fig. 1D; Fig. 2E, F).

*Antennule (Fig. 1B)*

Composed of six segments, the first being the longest. Fourth segment bears an aesthetasc.

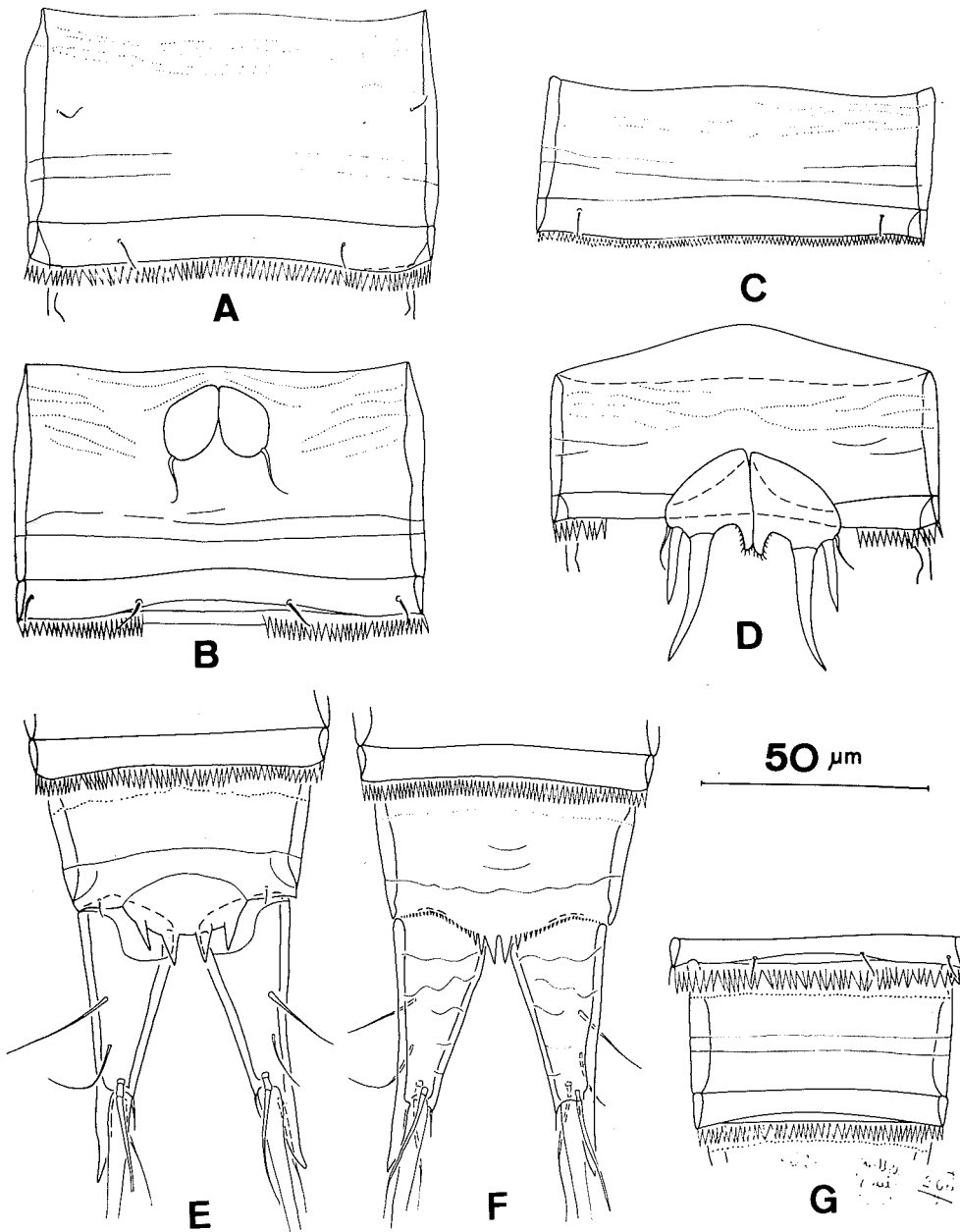


Fig. 2. *Syrticola mediterraneus* n. sp., A. genital somite female, dorsal; B. genital somite female, ventral; C. genital somite male, dorsal; D. genital somite male, ventral; E. last abdominal somite, dorsal; F. last abdominal somite, ventral; G. abdominal somite, ventral.

*Antenna (Fig. 3A)*

Coxa short, with setules on the distal margin; allobasis with one seta on the proximal part; one smaller seta and five spinules near the middle. Exopodite very small, one segmented, with two setae: one terminal and one subterminal. Endopodite with two lateral spines, a single terminal spine and four terminal setae: three of the latter are geniculate, the fourth being very strong and articulating, with a spinule merging at the articulation.

*Mandible (Fig. 3B)*

Praecoxa present, having an elongated appearance, biting edge with one bidented tooth and several small teeth, all arranged along the subdistal margin of the praecoxa. Coxabasis bearing four setae at the distal edge and furnished with a row of setules. Endopodite with five setae: four terminally implanted and one subterminally.

*Maxillula (Fig. 3C)*

Arthrite with six setae: two setae implanted on the inner margin and four setae terminally implanted. Coxa slightly prolonged and bearing two terminal setae. Basis with six setae and a row of small setules.

*Maxilla (Fig. 3D)*

Praecoxa, coxa and basis entirely fused. One endite represented as a single armed seta, basis represented as a strong smooth claw, bearing one seta. Endopodite represented by an armed seta.

*Maxilliped (Fig. 3E)*

Well-developed, prehensil. Basis ornamented with a row of spinules. First segment of the endopodite bare, triangular tendon visible in both distal and proximal part; second endopodital claw armed with small teeth along the apical margin.

*Leg 1 (Fig. 4A)*

Coxa with two transverse rows of spinules on one side and one on the opposite surface. Basis with one row of spinules on both surfaces; an outer seta and an inner spinule. Exopodite two-segmented; first segment with a single outer spine, second segment bearing three terminal setae: two are geniculate, one has a plumose tip. Endopodite two-segmented, prehensil; first segment 1.7 times as long as the exopodite, ornamented with a single long seta; second segment short, with one strong terminal claw and one long geniculate seta.

*Leg 2-4 (Fig. 4B, C, D)*

Coxa with one transverse row of spinules. Basis with two rows of spinules on each side, except for leg 4 where only a total of three rows is present; outer lateral edge with one seta. Exopodites three-segmented, distal edge of the first and second segments spinulose; all segments laterally provided with spinules; each segment with one outer spine, last segment with two terminal setae. Endopodites one-segmented; second legs with one long lateral seta and two terminal spines, the inner spine being about twice as long as the outer one; third legs with a single apical spine; fourth legs with two terminal spines, the inner one longest. Seta and spine formula in Table 1.

*Leg 5 (Fig. 3F)*

Fifth leg with baseoendopodite and exopodite fused; a chitinous edge, indicating both segments, is present over some distance; inner corner produced into a strong, well-developed spur-shaped process, showing a triangular field of spinules decreasing in size towards the top of the process; outer distal edge forming a separate process with two long setae, a strong apical spine and a small setule. The exopodal process bears four spinules along the inner margin.

Table 1. *Syrticola mediterraneus* n.sp. Seta and spine formula.

P2				P3				P4			
Exp		Enp		Exp.		Enp.		Exp.		Enp.	
1	2	3	1	1	2	3	1	1	2	3	1
0	0	0.2.1	1.2.0	0	0	0.2.1	0.1.0	0	0	0.2.1	0.2.0

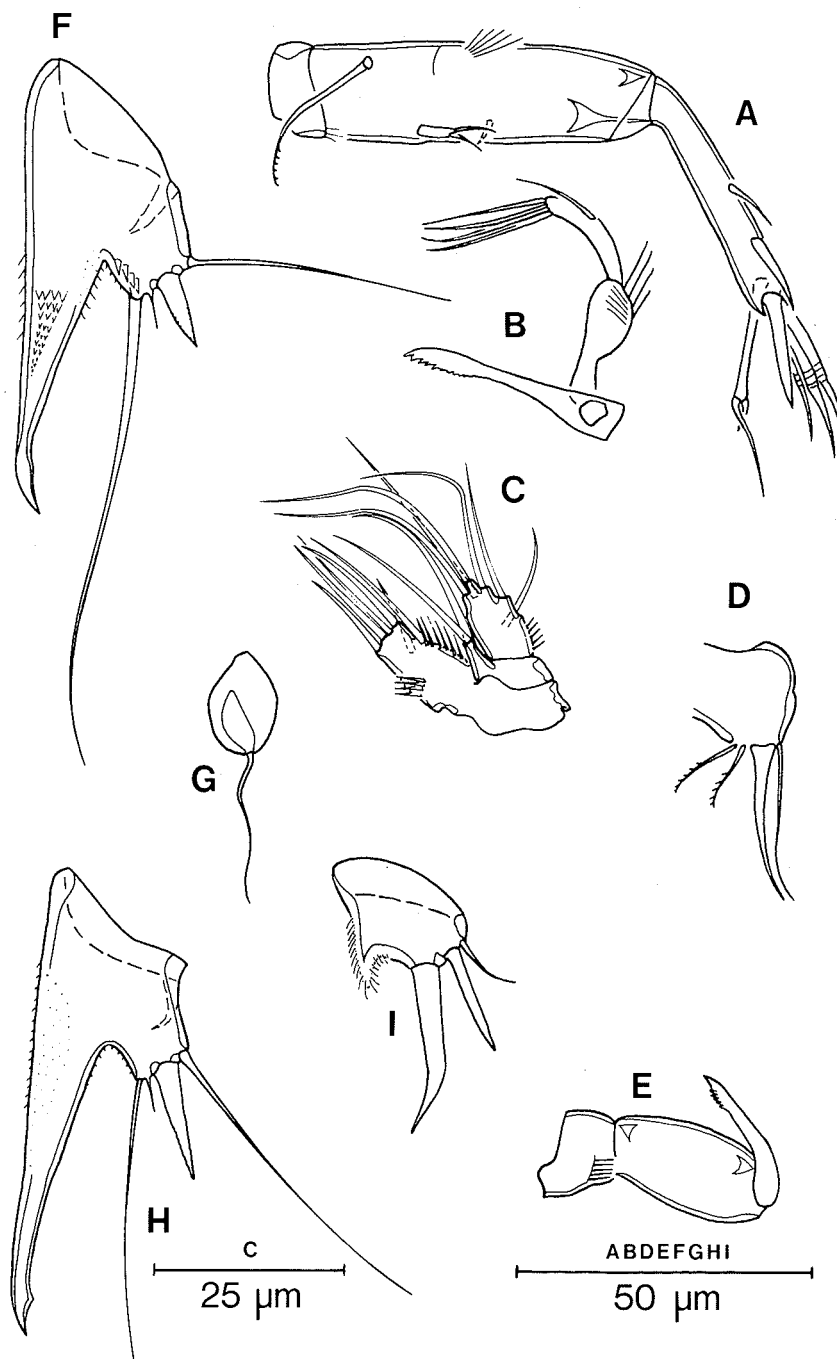


Fig. 3. *Syrticola mediterraneus* n. sp., A. antenna; B. mandible; C. maxillule; D. maxilla; E. maxilliped; F. P5, female; G. P6, female; H. P5, male; I. P6, male.

#### Leg 6 (Fig. 3G)

Forming a common plate, each leg with a single slender seta.

#### Male

n = 4; smaller than the female; length = 0.46–0.50 mm (with rostrum and caudal rami); 0.39–0.42 mm (without).

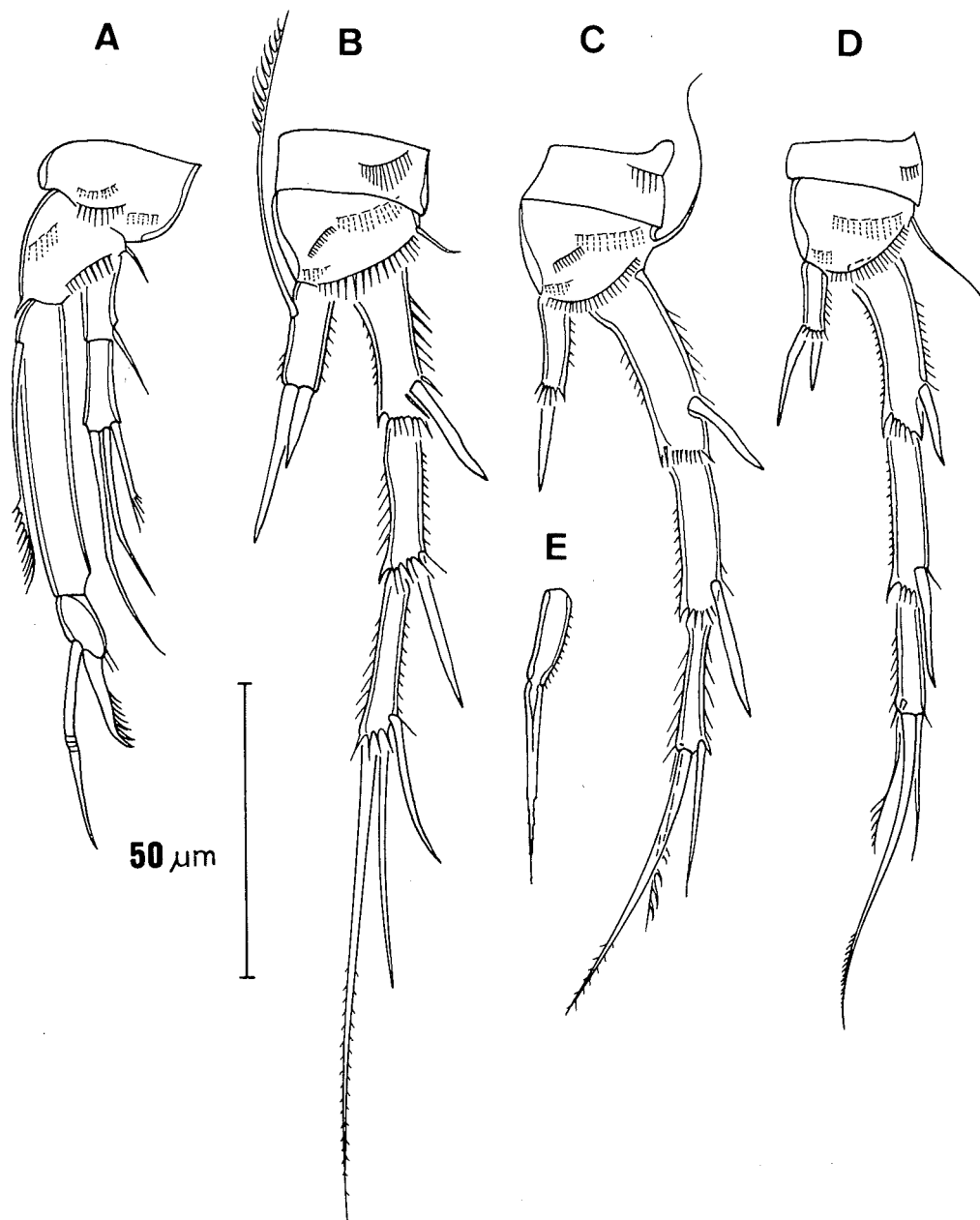


Fig. 4. *Syrticola mediterraneus* n. sp., A. P1; B. P2; C. P3; D. P4; E. endopodite P3, male.

Sexual dimorphism occurs in the antennule, third, fifth and sixth leg and in the genital segmentation.

*Antennule (Fig. 1C)*

Seven-segmented, haplocer; fourth segment bearing the aesthetasc.

*Legs 1–5*

Apical spine of endopodite P<sub>3</sub> modified forming a long sharp process reaching towards the apical edge of the second exopodal segment (Fig. 4E). Inner process of the fifth leg bearing minute spinules (Fig. 3H); outer (exopodal) process armed as in the female but with a more stronger terminal spine.

### Leg 6 (Fig. 3I)

Forming a broad common plate; bearing one outer seta, two spines (the innermost being very strong and curved) and an inner process with hairy setules.

### Variability

The holotype bears seven setae on the basis of the maxillula. The allotype (figured) has six setae while one of the dissected paratypes shows eight setae implanted on the basis. Furthermore, some asymmetry was observed in the setation of the antennule of one male. More important is the variability in the anal operculum: specimens with four, three, two or without spines on the distal margin of the operculum do exist.

### Discussion

*Syrticola mediterraneus* n. sp. is almost identical to *S. flandricus* Willems & Claeys, 1982, differing only in the following structures: the coxa of the maxillule has two terminal setae, the endopodite of the third leg lacks an inner lateral seta and the fifth leg bears an additional setule on the outer distal edge. As in *S. flandricus*, the number of spines on the anal operculum is variable ranging from 0–5 within the genus, except that specimens with a single spine have not been found until now.

Both species resemble closely (?) *Notopontia galapagoensis* Mielke, 1982, in the structure of the antennule, the antenna, the mouthparts and the segmentation of the legs 2–4 as well as the setation of (?) *N. galapagoensis* and *Syrticola mediterraneus*. Furthermore, the three species show close relationships through the similarity in the structure of the fifth leg, i.e. the fused character (a strong, well-developed inner process and an outer (exopodal) process with spines and/or setae), the common sexual dimorphism in the third legs and the presence of processes on the anal operculum. The first leg of (?) *N. galapagoensis* differs only in the shape of the two processes of the last endopodite segment.

The most striking differences are: the number of antennule segments, the setation of the mandible,

the maxillule, the maxilla, the fifth legs of male and female and the third leg of the male (two-segmented in (?) *Notopontia galapagoensis*, one-segmented in *S. flandricus* and *S. mediterraneus* n. sp.).

Mielke (1982) and Willems & Claeys (1982) mentioned the resemblance of (?) *N. galapagoensis* and *S. flandricus* with *Notopontia stephaniae* Bodiou, 1977, particularly in the first legs, the fourth legs and the exopodites of Leg 2–3. Furthermore, the setation of the last endopodite segments of leg 2–3 in *N. stephaniae* is identical in (?) *N. galapagoensis* and *S. mediterraneus* n. sp. The most important differences of *Notopontia stephaniae* with the other species are: the endopodites of legs 2–3 which are two-segmented and the absence of any sexual dimorphism in the third legs.

Based on these differences Mielke (1982) temporarily placed his species within the genus *Notopontia*. However, the resemblance of (?) *N. galapagoensis* with the two *Syrticola*-species, particularly the sexual dimorphism in the third leg, indicates that this species belongs to *Syrticola* of which the genus diagnosis now is as follows: body cylindrical; urosome four-segmented in the female; rostrum triangular and well-defined at the base; antennule six- or seven-segmented; antenna with an allobasis and a small, one-segmented exopodite; maxillipid normally built: a terminal claw without accessory spinules; first leg with a two-segmented exopodite, endopodite prehensile, first segment much longer than the exopodite; second to fourth legs with three-segmented exopodites, endopodites all with one segment; fifth leg with baseoendopodite and exopodite fused; sexual dimorphism in the endopodite of the third leg.

Transferring ? *Notopontia galapagoensis* to *Syrticola* is in agreement with Bodiou & Colomines (1986), who also give a revised key to the genera of the family Cyindropsyllidae.

### Acknowledgements

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