

**Notes on the genus *Hexathrombium* COOREMAN, 1944
(Acari, Trombidiidae)
with description of a new tribe and species
from Afrotropical Staphylinidae (Coleoptera)**

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Summary

Hexathrombium fageli n. sp. (Acari, Trombidiidae, Eutrombidiinae) is described from larvae found attached to two Afrotropical species of *Ophitodum* FAGEL, 1977 (Coleoptera, Staphylinidae, Paederinae). A new tribe, *Hexathrombiini* n. trib., is erected for the genus *Hexathrombium* COOREMAN, 1944.

Résumé

Hexathrombium fageli n. sp. (Acari, Trombidiidae, Eutrombidiinae) est décrite d'après des larves trouvées sur deux espèces afrotropicales d'*Ophitodum* FAGEL, 1977 (Coleoptera, Staphylinidae, Paederinae). Une nouvelle tribu, *Hexathrombiini* n. trib., est créée pour le genre *Hexathrombium* COOREMAN, 1944.

Introduction

The genus *Hexathrombium* COOREMAN has been created for a species *H. spatuliferum*, represented by larvae found attached to a Carabid beetle, *Pheropsophus* sp. from Eastern Zaïre.

We describe now a new species in this genus. It is represented by three larvae collected by one of us (D.D.) from two species of *Ophitodum* (Coleoptera Staphylinidae). Two of these were found on *O. capillare* (FAGEL, 1961) from Ivory Coast, the third larva was recovered from *O. erythreanum* (BERNHAEUER, 1915) from Ethiopia.

All the measurements used herein are in micrometers.

Abbreviations: IRSNB = Institut royal des Sciences naturelles de Belgique; MRAC = Musée royal de l'Afrique centrale de Tervuren (Belgique).

Remarks on the genus *Hexathrombium* and allied genera

The genus *Hexathrombium* belongs to a small group of Trombidiid genera, represented only by larvae, and characterized by the presence of 4 or 5 median dorsal shields. This group includes at present three genera:

1. *Hoplothrombium* EWING, 1925. Type species: *Hoplothrombium quinquescutatum* EWING, 1925, known from a single larval specimen "adhering to a beetle mite (probably an Oribatid), taken from the stomach of a toad *Bufo americanus* at Hudson Bay, Canada" (EWING, 1925).

The exact position of this genus is so far not clearly established. EWING (1925) placed this genus near *Etmuelleria* OUDEMANS, 1911, a doubtful genus, and WOMERSLEY (1937) included it in the Microtrombidiinae. VERCAMMEN-GRANDJEAN (1967) redescribed the holotype of this species and included it in the Trombidiinae. Recently, SOUTHCOTT (1986) placed this genus provisionally in the Eutrombidiinae THOR, 1935.

Hoplothrombium has one pair of eyes and 5 median dorsal shields. The coxal formula is 2-2-2, all these setae are simple except the internal seta of coxa III which is barbed. The palptibia bears an apical simple spine. According to VERCAMMEN-GRANDJEAN (1967), the mouth is surrounded by a "circular collarette" (? chitinized striated peribuccal ring).

2. *Hexathrombium* COOREMAN, 1944. The type species is *H. spatuliferum* COOREMAN, 1944, described from a Carabidae (Coleoptera) from Eastern Zaïre. There are three other larvae of this species in the collections of IRSNB. Two are paratypes, with the same data as the holotype: "Sur *Pheropsophus* sp., dans la forêt de Kawa, Lac Albert, Congo belge, le 4.IV.1929". The third specimen is labelled; "*S/Pheropsophus (Stenaptinus) exiguus* ARROW, 1901, Parc national Albert, G.F. DE WITTE, Camp Ruindi, 1000 m, 20/28.XI.1934".

The species *Trombidium cicindelae* FLOCH & ABONNENC, 1941, described from *Cicindela cayennensis* FABRICIUS, 1787 (Col. Cicindelidae), from the French Guiana, also belongs to the genus *Hexathrombium* (Fig. 6). This species had been included in the genus *Hoplothrombium* (see WELBOURN, 1983).

A third species, *H. fageli* n. sp., is described herein from larvae collected on two species of Afrotropical *Ophitodum* (Coleoptera, Staphylinidae) from Ivory Coast and Ethiopia.

This genus differs from *Hoplothrombium* by the presence of two pairs of eyes and four median shields, the different coxal formula (2-1-1), the curious shape of the external coxal setae and the forked shape of the apical spine of the palptibia.

3. *Beronium* SOUTHCOTT, 1986. The type-species is *Hoplothrombium coiffaiti* BÉRON, 1973. It is based on a single larva which was found attached to a cavernicolous beetle (Carabidae), *Pristonychus (Sphoroides) kolbi* COIFFAIT, 1972, from Morocco. In this genus, the dorsum bears 5 median shields as in *Hoplothrombium* but there are no eyes, the coxal formula is 2-1-1 and the lateral setae of coxae are strongly modified. A nontoothed chitinized ring is present around the mouth (SOUTHCOTT, 1986). The shape (simple or bifid) of the apical spine of palptibia is unknown. SOUTHCOTT has provisionally placed this genus in the Eutrombidiinae, along with *Hoplothrombium*.

Remarks on the systematic position of these genera

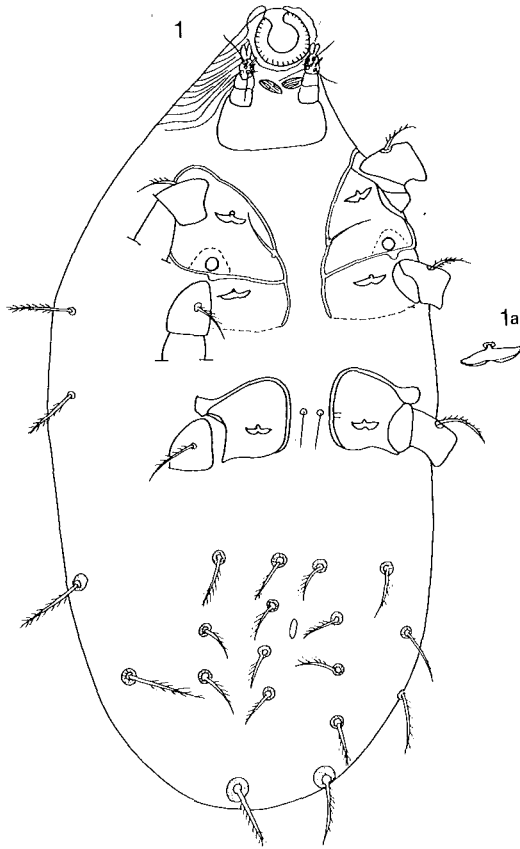
These three genera present some characters that are also shared with *Eutrombidium trigonum* (HERMANN, 1804) the type of the genus *Eutrombidium* VERDUN, 1909, i.e. the presence of a peribuccal chitinized and non-toothed ring open anteriorly, the modification of the claws of tarsi III and, in 2 genera, the modification of the outer setae of coxae I-III. They differ, however from *Eutrombidium*, by the presence of 4 or 5 median dorsal shields (for 2 shields in *E. trigonum*) and the presence of only 2 claws on tarsi III (for 3 in *E. trigonum*). These three genera, however, do not form an homogeneous group and they differ from each other by important characters. We propose therefore to separate *Hexathrombium* into a new tribe, Hexathrombiini, in the Eutrombidiinae. The suprageneric status of *Hoplothrombium* and *Beronium* will be discussed later.

Subfamily Eutrombidiinae THOR, 1935

Tribe Hexathrombiini n. trib.

Definition (larva): Eye 2 + 2 (sessile). Dorsum with 4 median shields, followed by a pair of oval platelets each of them bearing a barbed seta. Anterior shield with 3 pairs of setae and one pair of sensillae. Other median shields with one pair of barbed setae. Tarsi I and II normal. Tarsus III with two unequal claws and a long dorsal projection bearing a thick apical seta divided into setulose branches. Legs segments: 6-6-6. Coxae with 2-1-1 setae. Coxa I much larger than the other coxae and bearing an internal simple and an external very modified seta resembling a fan with its free margin convex or slightly notched in its middle. Coxae II and III with only a "fanlike" seta. Mouth surrounded by a chitinized slightly striated ring open anteriorly and enveloped by a rather large transparent membrane striated at its base. Gnathosoma small, palptibia ending in a forked spine. Palptarsus with one solenidion, 3 thin, simple setae (15-20 long) and 3 short setae or spines. Ventral setae of gnathosoma fan-like, as those of coxae II and III but with free border thicker and with more striations.

Type-genus: *Hexathrombium* COOREMAN, 1944.

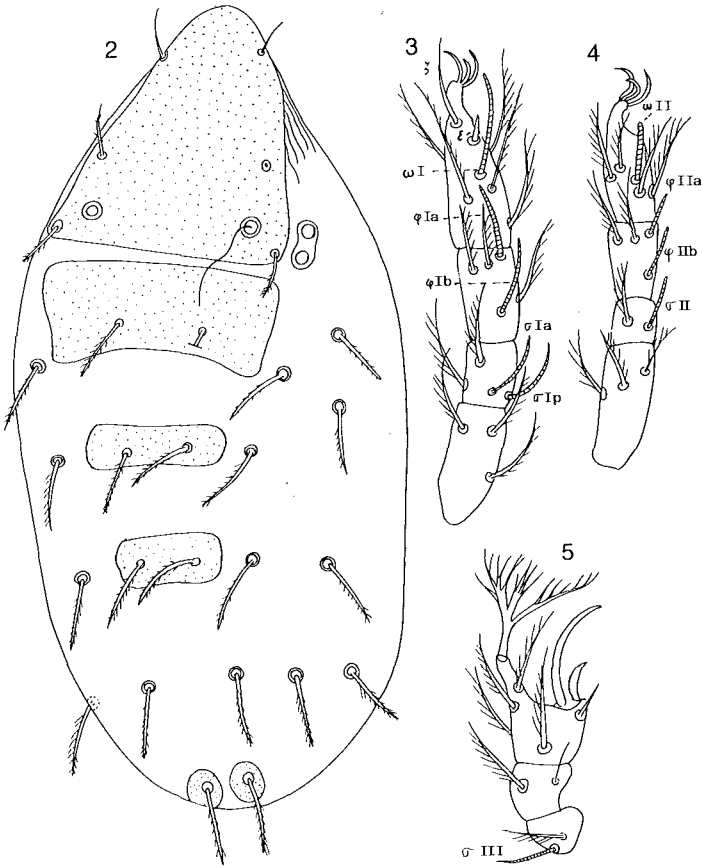


Figs 1-1a. *Hexathrombium fageli* n.sp.: larva holotype, in ventral view (1); outer seta of coxa (1a).

Description of *Hexathrombium fageli* n.sp.

Figs 1-5 and table 1

Larva, holotype: length of idiosoma 450, maximum width 222 (the holotype is slightly oblique). Length and width in 2 paratypes: 447 X 195 (paratype from Ivory Coast) and 468 X 219 (paratype from Ethiopia). All the shields punctate devoid and of lines. Soft cuticle of dorsum with 9 pairs of barbed setae. Venter: a pair of simple setae, 21 long, between coxae III. Opisthogaster with all setae barbed, of which 5 pairs paramedian and 3 pairs ventrolateral. All these setae are situated on very small punctate platelets except the posterior pair placed on larger punctate platelets. Urstigma rounded, attached to coxa I. Number of barbed setae (excluding solenidia) on legs: trochanters 1-1-1, femora 6-5-4, genua 4-2-2, tibiae 6-5-5. Metric data: see table 1.



Figs 2-5. *Hexathrombium fageli* n.sp.: larva holotype in dorsal view (2), leg I (3), leg II (4) and leg III (4) in dorsal or dorsolateral view.

Diagnosis: this new species differs from *H. spatuliferum* by the following characters: 1) Idiosoma much smaller: in *H. spatuliferum* the length X width is 590 to 630 X 300 to 302, in *H. fageli* it is 447-468 X 195-219; 2) other metric data generally much smaller except for *omega* I et *phi* I where it is the reverse (see table 1); 3) in *H. spatuliferum* the short claw of tarsi III bears a distinct long barb, which is absent in *H. fageli*; 4) almost all the ordinary setae of the legs (solenidia and eupathidia excluded) are distinctly barbed in *H. fageli*, whilst these setae are either completely bare or present only a few and short barbs in *H. spatuliferum*.

Etymology: this species is named for the late Mr G. FAGEL, prominent Belgian specialist of the Staphylinidae (Coleoptera).

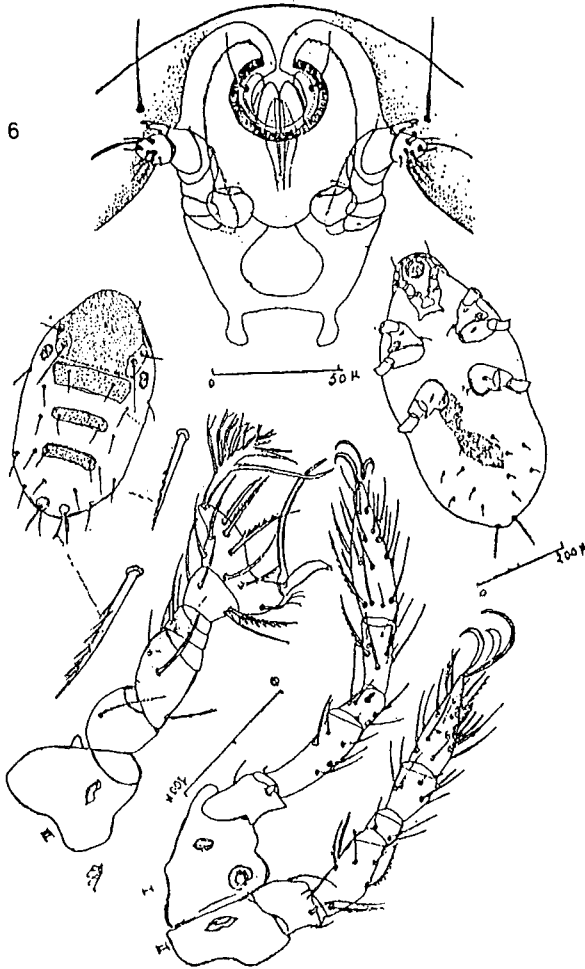


Fig. 6. *Hexathrombium cicindelae* (FLOCH & ABONNENC, 1941): original drawing of the larva.

Host and locality:

Holotype larva found attached to *Ophitodum capillare* FAGEL, 1977 (Coleoptera, Staphylinidae, Paederinae) from Ferkessédougou, Ivory Coast, 10/20.V.1964 (J. DECELLE leg.), in IRSNB.

Paratypes: one larva with the same data as holotype in IRSNB. A second larva from *Ophitodum erythreanum* BERNHAUER, 1915 from Ethiopia (locality unknown), in MRAC.

Table 1. Standard data of the larvae of *Hexathrombium* spp. (measurements in micrometers).

	Hexathrombium spatuliferum		Hexathrombium fageli sp.n.		
	Holotype	specimen from Camp Ruindi	Holotype	Paratype n° 1	Paratype n° 2
<i>Locality:</i>	Zaïre	Zaïre	Ivory Coast	Ivory Coast	Ethiopia
<i>Anterior shield:</i>					
LN	28	25	30	30	30
ASB	140	150	120	122	120
PSB	29	30	20	21	25
L	165	180	140	142	146
W	166	177	132	120	135
AM	-	-	39	30	33
AL	51 (incompl.)	56 (incompl.)	30	-	45
PL	36	32	25	30	38
AMB	75	74	45	45	47
AP	42	45	45	39	43
AW	128	138	90	90	43
PW	153	165	126	120	133
MA	85	99	68	74	66
SB	115	120	93	97	99
Sens	76	85	65	-	75
<i>2d shield</i>					
PLN	18	30	36	39	39
PSL	60	66	57	57	60
PSW	150	171	129	128	130
QW	57	57	45	42	52
QL	50	51	36	39	38
<i>3d shield</i>					
PLN	13	21	12	15	14
PSL	33	39	23	24	26
PSW	103	118	75	76	86
QW	45	50	30	30	48
QL	51	58	40	45	43
<i>4th shield</i>					
PLN	15	19	16	16	18
PSL	36	41	30	30	32
PSW	96	108	57	57	64
QW	48	47	30	24	35
QL	51	56	42	45	48
<i>Post. paired dorsal shield</i>					
PSL	36	-	21	24	-
PSW	21	24-24	18-18	18-15	18-18
QW	36	35	27	28	25
QL	75	70	45	45	-
<i>Legs</i>					
Fel	50	54	47	48	51
FelI	45	48	45	45	45
FelII	45	45	45	42	45
Gel	22	26	18	20	22
GelI	17	18	15	15	16
GelII	15	16	15	15	15
Til	36	39	35	31	34
TilI	30	34	27	24	27
TilII	21	21	23	21	20
Tal	69	67	60	63	68
TalI	49	51	45	42	48
TalII	50	55	45	45	45

Table 1. (continued)

<i>Lengths of dorsal setae of idiosoma:</i>	34 to 60	45 to 60	38 to 42	36 to 45	30 to 48
<i>Post. pair of ventral setae:</i>	56 (incompl.)	54	40	42	-
<i>Median ventral setae:</i>	18 to 24	18 to 25	20 to 30	20 to 30	20 to 30
<i>Lengths of solenidia:</i>					
Omega I	22	24	35	37	36
Omega II	18	18	20	20	24
Phi Ia	20	20	26	26	24
Phi Ib	20	23	26	25	26
Phi IIa	13	16	16	16	13
Phi IIb	18	21	17	16	13
Sigma I ant.	22	25	22	21	22
Sigma I post.	-	22	21	21	19
Sigma II	25	25	21	24	15
Sigma III	24	24	23	24	18

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