Brachycelaenopsis, a new genus of *Celaenopsidae (Acarina)* from Tasmania.

By

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It has been pointed out to me by Dr. Womersley that the Celaenopside, mentioned by me in my recent paper on the *Celaenopsidae, Diplogyniidae* and *Schizogyniidae* (1950, på 384), C. *breviatus* Banks, did not belong to the North American fauna but was captured in Tasmania. At the same time as I take this opportunity of correcting this error I give a new description of Banks' species, based on two cotypes lent to me by Womersley when he visited me in the late autumn of 1947. Although the two slides are in a very bad condition, indeed, giving one the vivid impression that the mites had not been subjected to a regular dissection but merely had been torn to pieces by the means of a couple of needles, it has been possible to redescribe the species and to delineate the most important features, viz. the sternal and metasternal shields, the genital fissure and the anterior part of the shield which I have interpreted as the coalesced lateral shields, as well as the posterior end of the body and the mandibles and the vaginal, claviform sclerites.

Although the description given by Banks (1) is very vague as regards the most important features, yet I give it in extenso since his paper is not easy to get hold of.

The three genera of this family hitherto recorded are the following; *Celaenopsis* Berlese with C. *cuspidata* (Kramer) as type. *Pleuronectocelaeno* Vitzthum with *P. austriaca* Vitzthum as type and *Ceratocelaenopsis* Trägårdh with *C. womersleyi* Trägårdh. The former genera are common in their special biotopes in Europe, including Sweden. The last genus has been found in New Guinea.

If we compare the three genera, we notice that *Celaenopsis* differs from the other two by the presence of a post-anal shield, interposed between the posterior tips of the marginal shields whereas in the two other genera there is no such shield either because it has disappeared or, which is more probable, because it has coalesced with the ventrianal shield, the posterior margin of which is contiguous with the posterior margin of the body. It is true that *Brachycelaenopsis* belongs to the

type of *Celaenopsis* but at the same time it has an intermediate position between that genus and *Pleuronectocelaeno* because the postanal shield is very narrow and weakly chitinized, a fact which has prevented Banks from seeing it. *Brachycelaenopsis* is therefore very interesting because it shows us that in this family the presence of a postanal shield is a primitive feature, and that the type of *Pleuronectocelaeno* has developed either through the reduction of the postanal shield or through its being coalesced with the ventrianal shield.

Key to the genera of Celaenopsidae.

1. Postanal shield present 2
— No postanal shield 3
2. Postanal shield well developed ..... *Celaenopsis* Berl.
— Postanal shield very narrow, weakly chitinized
Brachycelaenopsis nov. gen.
3. Median incision in the front margin of the fused lateral shields very short ..... *Pleuronectocelaeno* Vitzthum
— Median incision as long as the width of the lateral shields
Ceratocelaenopsis Trägårdh.

Celaenopsis breviatus Banks n. sp.

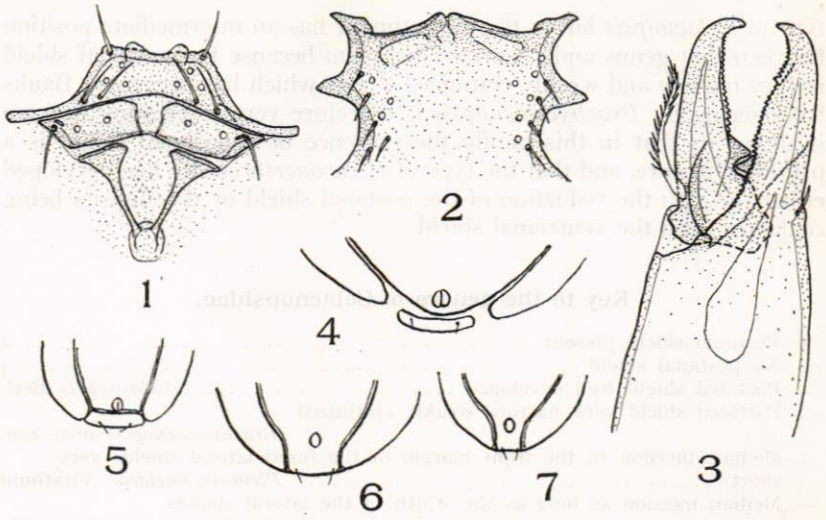
Pl. XXIII, fig. 7.

»Yellowish-brown. Body about one and one-half times as long as broad, broadest in middle. Dorsum with scattered fine hairs; mouth-parts barely projecting in front of the body; palpi short; legs very short, the fourth pair longest, and these scarcely as long as width of body; leg I shorter and weaker than the other pairs, ending in a few short simple hairs, other legs with few short hairs. Sternal shield in three parts, a transverse part in front, and behind are two pieces meeting angularly in the middle; the vulva, behind these pieces, is V-shaped; the genital plate has two bristles each side, the sternal plate one on each side, the ventral plates have many short bristles near sides, and others on the ventral area toward margin; the anus is hardly its length before the hind margin. Length. 8 mm.

Hab. Tasmania: Chudleigh, Hobart, and Kindred, with *Iridomyrmex*.«

Brachycelaenopsis nov. gen.

Diagnosis: — Post-anal shield small, weakly chitinized, interposed between the ventro-anal shield and the posterior margin of the body. Metasternal shields not triangular but irregularly rectangular, not contiguous in the middle. Median anterior incision of the coalesced lateral shields very short bifurcate at the bottom; claviform vaginal sclerites trumpet-shaped.



Brachycelaenopsis breviatus (Banks).

Fig. 1. Female, sternal shield, metasternal shields and vaginal sclerites. Fig. 2. Female, anterior part of ventrianal shield. Fig. 3. Female, mandible. Fig. 4. Female, posterior part of ventral side.

Celaenopsis cuspidatus (Kramer).

Fig. 5. Female, posterior part of ventral side.

Ceratocelaenopsis womersleyi Trägårdh.

Fig. 6. Female, posterior part of ventral side.

Pleuronectocelaeno austriaca Vitzthum.

Fig. 7. Female, posterior part of ventral side.

Type species: C. breviatus (Banks).

The size, general shape and the dorsal shield are described by Banks (l. c.). In the following only the characters omitted by Banks or erroneously interpreted by him will be described and delineated.

Ventral side.

The *sternal shield* (fig. 5) resembles in its general shape those of the other genera in so far as that it is very short with short anterior angles and long posterior angles which project beyond the lateral tips of the metasternal shields. The anterior margin is almost straight, with a very shallow, median excavation, the posterior margin is concave, forming an even curve. The sternal shield has three pairs of hairs, not one pair, as stated by Banks. Hair I situated in the anterior angles, hairs II and III forming a transverse row near together fairly close to the posterior margin of the shield, half-way between the median line and the lateral

tips. They are of subequal length and almost as long as the shield itself. Three pairs of pores or circular depressions.

The *metasternal shields* (fig. 1) are narrow, rectangular and do not meet in the middle, as Banks states, but separated by an area of soft cuticle. Their lateral tips are acutely pointed and here the metasternal hairs are placed, accompanied by a slit-shaped pore; the hairs are of the same size as the sternal hairs. There is a transverse row of two pairs of pores or circular depressions a little in front of the middle.

The *genital aperture* is a transverse fissure between the posterior margin of the metasternal shields and the anterior edge of the coalesced lateral shields. Banks' conception of the genital aperture as a V-shaped fissure is quite erroneous. What he has seen and wrongly interpreted are the claviform vaginal sclerites whose outlines he has noticed under the *lateral shields*. The *vaginal sclerites* have a form quite different from those of the other genera which resemble drum-sticks or golfclubs. They are formed like trumpets, widening in the middle to large, triangular pieces.

The median incision in the anterior edge of the shield which I have intrepreted as the two coalesced lateral shields is very short and bifurcate at the posterior end, giving one the impression that this structure is a rest of a more primitive organization, with the tip of the epigynial shield, flanked by the tips of the anterior tips of the lateral shields.

Gnathosoma.

Owing to the bad condition of the slides it has been impossible to describe the hypostome, the epistome or the palps. The mandibles, on the other hand, are intact. They resemble those of the other genera and have the same basal, large tooth which is, however, acting against another large tooth of the upper jaw, which is not so highly developed in the other genera. The cutting edge of both jaws has very small, numerous teeth of which no one is larger than the others.

The description is made on two slides, containing cotypes which Dr. Womersley kindly lent me. The locality is mentioned in Banks' paper. It is of great interest that the mite was found together with an ant, *Iridomyrmex,* but this does not prove that it is associated with the ants, since many ants inhabit rotten logs so that the coexistence may be quite accidental.

The geographical distribution of the Celaenopsidae.

According to the information available the family embraces only four genera of which two are European, while the other two inhabit the Australian region. As pointed out in an earlier paper (Trägårdh, 1950, p. 449) this discontinuous distribution was interpreted as evidence that the group was a very ancient one, in earlier times spread over great

parts of the world, where it now has become extinct. We must, however, bear in mind that so far only the acarofauna of Europe has been comparatively well investigated. The fact that both *Celaenopsis* and *Pleuronectocelaeno* are associated with barkbeetles and that the galleries of barkbeetles, as far as I know, have never been explored except occasionally in Europe, lends support to the view that especially a continent as North America where the flora is so rich in coniferous and other trees, many *Celaenopsidae,* associated with barkbeetles will eventually be discovered, when once the American acarologists will begin to study other mites than the larvae of *Trombicula.*

Some time ago a new Celaenopside was discovered under the bark of some timber shipped from Kamerun to Sweden. The new species will be described by Dr. Sellnick as *Pleuronectocelaeno africana.* The family is thus found in three regions and especially the last discovery renders it very probable that the investigation of the fauna under the bark of dead trees will yield quite a number of new Celaenopside, just as my investigation of the fauna of dead trees in South Africa was so fruitful (comp. Trägårdh 1950).

References.

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