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**KLINCKOWSTROEMIELLA HELLERI (OUDS., 1929)
NOV. COMB. FOR FEDRIZZIA HELLERI OUDS., 1929
(ACARINA-KLINCKOWSTROEMIIDAE)**

by

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SYNOPSIS

The type slide of the species *Fedrizzia helleri* briefly described by Oudemans 1929 from Paramaribo, Dutch Guiana, but never figured, has been re-examined. The species is now shown to belong not to the genus *Fedrizzia* Canest. (fam. Fedrizzidae) but to the genus *Klinckowstroemiella* Turk 1951 (fam. Klinckowstroemiidae).

The species *Fedrizzia helleri* was briefly described by Oudemans 1929 as follows:

“*Fedrizzia helleri* nov. sp. Er is geen scherp begrensd sikkelvormig scutum verticale; wel is dit gedeelte naar den voorrand membraneus; die voorrand is niet zuiver rond, maar iets golvend; er zijn 4 stralende vertikaalhaartjes op geplaatst, die op gelijke afstanden van elkander staan. Verder is de rug haarloos. ♀ genitaalopening trapezoidaal, vóór bijna even breed als de rechte achterrand van het sternale, en breeder dan achteren; zij wordt door 4 driehoekige schildjes gedekt (teken in gedachte de diagonalen in het trapezium). ♂ genitaalopening als bij *Fedrizzia laevis* Can. 1884, maar precies tusschen de coxae III (bij *laevis* nog iets meer naar achteren) — Op *Passalus* sp., Paramaribo; Juli; C. Heller legit”.

In her Catalogue of 1945 of the Acari in the Oudemans collection in the Leiden Museum, Dr. A. M. Buitendijk indicates that drawings of this species have been published but I am informed by Dr. L. van der Hammen of the Leiden Museum that this is an error and that no figures exist.

Except for the reference by Sellnick 1938 in which he suggests that on the structure of the genital shields in the female, *helleri* belongs to his genus *Eufedrizzia* which he erected for the species *Trachyuropoda tricuspis*

Banks 1914 from a Passalid from Brazil, no references appear to have been published.

The family *Klinckowstroemiidae* was erected by Trägårdh (1945) for the genus *Klinckowstroemia* which he diagnosed informally in 1937 but without the citation of a type species in accordance with the International Rules of Zoological Nomenclature. Consequently the genus *Klinckowstroemia* remained a nomen nudum until 1952 when Baker and Wharton validated it by naming the species on which Trägårdh worked as *Klinckowstroemia trägårdhi* n.sp.

In 1948 Turk has stated that in correspondence Trägårdh expressed his intention of publishing in 1947 a paper validating the genus but this does not appear to have matured.

The genus *Klinckowstroemia* was defined by Trägårdh (1937) principally on the structure of the ventral shields as compared with those of *Fedrizzia*. In *Klinckowstroemia* the lateral shields (latigynial of Camin and Gorirossi, 1955) are large and conspicuous, flanking the also large median (sternogynial of C. & G.) and genital (mesogynial of C. & G.) shields with their inner angles meeting or almost so medially, whereas in *Fedrizzia* the lateral shields are reduced to linear and strap-like form flanking the large median shield, the genital shield being almost obsolete.

Of these shields Trägårdh gives an excellent figure in his 1937 paper (the only detail figured for the species). This is repeated in his 1946 paper but no further information is given beyond raising by name of the family *Klinckowstroemiidae*. In both these papers, however, the family is omitted from the keys.

In 1948 Turk in his paper on the "Insecticolous Acari from Trinidad" states that in correspondence Trägårdh, having examined Berlese's type of *Antennurella* Berl., 1904 in Florence, was of the opinion that Sellnick's *Eufedrizzia* was synonymous with *Antennurella* and also that his (Trägårdh's) genus *Neo-oudemansia* was most probably also a synonym. The genus *Neo-oudemansia* was also a nomen nudum, no type being cited, until validated in 1952 by Baker and Wharton, naming the species *Neo-oudemansia trägårdhi* n.sp.

In his paper Turk (loc. cit.) described another species to which he did not then ascribe a specific name and which he placed tentatively in the genus *Klinckowstroemia*. Later, however, in 1951 he erected the genus *Klinckowstroemiella* for the species and named it *K. prima*.

In their paper Camin & Gorirossi (1955) included the two families *Fedrizzidae* and *Klinckowstroemiidae* in the superfamily *Fedrizzioidea* (*Mesostigmata-Trigynaspida*) which from their key can be diagnosed as follows.

Sternogynial shield (median of Trägårdh) present and distinct, bearing sternal pores III. Ventral, anal and metapodal shields contiguous or fused; venter with depressions accomodating folded legs and gnathosoma; chelicerae with filamentous excrescences. The two families are separated as follows.

Latigynial (laterals of Trägårdh), mesogynial (genital), and sternogynial (median) shields well developed; male genital opening oval, much wider than long, between coxae III **Klinckowstroemiidae**

Latigynial shields slender and strap-like flanking the large sternogynial shield; mesogynial shield very much reduced or obsolete; male genital opening round or only slightly wider than long, between coxae II and III **Fedrizzidae**

In the family Klinckowstroemiidae there are now three genera with six species known.

Klinckowstroemia (Träg., 1937 n. nud.) Baker and Wharton, 1952; type *trägårdhi* Baker and Wharton, 1952 (= sp. Träg., 1937 n. nud.).

Klinckowstroemiella Turk, 1951; type *prima* Turk, 1951 (= sp. Turk, 1948 n. nud.), also *helleri* (Ouds., 1929) (= *Fedrizzia helleri* Ouds., 1929).

Antennurella Berl., 1904; type *A. trouessarti* Berl., 1904; = *Eufedrizzia* Sellnick, 1938; type *Trachyuropoda tricuspis* Banks, 1914; = *Neo-oude-mansia* (Träg., 1938, n. nud.) Baker and Wharton, 1952; type *N. trägårdhi* Baker and Wharton, 1952 (= sp. Träg., 1938 n. nud.).

The three genera may be separated as follows.

1. With two pairs of vertical setae on the anterior of the dorsal hyaline shield. Latigynial shields with 5 setae; no separate anal shield
Klinckowstroemiella Turk, 1951

With only one pair of vertical setae on anterior of hyaline dorsal shield; sternal setae III and IV in a transverse row near posterior border; anal shield present; latigynial shield with fewer setae 2
2. Hyaline hood-like shield covering whole of idiosoma; no metapodal lines
Antennurella Berl., 1904

Hyaline hood-like shield only forming an anterior crescent; metapodal lines present
Klinckowstroemia Baker & Wharton, 1952

Genus **Klinckowstroemiella** Turk 1951

With two pairs of anterior dorsal setae on the hyaline hood-like expansion. Jugular shield separated from sternal in both sexes. No separate anal shield.

Klinckowstroemiella helleri (Ouds. 1929) n. comb. (figs. 1, 2)

Location of Types. The type slide of this species was kindly loaned to me for study and redescription by Dr. L. v. d. Hammen of the Leiden Museum.

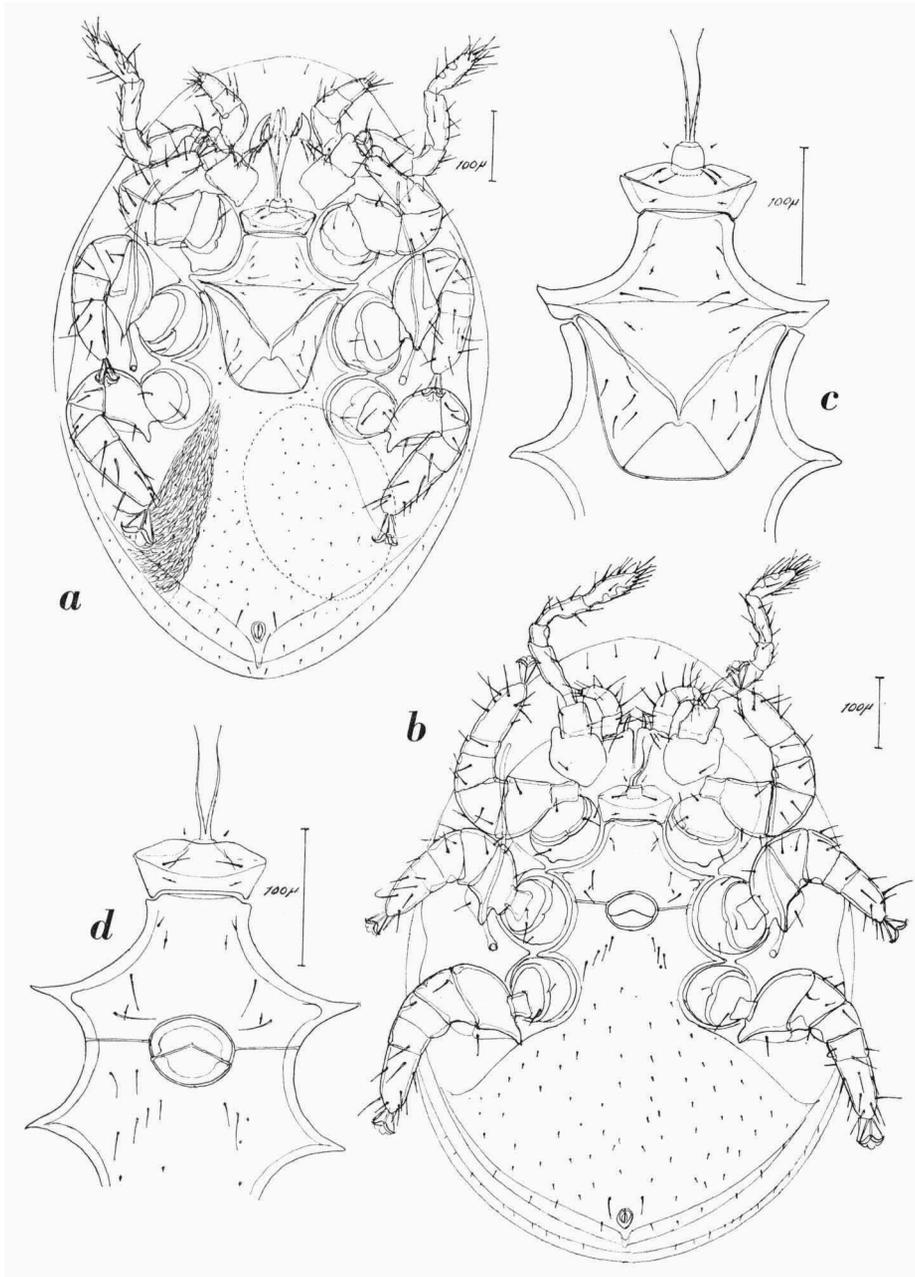


Fig. 1. *Klinckowstroemiella helleri* (Ouds., 1929). a. ventral view of female; b. ventral view of male; c. ventral shields of female enlarged; d. ventral shields of male enlarged.

The slide contained four specimens, two of each sex and bore the following data.

On the left

"*Fedrizzia helleri* Oudms. 1929, type slide. dors. vent."

On the right

"Passalid spec., Paramaribo, 21.VII.1906. C. Heller. don. Museum Hamburg".

With the kind permission of Dr. L. v. d. Hammen the specimens have been remounted, a female being designated as Holotype and a male as Allotype. The other specimens being paratypes have been dissected.

The material now consists of eight slides as follows.

1. Holotype female, 2. Allotype male, 3. Paratype female, gnathosoma, 4. ditto, chelicerae, 5. ditto, legs, 6. ditto, remainder, 7. Paratype male, gnathosoma, 8. ditto, remainder.

Full data as on the original slide have been incorporated on each slide and all the slides have been returned to the Leiden Museum.

Redescription of Female. A well chitinised dark coloured almost rounded species. Idiosoma $720\ \mu$ long by $615\ \mu$ wide, dorsally entirely covered by a hyaline sheath which extends $80\ \mu$ in front of the idiosoma and makes the total length $900\ \mu$ and width $675\ \mu$; ventrally the sheath extends backwards for about $180\ \mu$, its edge forming the anterior margin of a camerostome.

Dorsum. The surface of the dorsum beneath the hyaline sheath is uniformly reticulate with small elongate longitudinal hexagonal areas and is furnished with a number of minute setae. The two pairs of anterior vertical setae are on the hyaline sheath and $23\ \mu$ long, the inner setae are $52\ \mu$ apart and the outer $145\ \mu$ apart. The dorsal shield itself is constricted somewhat in the region of coxae III.

Venter. The tritosternum has a somewhat broad base as figured and is furnished with a pair of long shortly ciliated laciniae; the jugular shield is crown-like, $100\ \mu$ wide and $30\ \mu$ deep, with one pair of setae ca. $20\ \mu$ long and one pair of lyriform pores; the sternal shield is $80\ \mu$ wide anteriorly and the sides contour coxae II and extend between coxae II and III to a total width posteriorly of $245\ \mu$, it is furnished with 3 pairs of setae and 2 pairs of pores, sternal setae II are short and situated rather far back from the antero-lateral angles, III and IV are to $47\ \mu$ long and in a transverse row close to the posterior margin, III are $75\ \mu$ apart and IV $133\ \mu$; the sternogynial shield is triangular with the anterior base $188\ \mu$ wide, and its length (depth) $85\ \mu$, it is furnished with one pair of lyriform pores in the antero-lateral angles; the latigynial shields are large and conspicuous, trian-

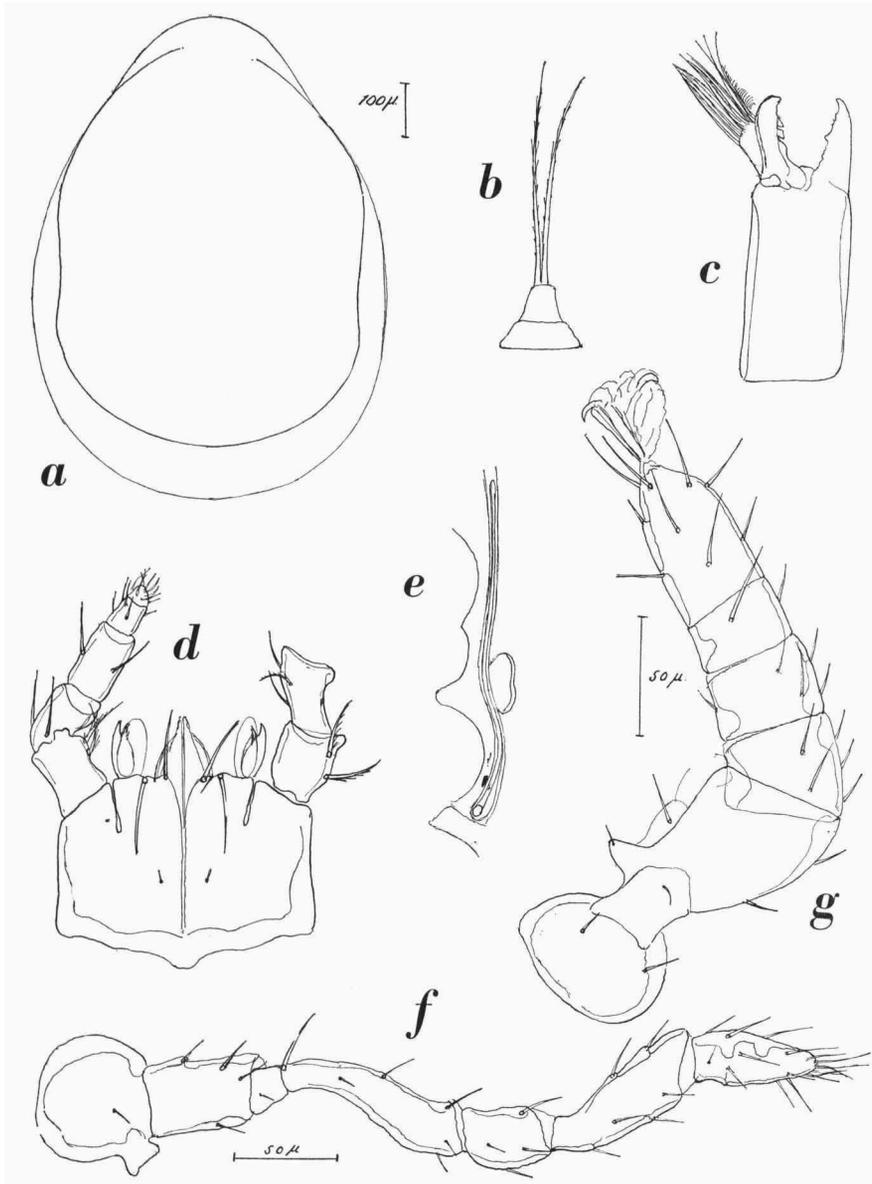


Fig. 2. *Klinckowstroemiella helleri* (Ouds., 1929). a. Outline of dorsal shield and hyaline sheath; b. tritosternum; c. mandibles; d. gnathosoma and left palp from below, right palp from above; e. peritreme; f. leg I; g. leg IV.

gular in shape with the inner angles adjoining one another in the mid-line for about 14μ , their length laterally is 130μ and the width is 66μ , they are

furnished with 5 fine setae to about $40\ \mu$ long; the mesogynial shield is also well developed, triangular with the apex almost adjoining the posterior apex of the sternogynial shield, the apex is slightly excavate, it is $90\ \mu$ wide basally and its length is $47\ \mu$; the ventral and anal shields are coalesced, and also fused with the endopodals of coxae III and IV, the combined shield is only separated from the podal shields by a sinuous oblique line, it is furnished with minute setae and pores and is reticulate as on the dorsum. The peritreme is long and thin extending to region of coxae I and with the stigma between coxae III and IV. Laterad of the peritreme and in a line between coxae II and III is to be seen the cupid-bow-shaped outer margin of the atrium of a large duct, its length being $56\ \mu$.

Gnathosoma as figured, with 4 pairs of hypostomal setae, of which the posterior pair are very minute, the other three pairs close together anteriorly and only the middle members small, the inner and outer long and strong; the labial cornicles are somewhat bifid with an outer claw-like process and an inner pad-like structure with a lobe-like expansion. Palpi 5-segmented, basal segment dorso-laterally with a pair of strong well-ciliated setae, the finer setae dorsally on the second segment are also ciliated, length of palpi $140\ \mu$. Chelicerae as figured, movable digit with two strong teeth the basal one of which is truncate, with long filamentous excrescences one at least of which is more strongly ciliated, fixed digit with two moderately developed teeth and a number of smaller teeth.

Legs all shorter than the body and except leg I fitting into slight depressions beneath the body; I fairly slender and geniculate; II-IV stouter, II curved forwards, III and IV backwards, tarsi with short strong caruncle, paired claws and pad; femora of II-IV with inner lamellae and on the inner basal corner a strong blunt-tipped apophysis (homologous with the spine in *Neofedrizzia*) furnished apically with a fine seta; length of leg I $440\ \mu$, II $406\ \mu$, III $406\ \mu$, IV $487\ \mu$.

Redescription of Male. Of the same general facies and size as in female. Length of idiosoma $720\ \mu$, width $603\ \mu$, including hyaline sheath $882\ \mu$ by $661\ \mu$.

Dorsum as in female.

Venter. Tritosternum and jugular shield as in female; the sternal shield is demarcated from the genito-ventri-anal by a transverse suture which medially is excavate to surround the anterior part of the genital orifice, it is furnished with three pairs of setae and two pairs of pores, but setae III are distinctly anterior of IV and not approximately in the same transverse row as is the case in the female, setae II are short, III and IV long as in

female; the genito-ventri-anal shields are coalesced, the ventral portion occupying most of the venter and only demarcated from the podal shields by a sinuous oblique line, it is furnished with many minute setae and pores, four setae on each side in an oblique row postero-lateral of the genital orifice and one seta on each side of the anus are longer. The genital orifice is situated between the sternal and the genito-ventri-anal shields in line with coxae III and is transversely wider than long, 70μ by 56μ .

Gnathosoma, palpi and chelicerae as in female.

Legs as in female.

Remarks. I have received further details of *Klinckowstroemiella prima* Turk from Dr. Turk and the two known species of the genus can now be separated as follows.

1. In the female sternal setae II-IV in an oblique row; base of tritosternum wider than long; postero-lateral arms of sternal shield posteriorly with an acute angle; mesogynial shield widest anterior of the posterior margin; male without the oblique row of four setae posteriorly on each side of orifice . . . *K. prima* Turk, 1951
2. In the female sternal setae III and IV in a transverse row near posterior margin; base of tritosternum a little longer than wide; postero-lateral arms of sternal shield posteriorly rounded; mesogynial shield widest along posterior margin; male with an oblique row of four setae on each side posterior of genital orifice

K. helleri (Ouds, 1929)

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