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Schizmohetera olympica sp.n. from Greece, with a reclassification of the superfamily Neoatractosomatoidea (Diplopoda: Chordeumatida)

Schizmohetera olympica sp.n. из Греции с новой классификацией надсемейства Neoatractosomatoidea (Diplopoda: Chordeumatida)

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KEY WORDS: Diplopoda, Neoatractosomatoidea, taxonomy, reclassification, new taxa, new synonymy, Greece.

КЛЮЧЕВЫЕ СЛОВА: Diplopoda, Neoatractosomatoidea, таксономия, новая классификация, новые таксоны, новая синонимика, Греция.

ABSTRACT: A new millipede species, collected on the slopes of Mount Olympus, Greece, is described in the genus*Schizmohetera* Mršić, 1987, previously known by two species from Macedonia (ex-Yugoslavia). This genus shows affinities still to be refined with the poorly-known taxon *Fagina* Attems, 1904, of which the type-species, *Heterolatzelia silvatica* Attems, 1904, is revised.*Schizmohetera olympica* sp.n. can be distinguished by the number of body segments (28 versus 30), presence of ocelli, and both male and female sexual structures. In the Greek fauna, this is only the 11th species of the order Chordeumatida, and the second of Neoatractosomatoidea, listed. A reclassification of this superfamily is given, with a brief diagnosis and generic composition of every suprageneric taxon; two new taxa are created, Cyrnosomatidae fam.n. and Osellasomatini trib.n.; Faginidae Attems, 1926 is considered as a junior subjective synonym of Neoatractosomatidae Verhoeff, 1901, syn.n., being downgraded to the status of a tribe in the latter family. The families Mastigophorophyllidae Verhoeff, 1899, Hoffmaneumatidae Golovatch, 1978 and Altajellidae Mikhaljova & Golovatch, 2001 are ejected from Neoatractosomatoidea to compose a new superfamily, Mastigophorophylloidea superfam.n.

RÉSUMÉ: Description d'une nouvelle espèce de diplopode, récoltée au Mont Olympe (Grèce), rapportée au genre *Schizmohetera* Mršić, 1987, connu jusqu'ici par deux espèces de Macédoine (ex-yougoslave), et dont le degré d'affinités restait à établir avec le genre *Fagina* Attems, 1904, dont l'espèce type, *Heterolatzelia silvatica* Attems, 1904, a été revue. *Schizmohetera olympica* sp.n. se distingue par le nombre d'anneaux (28 au lieu de 30), la présence d'ocelles, et les structures sexuelles mâles et femelles. Pour la faune de Grèce, c'est seulement la 11ème espèce de l'ordre Chordeumatida, et le second Neoatractosomatoidea cité. Une mise au point sur la classification de cette superfamille est présentée ici, avec pour chaque taxon de rang supragénérique, une brève diagnose et le contenu générique; deux nouveaux taxons sont créés: Cyrnosomatidae fam.n. et Osellasomatini trib.n. La famille des Faginidae Attems, 1926 est considérée comme junior synonyme subjectif de Neoatractosomatidae Verhoeff, 1901, syn.n., et rétrogradée au statut de tribu de cette dernière famille. Les familles des Mastigophorophyllidae Verhoeff, 1899, Hoffmaneumatidae Golovatch, 1978 et Altajellidae Mikhaljova & Golovatch, 2001 sont ejectées des Neoatractosomatoidea et forment une nouvelle superfamille, Mastigophorophylloidea superfam.n.

РЕЗЮМЕ: Описан новый вид диплопод, собранный на склонах горы Олимп (Греция). Он отнесен к роду *Schizmohetera* Mršić, 1987, до сих пор известному по двум видам из Македонии (бывшая Югославия). Этот род демонстрирует сходство, которое еще предстоит определить, с малоизвестным таксоном *Fagina* Attems, 1904, типовой вид которого, *Heterolatzelia silvatica* Attems, 1904, ревизован. *Schizmohetera olympica* sp.n. отличается числом туловищных сегментов (28 против 30), наличием глаз, а также вторичными половыми признаками самца и самки. В фауне Греции это всего лишь 11-й вид отряда Chordeumatida и второй в Neoatractosomatoidea. Представлена новая классификация этого надсемейства с кратким диагнозом и родовым составом для каждого таксона надродового ранга; выделены два новых таксона: Cyrnosomatidae fam.n. и Osellasomatini trib.n.; Faginidae Attems, 1926 считаются младшим субъективным синонимом Neoatractosomatidae Verhoeff, 1901, syn.n., и понижены в ранге до трибы в составе этого последнего семейства. Семейства Mastigophorophyllidae Verhoeff, 1899, Hoffmaneumatidae Golovatch, 1978 и Altajellidae Mikhaljova & Golovatch, 2001 выведены из состава Neoatractosomatoidea, образуя новой надсемейство, Mastigophorophylloidea superfam.n.

Introduction

The new millipede species described in this paper was collected on the slopes of Mount Olympus, at the boundary between the Greek provinces Thessaly and Macedonia, by an expedition of the Zoological Museum, University of Copenhagen (ZMUC), Denmark, in May 1990.

From the very start, the author, being sure that this species was unpublished, was hesitant concerning a generic allocation. The dilemma lay in choosing between the following monobasic taxa of generic rank, both members of the family Neoatractosomatidae: *Fagina* Attems, 1904 and *Schizmohetera* Mršić, 1987. To resolve the problem, *Fagina silvatica* (Attems, 1904) had to be revised first of all. Its type material was borrowed and redescribed.

Review of the type series of *Fagina silvatica* (Attems, 1904)

Attems [1904], to accomodate his newly described species *Heterolatzelia silvatica*, created a new subgenus, *Fagina* Attems, 1904. Later [Attems, 1926], *Fagina* was elevated to full genus and also became the type of a new family, Faginidae Attems, 1926.

The type material of this species is still deposited in the collection of the Naturhistorisches Museum Wien (NHMW), Vienna, Austria. It consists of two microscopic slides and three vials registered under the number 2253. All three vials are kept inside a jar labelled as follows: "n° 2253 Fagina silvatica Attems, 1904 — Bosnien (Iwan, oben. Bjelasnica Fichtenwald u. ob. Buchenwald) leg. Attems — Syntypen — 3 ser. + 2 Präp.".

Each of the three vials is labelled as follows:
– *Fagina silvatica* "Bjelasnica, oberer Buchenwald" (1 ♂, 1 ♀).
– *Heterolatzelia (Fagina) silvatica* "Bjelasnica-Ingman Fichtenwald" (8 ♂♂ and 1 ♀, seen by Kurnik, 1986).
– *Fagina silvatica* Attems, 1904, "Iwan, oben Buchenwald" (12 ♂♂, amongst them 2 incomplete in anterior part, and 19 ♀♀).

In addition to the number 2253, both microscopic slides are labelled "Heterolatzelia silvatica — Iwan". One contains the gonopods depicted by Attems [1904], the other one a tergal plate and some legs (pre- and postgonopodal). Regrettably, all these pieces are very flat and rather transparent, being too difficult to re-examine. For this reason, besides the general examination of this material, which is in very good condition (except for the inevitable fading due to the long preservation in alcohol), the author dissected and illustrated (Figs 1–5) the gonopods of a male. This male was later added to the «Iwan» series and is herewith designated as lectotype, the remaining syntypes as paralectotypes.

Comparing the above material with the original description, the following characters can be added to the ones mentioned by Attems [1904]:
– antennal club 6 times as long as wide;
– vertex of ♂ head flatly concave;
– metatergal macrosetae only 1/5 as long as total width of metazonite; on each side, these three macrosetae forming a right/obtuse angle (about 95–100°); distance between median macroseta and axial line 1.5 as great as that between it and anterolateral macrochaeta.

Concerning the male sexual characters, their examination led to the following conclusion. Despite a superficial resemblance, notably in the general shape of the gonopods and paragonopods (see Figs 1–5), based on the set of characters that one can find in the following key, *Fagina* appears to be a distinct genus.

KEY TO GENERA OF THE SUBFAMILY NEOATRACTOSOMATINAE:

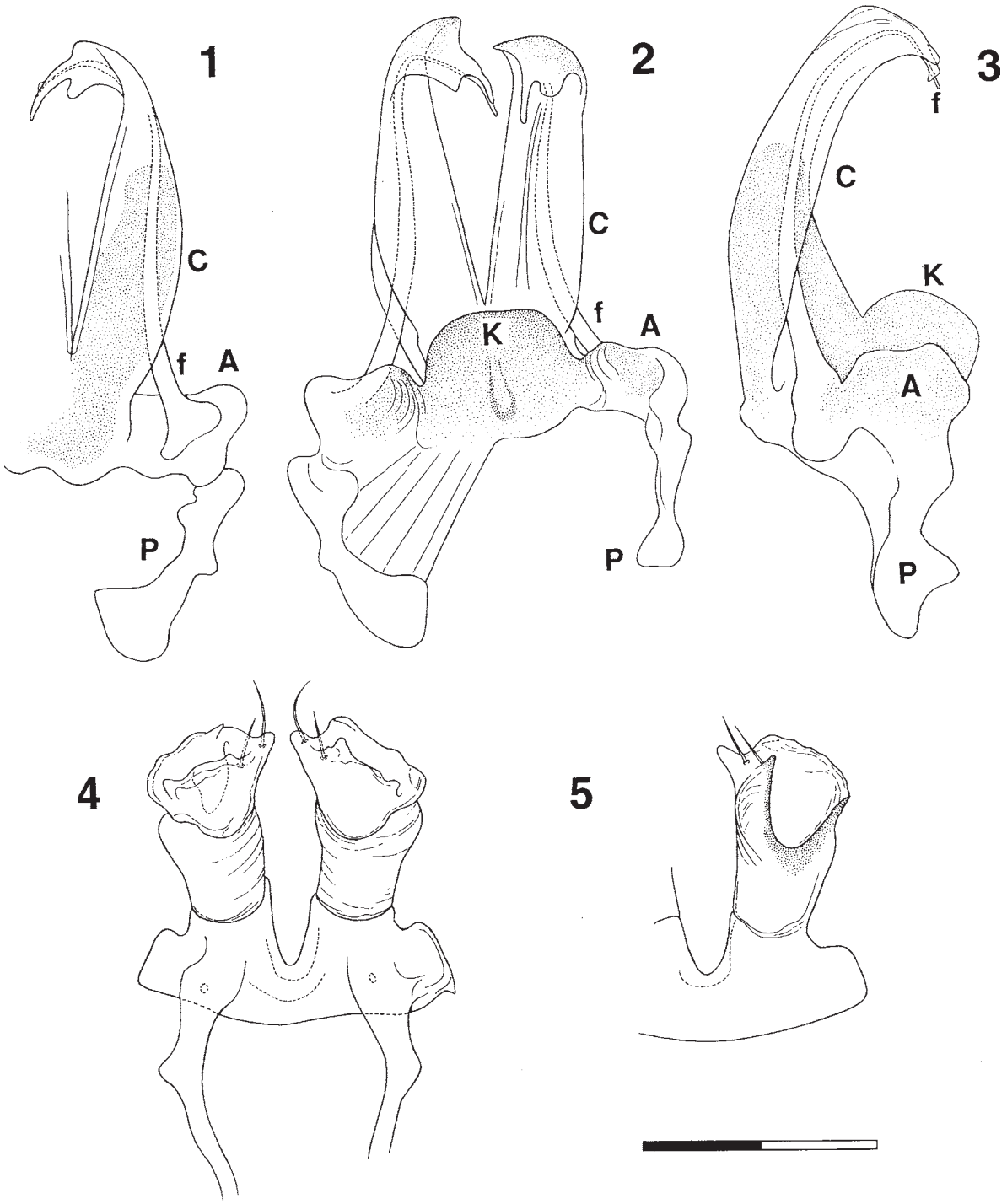
1. Gonopods: longitudinal groove conducting the distal half of pseudoflagella located on *medial side* of a triangular cheirite; thus pseudoflagella arising laterobasally and heading medially, being strongly angular there, but then, slipping inside cheirite groove, running laterodistally. Distal part of paragonopods without oral concavity. Body small-sized (♂: 6–7 mm, ♀: 8–9 mm long), with 28 segments. Paraterga very short. Macrosetae long, 1/3 as long as width of metaterga ..... Tribe Neoatractosomatini, genus ***Neoatractosoma*** Silvestri, 1898 (3 species)
—. Gonopods: longitudinal groove conducting the pseudoflagella located on *lateral side* of elongated cheirites; thus pseudoflagella at most sinuous. Distal part of paragonopods with an oral concavity. Body with 28 or 30 segments, coloured or unpigmented, size of body, paraterga, antennae and legs varied ..... Tribe Faginini, 2
2. Gonopods: both cheirites not coupled with a pair of colpocoxital processes. Cyphopods without unpaired structures. Body small-sized (♂: 8 mm, ♀: 9 mm long), with 28 segments (♂ & ♀), ♂ vertex flatly concave, eyes present. Metatergal macrosetae relatively short, 1/5 as long as width of metaterga. Antennae (club ca 6 times as long as wide) and legs normal .... Genus ***Fagina*** Attems, 1904 (1 species)
—. Gonopods: both cheirites coupled on their caudal face with a pair of more or less elongated colpocoxital processes. Cyphopods with unpaired structures. Body larger (♂: 13–15 mm, ♀:13–18 mm long), with 28 or 30 segments (♂ & ♀), vertex convex in both sexes, eyes present or absent. Metatergal macrosetae relatively long, at least 1/3 as long as width of metaterga. Antennae (club ca 10 times as long as wide) and legs elongated .... Genus ***Schizmohetera*** Mršić, 1987 (2–3 species)

Schizmohetera Mršić, 1987, char. emend.

DIAGNOSIS: Gonopods consisting of two pairs of elongated and arched processes, oral pair (cheirites) longer than caudal pair (colpocoxital processes), flanked by a pair of long and strong flagella arising laterally and remaining lateral in running along lateral longitudinal groove of cheirite. Distal part of paragonopods with an oral concavity concealing the end of gonopod cheirite. Adults with 28 or 30 body segments. Blind or with ocelli. Antennae and legs slender.

Type species: *Schizmohetera sketi* Mršić, 1987.

Other species: *S. curcici* Makarov, 2001. Both species have been collected in caves of Mount (Planina) Bistra, Western Macedonia. The validity of *S. curcici* remains to be confirmed, because the single male taken seems to show underdeveloped gonopods.



Figs 1–5. *Fagina silvatica* Attems, 1904, ♂ lectotype: 1–3 — left side of gonopods, oral, caudal and lateral views, respectively; 4 & 5 — paragonopods (leg 9), caudal and oral views, respectively. — Scale bar: 0.2 mm.

P — tracheal apodeme; S — sternite; A — angiocoxite; K — finger-shaped posterolateral branch = colpocoxite; C — cheirite; c — end of cheirite; f — flagellum.

Рис. 1–5. *Fagina silvatica* Attems, 1904, ♂ лектотип: 1–3 — левая сторона гоноподий, соответственно спереди, сзади и сбоку; 4 & 5 — парагоноподии (пара 9), соответственно сзади и спереди. — Масштаб: 0,2 мм.

P — трахейная аподема; S — стернит; A — ангиококсит; K — пальцеобразная задне-боковая ветвь = колпококсит; C — хейрит; c — концевая часть хейрита; f — жгутик.

Table 1. Measurements (body/midbody segment) in mm; number of segments (N), rows of ocelli (NRO) and number of ocelli (NO).

Таблица 1. ....

	N	Length	Vertical Diameter	Length of leg	NRO	NO
♂ holotype	28	13.3	1.12	1.55	7	21 (1123455)
♂ paratype	28	13	0.95		7	17 (1123433)
♀ paratype	28	13	1.15	1.78	7	18 (1123443)
♀ paratype	28	13.2	1		8	18 (11233341)
♀ paratype	28	13.5	1.20		8	18 (11223431)
♀ paratype	28	15.6	1.20		7	16 (1123432)
♀ paratype	28	16.4	1.25		7	18 (1123452)
♀ paratype	28	15.6	1.20		7	18 (1123443)
Subadult	26	11.3	0.91	1.80	6	14 (112334)
Subadult	26	11.7	0.91	1.80	6	16 (112345)
Juvenile	23	7.4	0.91	1.30	5	10 (11233)

Schizmohetera olympica **sp.n.**
Figs 6–14.

Holotype ♂ (ZMUC), Greece, Macedonia/Thessaly, Mount Olympus, alt. 700–2100 m, 21–26.05.1990, Zool. Mus. Copenh. Exp. leg. — Paratypes: 5 ♀♀, 3 juv. (ZMUC), 1 ♂, 1 ♀ (Muséum National d'Histoire Naturelle, Paris (MNHN), collection Myriapodes DA 255), same locality, together with holotype.

NAME. To emphasize the provenance. Mount Olympus is located 210 km southeast of the type localities of both species of *Schizmohetera* (Bistra Planina, Macedonia, ex-Yugoslavia).

DIAGNOSIS. Distinct from the type species in the presence of ocelli, the number of body segments in adults (28 instead of 30) and the broadened, bonnet-shaped distal part of the gonopods.

DESCRIPTION. Body, legs and antennae spindly. Colour rather uniform white, except for some traces of reddish pigmentation on antennae and/or head, especially around and behind eyes. Latter triangular in form and black in colour.

Body with 28 segments (♂ & ♀), 46 pairs of legs.

Measurements (body/midbody segment) in mm; number of segments (N), rows of ocelli (NRO) and number of ocelli (NO) see in Table 1.

Head convex in both sexes, with thin and dense pilosity, 1.2 mm wide both in holotype and in a smaller ♀ paratype. Eyes triangular or pyriform, arranged in 7–8 rows of 16–21 ocelli in adults, 6 rows of 14–16 in subadults (N=26), 5 rows of 10 in the single young juvenile with 23 segments. Antennae very long (2.60 mm in holotype, 2.84 in a smaller ♀ paratype) and slender, 2 times as long as width of larger metazonites, with antennomeres slightly clavate; antennal club ca 10 times longer than wide.

Collum crescent, 0.82 (holotype) to 0.91 mm wide (a smaller ♀ paratype), supporting 3+3 clearly smaller macrosetae than those on subsequents metaterga.

Dorsum rather convex, laterodorsal paraterga well-expressed, located a little more above mid-flanks. Segments strongly constricted behind a circular furrow separating pro- and metazona. Width of metazona: 1.38 mm (holotype) and 1.45 mm (a smaller ♀ paratype). Width of prozona: 1.05 mm (holotype) and 1.15 mm (a smaller ♀ paratype).

3+3 macrosetae shifted rather laterad, forming between them, on both sides, an obtuse virtual angle of about 120°; distance between posterolateral and anterolateral macrosetae same as that between posterolateral macroseta and medial suture. Macrosetae generally but unequally long, arched and not too strongly robust; longer ones (sometimes posterolateral, sometimes medial) reaching in length 1/3 of metazonital width. In some samples, macrosetae in caudal part of body notably shorter (abnormality?).

Epi-, para- and hypoprocts without peculiarities.

Legs long and slender, especially tarsi, tarsal pads on legs 3–7; claw simple in form (see fig. 95 in Attems, 1959), ca. 5 times a long as wide at base, basally with a straight, strong, setiform, accessory spine 4/5 as long as claw proper.

Male:

Pleurite of segment 6 with a short and acute tooth turned frontally. Antegonopodal legs without peculiarities.

Gonopods (Figs 9–11) very similar in general shape to these of *S. sketi*, especially in position of a pair of long flagella (f): each of these located inside a longitudinal groove running lengthways the cheirite (C). Yet gonopods differing distinctly in four characters:

(1) widening of an arrow-shaped process in terminal part (c) of each cheirite (C);

(2) different shape (like an arched podgy finger) of posterolateral branch (colpocoxite, K);

(3) angiocoxite (A) present but without even sterno-angiocoxal process at base of anterior side of gonopods.

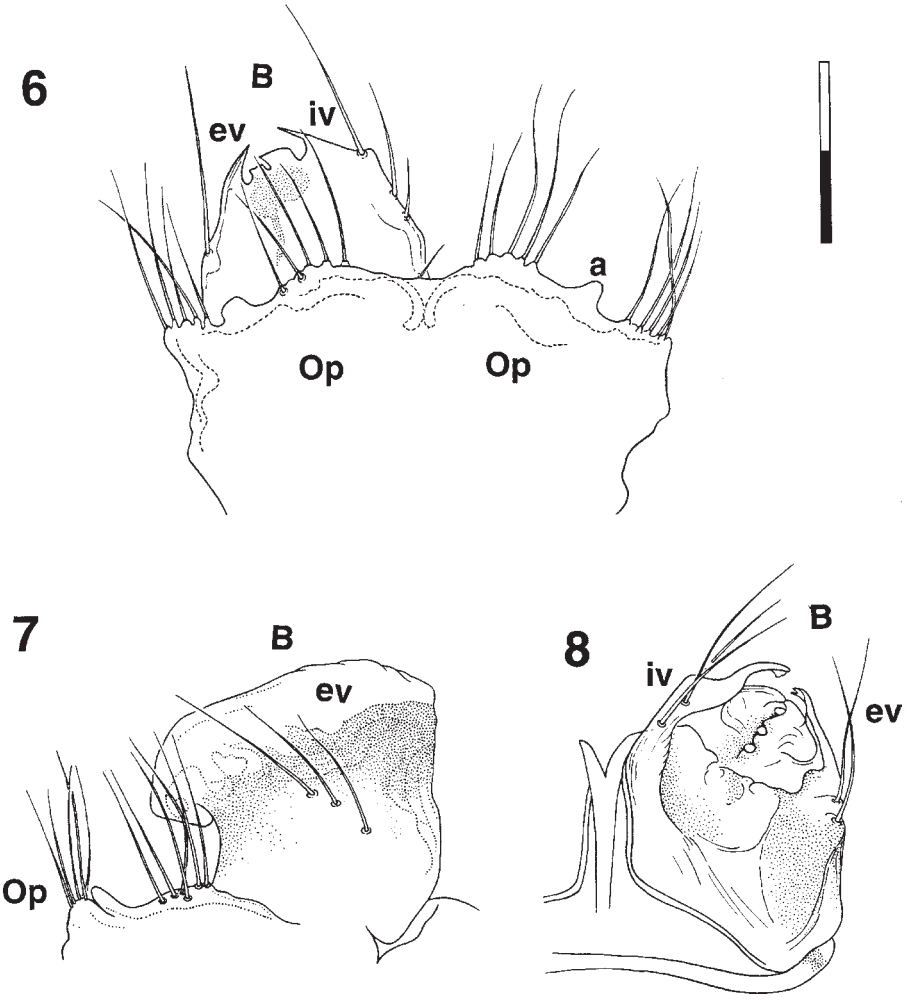
(4) presence of a voluminous sternite (S) located at base of and behind cheirites (Figs 10–11);

Paragonopods (leg 9) (Figs 12–13) like stumps very similar to these of *Fagina silvatica*, more simple in form than those of *Schizmohetera sketi* and *S. curcici* but also showing, in distal half of its anterior side, a longitudinally elongated cavity concealing the end of gonopod cheirites.

In lateral view, prefemur 10 seems enlarged in comparison with other prefemora, its posterior side being enlarged posteriorly, medially and more basally than distally (Fig. 14).

Female:

Peculiarities to be noted concern neither ante- nor postcyphopodal legs.



Figs 6–8. *Schizmohetera olympica* sp.n., ♀ allotype, gonopods, oral, caudal and lateral views, respectively. — Scale bar: 0.2 mm. Op — operculum; a — opercular distal lobe; B — bursa; iv — internal valve; ev — external valve.
Рис. 6–8. *Schizmohetera olympica* sp.n., ♀ аллотип, гоноподии, соответственно спереди, сзади и сбоку. — Масштаб: 0,2 мм. Op — крышечка; a — дистальная доля крышечки; B — сумка; iv — внутренний клапан; ev — внешний клапан.

Judged from Mršić's [1987] description of *S. sketi*, affinities in cyphopods (vulvae) (Figs 6–9) apparently only slight. Only opercula (Op) more or less joined sagittally, forming a wide unpaired plate (Fig. 6). Each operculum with two series (one internal, the other external, separated by a little prominent lobe a) of five long setae. Bursa (B) typical, in lateral view longer distally than basally. External (ev) and internal (iv) valves each with 2–3 setae.

Remarks. Although the new species shows some peripheral and sexual characters (notably the unpaired structures of the vulvae) very distinct from those of *S. sketi*, both species of *Schizmohetera* can be considered as congeneric, at least so for the time being, because both share several important characters in structure of the gonopods (especially pseudoflagella) and paragonopods.

Creation of a new generic taxon for the incorporation of *S. olympica* could be a viable option, yet to be postposed for the future until the following three conditions are realized:

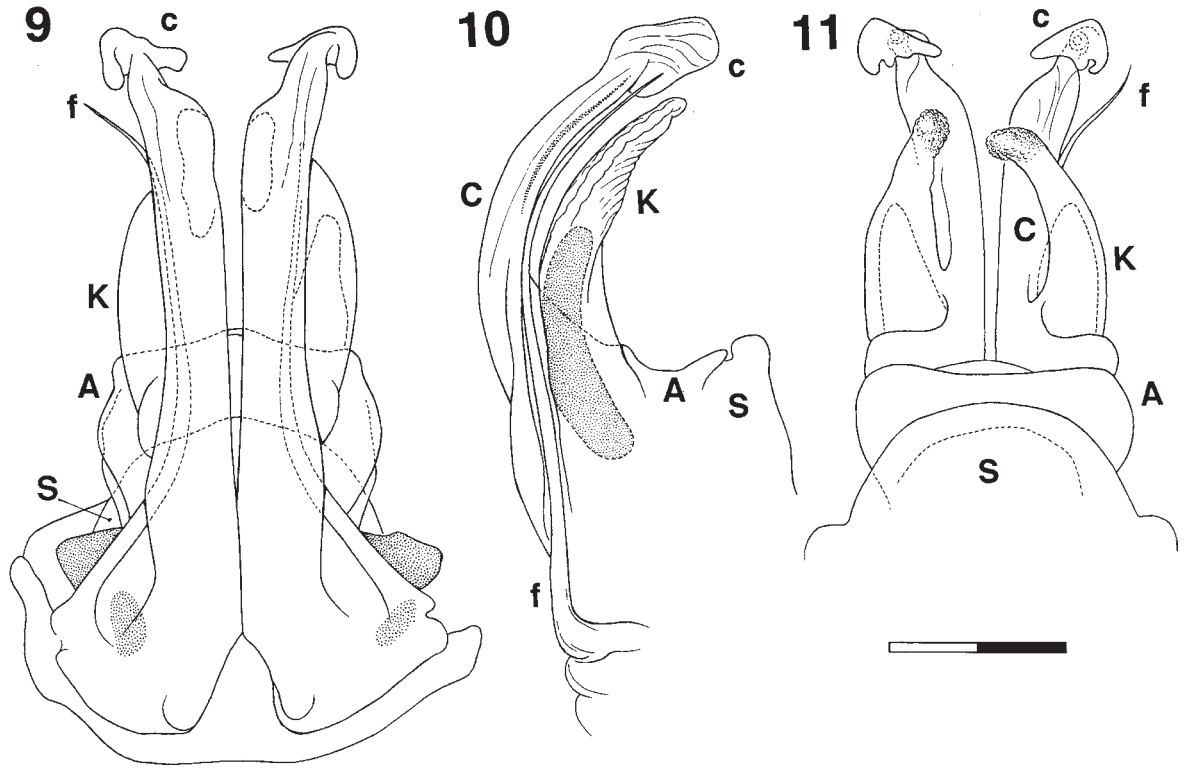
(1) when further southern European species are discovered and described, something very easy to predict given the current and presumed diversity estimates of the regional fauna of Chordeumatida (see also below);

(2) when all poorly-known but clearly or possibly related taxa are revised, just like the type species of the monospecific genus *Fagina* Attems, 1904 is revised here;

(3) when adult males of the still enigmatic genus *Paeonisoma* Verhoeff, 1932, with a single species known from the female sex only, become available for study. *Paeonisoma faucium* Verhoeff, 1932 was taken from an abyss of the Jablanica region, western Macedonia [Verhoeff, 1932], only some 50 km away from the type locality of *Schizmohetera sketi*. As juveniles and a single adult female of *P. faucium* known to date show the vulvae with unpaired structures comparable to those of *S. sketi*, *Paeonisoma* can prove to be related to or a senior synonym of *Schizmohetera*.

Greek species of Chordeumatida

Compared to the neighbouring parts of the Balkans, the fauna of Chordeumatida as currently known from Greece seems strongly impoverished. To provide a better idea of the bias, a faunal list is provided below.

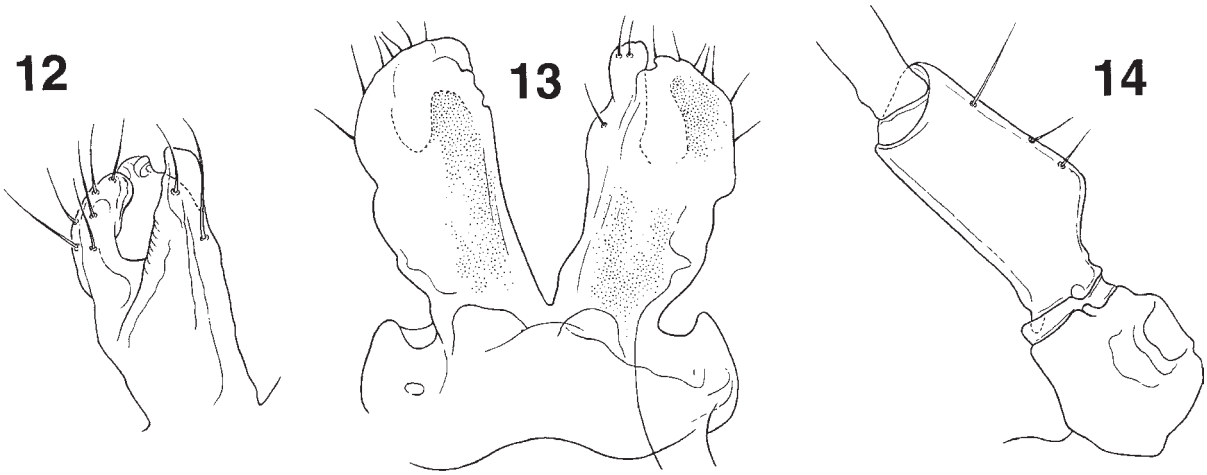


Figs 9–11. *Schizmobetera olympica* sp.n., ♂ holotype: 9 — paragonopod isolated, oral view; 10 — paragonopods, caudal view; 11 — coxa and prefemur 10. — Scale bar: 0.2 mm.

S — sternite; A — angiocoxite; K — finger-shaped posterolateral branch = colpocoxite; C — cheirite; c — end of cheirite; f — flagellum.

Рис. 9–11. *Schizmobetera olympica* sp.n., ♂ голотип: 9 — изолированный парагоноподий (нога 9), спереди; 10 — парагоноподии, сзади; 11 — тазик и предбедро 10. — Масштаб: 0,2 мм.

S — стернит; A — ангиококсит; K — пальцеобразная задне-боковая ветвь = колпококсит; C — хейрит; c — концевая часть хейрита; f — жгутик.



Figs 12–14. *Schizmobetera olympica* sp.n., ♂ holotype: 12 — oral view of opercular plate and left bursa (right bursa not depicted); 13 — lateral view of operculum and right bursa; 14 — caudal view of left bursa. — Scale bar: 0.2 mm.

Рис. 12–14. *Schizmobetera olympica* sp.n., ♂ голотип: 12 — вид спереди пластики крышечки и левой сумки (правая сумка не нарисована); 13 — вид собку крышечки и правой сумки; 14 — вид сзади левой сумки. — Масштаб: 0,2 мм.

Family Chordeumatidae:
Chordeumella broelemanni (Verhoeff, 1897): Verhoeff [1901], Strasser, [1974, 1976]: Epirus and Macedonia.
Family Anthroleucosomatidae:
Anamastigona penicillata Attems, 1902: Crete.
Anamastigona pentelonica (Verhoeff, 1925): Strasser [1971]: Attica.
Anamastigona bilselii Verhoeff, 1940: Strasser [1976]: Thrace.
Anamastigona hauseri Strasser, 1974: Cephalonia.
Anamastigona matsakisi Mauriès & Karamaouna, 1984: Naxos.
Anamastigona mediterranea Curčić, Makarov & Lymberakis, 2001: Crete.
Family ?Anthroleucosomatidae:
Krueperia nivale Verhoeff, 1900: Thessaly.
Family Atractosomatidae:
Kelempekia martensi Strasser, 1974: Thrace.
Family Neoatractosomatidae:
Epirosomella loebli Strasser, 1976: Epirus.
Schizmohetera olympica sp.n.: Macedonia/ Thessaly.

Eleven species, including two in Neoatractosomatoidea, are apparently only a minor fraction of the true diversity involved. This is evident not only from the new species added here but also from the most recent list of Diplopoda encountered in Albania, Macedonia and northern Greece [Mauriès et al., 1997], let alone a general list, however deficient, of the millipedes encountered in the Balkan region [Ceuca, 1992].

Reclassification of the Neoatractosomatoidea

The above new species provides a nice opportunity to propose a new classification of the superfamily Neoatractosomatoidea down to the generic level. In comparison with the only detailed and widely accepted classification of the Diplopoda [Hoffman, 1980], the composition of the superfamily here considered differs in the following major ways.

(1) After the description of the new species and the revision of *Fagina*, the author considers that *Fagina* can be placed directly in the family Neoatractosomidae, because nothing seems to justify its isolation in a family of it own. Thus, our present inclination is to group together the families Neoatractosomatidae and Faginidae (the latter dowgraded to the rank of a tribe) but to exclude the Mastigophorophyllidae. This last family constitutes, together with the Hoffmaneumatidae and Altajellidae, another superfamily characterized by the presence of flagella or flagelloid formations on both gonopods and paragonopods [cp. Shear, 2000; Shelley, 2003]. In the Neoatractosomatoidea, only the gonopods (= anterior gonopods) support flagella or flagelloids.

(2) A new family, Cyrnosomatidae fam.n., is created based on the point of origination of the flagella on the gonopods: *medial* in Cyrnosomatidae, *lateral* in Neoatractosomatidae.

(3) The subfamilies Neoatractosomatinae and Trimerophorinae are separated on the basis of the nature of the flagella: true flagella in Neoatractosominae, graphia (widened and brush-shaped flagella) in Trimerophorinae.

(4) The existence of the subfamily Microbrachysomatinae [see Verhoeff, 1912] is linked with the necessity to revise *Microbrachysoma alpestre* Verhoeff, 1897, the minute type-species of the genus *Microbrachysoma* Verhoeff, 1897, that is classified below, with reservations though, in the tribe Trimerophorini.

(5) A new tribe, Osellasomatini trib.n., is erected based on the nature of ♂ leg 7: unmodified in Trimerophorini, modified into peltogonopods in the new tribe.

(6) The genus *Epirosomella* Strasser, 1976 is considered below as a member of Trimerophorini, because it probably represents another example of simplification and ankylosis of some gonopod structures, by involution correlated with the small size of the body [Mauriès & Geoffroy, 1982; Mauriès, 1990].

The resulting reclassification looks as follows:

Superfamily Neoatractosomatoidea
1. Family Neoatractosomatidae Verhoeff, 1901
= Faginidae Attems, 1926, syn.n.
Gonopods (♂ leg 8): one pair of **flagella** or **graphia** arising **laterally**.
Subfamily Neoatractosomatinae Verhoeff, 1901
(♂ leg 8: **flagella**)
Tribe Neoatractosomatini Verhoeff, 1901
Neoatractosoma Silvestri, 1898a: 3 species (South Italy, Sicily, Herzegowina, Bosnia, Montenegro)
Tribe Faginini Attems, 1926
Fagina Attems, 1904: 1 species (Bosnia)
Schizmohetera Mršić, 1987: 2–3 species (Macedonia and North Greece)
incertae sedis:
Paeonisoma Verhoeff, 1932: 1 species (Macedonia)
Subfamily Trimerophorinae Verhoeff, 1901
?= Microbrachysomatinae Verhoeff, 1912
(♂ leg 8: **graphia**)
Tribe Trimerophorini Verhoeff, 1901
= ?Microbrachysomatini Verhoeff, 1912
(♂ leg 7: *unmodified*)
Pseudocraspedosoma Silvestri, 1898b
= *Trimerophoron* Rothenbühler, 1900
= *Brentomeron* Verhoeff, 1934:
6/8 alpine species (Germany, Switzerland, Italy)
Mesotrimeron Verhoeff, 1912: 1 species (Lombardy)
Trimerophorella Verhoeff, 1902: 3(?) alpine species (North Italy, Switzerland, Austria)
Epirosomella Strasser, 1976: 1 species (Greece)

?***Microbrachysoma*** Verhoeff, 1897: 1 species (Herzegowina)

Tribe Osellasomatini nov.

(♂ leg 7: *modified into peltogonopods*)

Osellasoma Mauriès, 1985: 1 species (North Italy)

2. Family Cyrnosomatidae nov.

Gonopods (♂ leg 8): one pair of **flagella** arising **medially**.

Cyrnosoma Mauriès, 1969: 3 species from Corsica, including in all probability *«Neoatractosoma» strandi* Attems, 1927, from Tuscany, Italy.

The above rearrangement disagrees with that introduced by Shear [2000], and repeated by Shelley [2003], in the removal of Mastigophorophyllidae, Altajellidae and Hoffmaneumatidae from the Neoatractosomatoidea into a different superfamily, Mastigophorophylloidea superfam.n., characterized by the presence of flagella or flagelloid structures on both gonopod pairs. In addition, the Cyrnosomatidae fam.n. is erected as a true member of Neoatractosomatoidea, while the Faginidae is sunk into synonymy with Neoatractosomatidae.

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