

Notes on the type specimens of three species of *Otostigmus* described from Indo-China by Carl Attems (Chilopoda: Scolopendromorpha: Scolopendridae)

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Abstract

The types of three species of *Otostigmus* (subgen. *Otostigmus*) described by ATTEMS (1953) and in the collection of the Naturhistorisches Museum in Wien (NHMW) have been reassessed. Two of the three available specimens of *Otostigmus armatus* ATTEMS, 1953 are *Otostigmus multidentis* HAASE, 1887, the third, which is incomplete, may be *O. scaber* PORAT, 1876. The syntypes of *Otostigmus puncticeps* ATTEMS, 1953 are juvenile *Scolopendra subspinipes* LEACH, 1815 as is that of *Otostigmus politoides* ATTEMS, 1953.

Key words: Chilopoda, Scolopendromorpha, Scolopendridae, Indo-China, *Otostigmus armatus*, *O. puncticeps*, *O. politoides*, *O. multidentis*, *O. scaber*, *Scolopendra subspinipes*.

Zusammenfassung

Die Typen von drei Arten der Gattung *Otostigmus* (subgen. *Otostigmus*), die ATTEMS (1953) beschrieb und die in der Myriapoda Sammlung des Naturhistorischen Museums in Wien aufbewahrt werden, wurden hier genau untersucht. Bei zwei der drei zu Verfügung stehenden Exemplaren von *Otostigmus armatus* ATTEMS, 1953 handelt es sich um *Otostigmus multidentis* HAASE, 1887, das dritte, unvollständige, dürfte zu *O. scaber* PORAT, 1876 gehören. *Otostigmus puncticeps* ATTEMS, 1953 und *Otostigmus politoides* ATTEMS, 1953 sind Synonyme von *Scolopendra subspinipes* LEACH, 1815. Die Syntypen von *O. puncticeps* ATTEMS, 1953 sind Juvenile.

Introduction

C. Attems died in 1952 and in the following year his paper on the Myriopoda of Indo-China was published (ATTEMS, 1953), the manuscript having been revised and the proofs corrected by Prof. Dr. M. Beier. Three species of *Otostigmus* (subgen. *Otostigmus*) were described in his paper. All are problematic and have been re-examined and their status reassessed.

Otostigmus armatus ATTEMS, 1953 (Figs 1 - 7)

Otostigmus armatus ATTEMS, 1953: 146, fig. 5.

Syntypes: 3 specimens, Laos, Xieng Khouang, leg. Dawidoff 1938-39, NHMW 3799. [For the purposes of the present investigation the specimens, which were in a single tube, have been labelled 1, 2 and 3 and 1 and 2 have been removed to a separate tube].

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Description of specimens 1 and 2. (Data for specimen 2 in parentheses).

Length approximately 33 mm (35 mm). Antennomeres 22 + 2 (damaged) (19 + 22), the basal 2 (2.2) glabrous (Fig. 1). Forcipular coxosternal teeth 6+8 (7+8) (Fig. 2). Process of forcipular femoroid with two small median teeth (Fig. 3). Tergite paramedian sutures complete on 5 and from 7 on, marginate from 11 (weak on 10). No median keel (low median keel on 8 to 19). No lateral keels or spines but weak lateral corrugations/gutter on mid and posterior tergites. Tergite 21 with shallow median longitudinal depression in posterior third. With very short anterior paramedian sutures on anterior sternites, occupying anterior 50% on posterior sternites (33% on 9, 41% on 16). Sternite 21 with sides converging posteriorly and hind border incurved (Fig. 4).

Coxopleural process of moderate length (Fig. 4) with two end spines, one subapical and one lateral spine. No dorsal spine. Left process in spm 1 damaged and repaired and lacking end spines. Three loose end legs. The first with four ventrolateral spines, three ventromedial spines, no medials, one dorsomedial and a corner spine. The second (Fig. 5) with five ventrolaterals, two of which are very small, three ventromedials, no medials, and two dorsomedials and a corner spine, and the third with 3, 3, 0, 2 and a corner spine. The specimens have lost many legs. One tibial spine to 17, two tarsal to 18 (17) one tarsal on 19 and 20 (18, 19, 20).

Description of Specimen 3. (This lacks head, forcipular segment and end legs).

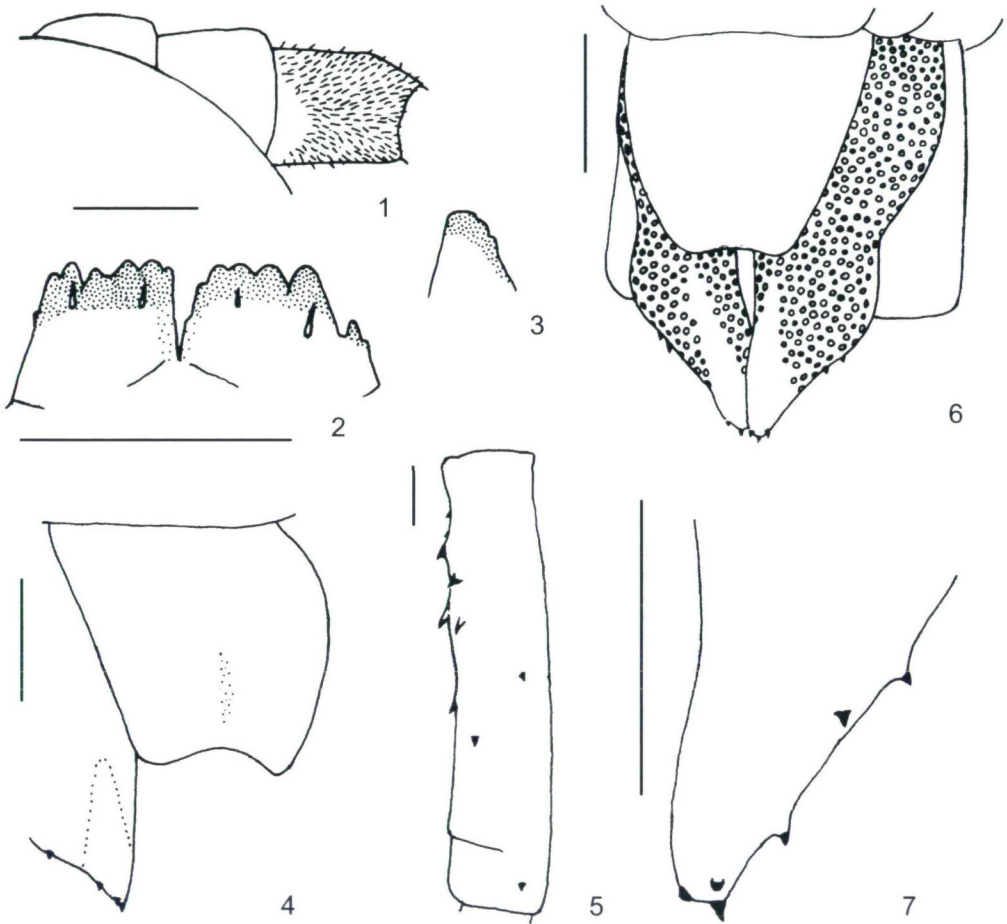
Length estimated at 38 mm. Tergites with paramedian sutures complete from 5, with a median keel and lateral corrugations from 3, five sharp keels from 12 to 20 spined from 15, laterally finely tuberculate. Two further irregular lateral ridges on each side from 14 to 19. Tergite 21 with three low finely spined keels. Marginate from 6.

Sternites with paramedian sutures each terminating in a depression and occupying anterior 58% on sternite 8, 42% on 19. With median posterior pit to sternite 18. Sternite 21 with sides converging posteriorly and hind border concave (Fig. 6). Coxopleural process moderately long with three end, one lateral and two dorsal spines (Fig. 7). Legs 1 and 2 with one tibial spine, 1 to 5 with two tarsal spines, 6 to at least 19 with one.

Remarks. The more significant characters of *O. armatus* as described by ATTEMS (1953) are as follows. Length 44 mm. Antennomeres 17 the first two and part of the third glabrous. Coxosternal tooth plate with 4+4 very strong teeth. Inner tooth of prefemur bluntly rounded with a small knob in the middle. Tergites marginate from 16.

Sternites with two very short fine anterior longitudinal sutures, without pits in the middle. End leg sternite posteriorly attenuated with hind border straight.

Coxopleural process moderately short, peg-like, with five very small end spines (and) on the dorsal wall two just as small spines. End leg prefemur with two-pointed corner spine, six ventrolateral spines in two rows, eight inner dorsal and ventral spines without clear separation. Legs pairs 1 to 19 with two tarsal spines, 20 and 21 without. The species as described is unusual in that it has five coxopleural end spines. The arrangement of the end leg prefemoral spines suggests that the leg(s) may have been regenerated. The presence of a bifid prefemoral corner spine ('zweispitzigen Eckdorn') may be a result of this.



Figs. 1 - 7: *Ostostigmus armatus* (1: NHMW 3799/2; 3, 4, 5: NHMW 3799/1; 6, 7: NHMW 3799/3). (1) basal three antennomeres, dorsal view, (2) coxosternal tooth plates, (3) process of right forcipular femoroid, (4) sternite 21 and right coxopleuron, (5) end leg prefemur medial aspect, (6) sternite 21 and coxopleura, (7) detail of left coxopleural process. Scale line = 0.5 mm.

It is clear that neither specimen 1 or 2 are the ones on which Attems based his description of *O. armatus*. They run down to *O. multidens* HAASE, 1887 in ATTEMs (1930) key and are obviously of that species. This species was included in his list of species for Indo-China in the 1953 paper. Likewise specimen 3 is not *O. armatus*. On the reasonable assumption that the specimen would have had the basal 2.5 antennomeres glabrous it runs down to *O. scaber* PORAT, 1876 in ATTEMs (1930). ATTEMs (1953) recorded that species from Ile de Spratly (South China Sea), Xieng Kuang (Laos) and Lang Biang (Vietnam).

Verena Stagl informs me that the museum possesses two further specimens labelled "*O. armatus* ATTEMs 1953, Laos, Xieng Khouang; leg. Dawidoff 1938-39. Syntypes defect. Inv. Nr. 3924". They are in very poor condition and too delicate to transport by

post. These specimens may be those upon which Attems based his description and the three specimens described above may have been mislabelled at some time in the past or his description may have been erroneous. The problem cannot presently be resolved and an evaluation of the species may have to await the discovery of further material from Indo-China.

Otostigmus puncticeps ATTEMS, 1953 (Figs 8 - 13)

Otostigmus puncticeps ATTEMS, 1953: 147, figs. 16, 17.

Lectotype selected herein [and removed to a separate tube]: 24 mm, Cambodia, Réam, Sré Umbell, Koh Kong, leg. C. Dawidoff 1939, NHMW 3801/1.

Paralectotypes: Eight specimens, 23-24 mm, Cambodia, Réam, Sré Umbell, Koh Kong, leg. C. Dawidoff 1939, NHMW 3801/2-9. – Five specimens, 20-24 mm; Cambodie, Koh Kong, leg. C. Dawidoff April 1939, Rev. Schileyko 2000, NHMW 2054). – Three specimens, Cambodie, Réam, leg. C. Dawidoff May 1939, NHMW 3802. – Six specimens, Cambodie, Koh Kong, leg. C. Dawidoff, April 1939, NHMW 3803. – Three specimens, Cambodie, Sré Umbell, leg. C. Dawidoff May 1939, NHMW 3804.

General remarks. The specimens have a juvenile appearance namely small size, head wider than the trunk, 17 antennomeres (a juvenile character in many scolopendrids), only tergite 21 marginate. They show a number of obviously *Scolopendra*-like characters, namely the coxosternal tooth plates, the head capsule overlapping tergite 1 and the spiracles elongated antero-posteriorly and triangular.

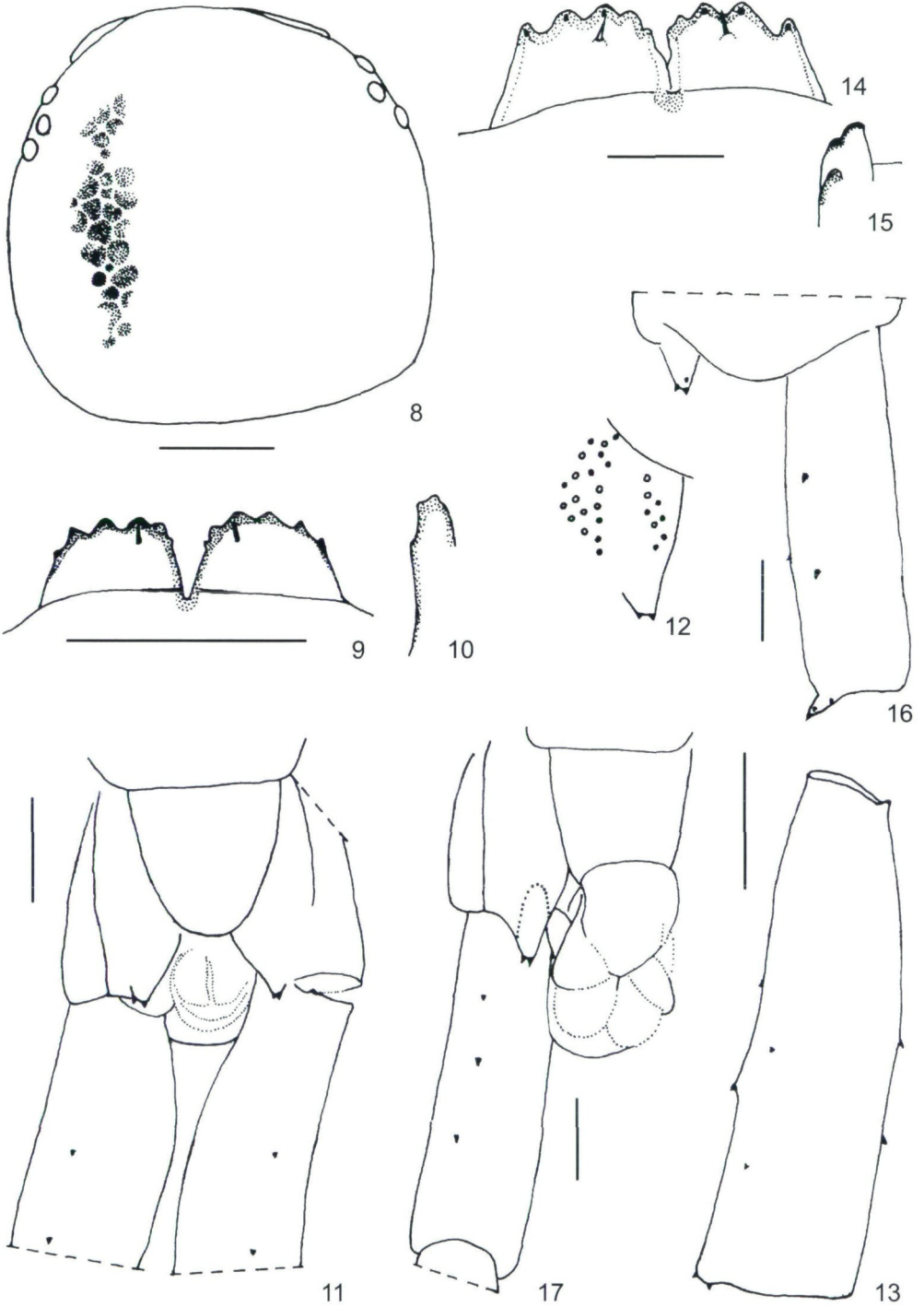
Most specimens are contorted suggesting previous desiccation but the specimens of NHMW 3801 are in excellent condition.

Description of the lectotype. As there is currently some confusion about the status of the subspecies of *Scolopendra subspinipes* of which *O. puncticeps* is a junior synonym, the lectotype has been designated to avoid possible problems in the future. [ATTEMS (1953) data for *O. puncticeps* in parentheses where appropriate].

Length 24 mm. Head densely punctate (Fig. 8) the apparent distribution varying with angle of illumination. The puncti without associated setae (thickly and strongly punctate with a minute seta in each pit). Antennomeres 17, the basal six glabrous or nearly so. Head capsule overlying tergite 1. Coxosternal tooth plates wider than long with 6 + 6 teeth, the inner three on each side partially fused, the outermost very small (Fig. 9). Process of forcipular femoroid with a double apical tooth and a single median tooth (Fig. 10). Tergite paramedian sutures occupying the anterior 66% on T2, complete on T3. Only tergite 21 marginate. Sternite paramedian sutures complete 2 to 19 almost so on 20. Sternite 21 elongated, with posterior border rounded (Fig. 11).

Coxopleural process short with 2+3 end spines (peg-like with a simple point) (Fig. 12). End leg prefemur with two ventrolateral, one medial and one or two dorsomedial spines

Figs. 8 - 13: *Otostigmus puncticeps* (8 - 12: lectotype, NHMW 3801/1; 13: NHMW 3801). (8) head capsule with detail of puncti, (9) coxosternal tooth plates, (10) process of left forcipular femoroid, (11) terminal segments ventral view, coxopleural pores omitted, (12) right coxopleural process, detail, (13) end leg prefemur, medial surface. Figs. 14 - 17: *Otostigmus politoides*, syntype, NHMW 2064. (14) coxosternal tooth plates, (15) process of left forcipular femoroid, (16) dorsal view of right end leg prefemur and left coxopleural process, (17) terminal segments and prefemur of right end leg ventral view. Scale line = 0.5 mm.



and two-spined prefemoral process (ventrolateral 2 very small spines, median above 4 very small spines in two rows). Legs 1 to 19 with one tarsal spine, 20 and 21 without.

Individual variation. The specimens are very similar. Coxopleural teeth 4+5 to 6+6. It is difficult to tell whether the paramedian sutures on tergites 2 and 20 and sternite 20 are complete or not. End leg spines two (rarely three) ventrolateral, one (rarely two or none) medial, two (rarely three) dorsomedial, prefemoral process two or three spined. The prefemoral spines are very small and it is possible that a third spine on the prefemoral process was sometimes overlooked. Legs 1 to 19 with one tarsal spine.

Remarks. These specimens clearly belong to the genus *Scolopendra* and run down to *S. subspinipes* LEACH, 1815 in ATTEMS (1930) of which four subspecies, namely *S. s. subspinipes* LEACH, 1815, *S. s. dehaani* BRANDT, 1840, *S. s. mutilans* L. KOCH, 1878 and *S. s. cingulatooides* ATTEMS, 1938 were recorded from Indo-China by ATTEMS (1953). SCHILEYKO (1995) wrote of the *S. subspinipes* he examined from Vietnam: "Only ten of the 20 specimens exactly correspond to the nominative subspecies, while the attribution of the other specimens to any of the subspecies is rather problematic."

As the sternite paramedian sutures of the specimens here described are complete, the coxopleural process is mostly three rather than two-spined (14 of 24) and there is no tarsal spine on leg 20, they run down to *S. subspinipes japonica* L. KOCH 1878, in ATTEMS (1930). This subspecies has only been recorded from Japan and bearing in mind the current apparent confusion over subspecies and the fact that the specimens are juveniles, they are not here assigned to any particular subspecies of *S. subspinipes*. The densely punctate nature of the head capsule is only seen in specimens that have been dried off and the punctate area apparent varies with the angle of illumination. The character is also seen in *Scolopendra foveolata* VERHOEFF, 1937 from Malacca [Malaysia], which VERHOEFF (1937) stated, approached *S. subspinipes dehaani* and which WÜRMLI (1972) regarded as a junior synonym of *S. subspinipes dehaani*. *Otostigmus puncticeps* is a junior synonym of *Scolopendra subspinipes*

***O. politoides* ATTEMS, 1953 (Figs 14-17)**

Otostigmus politoides ATTEMS, 1953: 147.

Syntypes: One specimen, Vietnam, Tongking. Chapa, leg. C. Dawidoff 1938-1939, NHMW 2064.

Description [ATTEMS (1953) data in parentheses where appropriate].

Length 33 mm. Head densely and finely punctate. Antennomeres 17, the basal six glabrous. Forcipular coxosternal teeth 5+5 (fig. 14), a post dental seta or bristle present (tooth plates approximately quadratic without bristle, 4 teeth). Process of femoroid with two apical and one median tooth (Fig. 15) (the inner process of the prefemur has no knobs). Paramedian sutures occupying anterior half of tergite 3, complete on 4 to 19, weak and incomplete on 20. Marginate from 14 (14), without spines or keels. Last tergite posteriorly rounded, without pit or median suture.

Sternites with paramedian sutures complete from 2 to 18. Occupying anterior 66% on 19 and 20. Sternite 21 with sides converging posteriorly but border obscured (Fig. 17).

Coxopleural process short with three end spines, the third only seen in dorsal view (Fig.

16). Right end leg prefemur (Figs. 16, 17) with three ventrolateral, one very small medial and two dorsomedial spines (ventrolateral 3, median 2, dorsomedian 2). Prefemoral process with three spines (long with two small spines). Left end leg wanting. Legs 1 to 19 with one tarsal spine, 20 and 21 without such.

Remarks. Runs down to *S. subspinipes japonica* as do Attems' specimens of *O. puncticeps* (see above). It is a later adolescens stadium that the specimens described by Attems as *O. puncticeps* and like them is not here assigned to any particular subspecies of *S. subspinipes*. This would appear to be the only specimen but as there may be other specimens elsewhere it is here regarded as a syntype. *Otostigmus politoides* is a junior synonym of *Scolopendra subspinipes*.

Conclusions

The conclusions are summarised in Table 1.

Table 1: The status of the three species of *Otostigmus* described by ATTEMS (1953).

Nominal species	specimen	Status
<i>Otostigmus armatus</i>	specimen 1	= <i>Otostigmus multidens</i> HAASE
	specimen 2	= <i>Otostigmus multidens</i> HAASE
	specimen 3	? = <i>Otostigmus scaber</i> PORAT
<i>Otostigmus puncticeps</i>		= <i>Scolopendra subspinipes</i> LEACH syn.n.
<i>Otostigmus politoides</i>		= <i>Scolopendra subspinipes</i> LEACH syn.n.

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