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A REVIEW OF THE GENUS *SAINTDIDIERIA* OUDEMANS
(ACARINA : RHODACARIDAE)
WITH REMARKS ON THE GENUS *LOBOCEPHALUS* KRAMER

BY

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ABSTRACT.

The essential data of the three known species of the genus *Saintdidieria* viz. *S. sexclavata* (Oudemans), *octoclavata* (Vitzth.) and *orbinella* (Schweizer) are given. *S. neoorbinella* is described as a new species. The genus is provisionally referred to the Rhodacaridae. *Lobocephalus* is regarded as not belonging to this family.

Genus *Saintdidieria* Oudemans.

1939. *Saintdidieria*, Oudemans, A. C., *Zool. Anz.* 126 : 200.

OUDEMANS (1939) proposed this genus for a species he described as *Parasitus sexclavatus* (1903) and which he later referred to the genus *Gamasellus*. The characteristics which OUDEMANS ascribed to the genus were that they are the same as those of the genus *Gamasellus* except that the specialized seta on the palptarsus is three-pronged in *Saintdidieria*. As the members of *Gamasellus* also possess a three-pronged seta there are, according to OUDEMANS' interpretation of *Saintdidieria*, no other characters which would merit a separate genus for *sexclavatus*. The present author, however, is of the opinion that the genus should be regarded as valid until the opposite can be proved by the study of the adults. The genus, which is based on a deutonymph, may be characterized by the presence of short spine-like vertical setae ; five pairs of setae on the sterniti-genital shield ; the modification of some of the setae on the coxae into club-like processes (a character which may be present in only certain species) and the presence of three prongs on the specialized palptarsal seta.

Type : *Parasitus sexclavatus* Oudemans.

Acarologia, t. III, fasc. 3, 1961.

Saintdidieria sexclavata (Oudemans).

1903. *Parasitus sexclavatus*, Oudemans, A. C., *Tijdschr. Ned. Dierk. Ver.* (2) 8 (2) : 74.
1904. *Parasitus sexclavatus*, Berlese, A., *Redia* 1 : 279.

OUDEMANS (1939) based the genus *Saintdidieria* on this species of which only the deutonymph is known. The sternitigenital shield bears five pairs of setae. The coxae of the palps (capitular setae) and legs II-III each bears a club-like seta. OUDEMANS (1903) describes the tectum as rounded anteriorly but according to his unpublished drawings of this species the tectum has a median mucro with serrations on its lateral sides. The vertical setae as well as many other setae on the body and legs are spine-like. The specialized seta on the palptarsus has three tines. All the legs are provided with well-developed claws and pulvilli. Leg I bears a relatively long seta, situated on a tubercle, on the tip of the tarsus. The fixed digit of the chelicera is dentate (two teeth) and the movable digit bears three teeth.

Habitat and locality : On *Geotrupes sylvaticus*, Netherlands.

Saintdidieria octoclavata (Vitzthum), new comb.

1920. *Gamasellus octoclavatus*, Vitzthum, H., *Arch. Natg.* 84 A, 6 : 14.

The sternal shield is provided with five pairs of spine-like setae. A seta on each of coxae I-III as well as the capitular setae on the hypostome are modified into club-like processes. All the legs are relatively stout and have well-developed claws and pulvilli. The setae on the legs are spinous. According to Vitzthum the tectum is without a median mucro but shaped like a Gothic arch and the palptarsal seta is "probably" two-pronged.

Habitat and locality : Collected from *Hister sinuatus*, Germany.

Remarks : This species is closely related to *S. sexclavatus*, *orbinella* (Schweizer), *neoorbinella*, n. sp. and possibly also to *Gamasellus vulgaris* Vitz. VITZTHUM (1920) probably overlooked the median denticulate process of the tectum which is usually not easily discernible. It is also probable that the specialized seta on the palp has three tines.

Saintdidieria orbinella (Schweizer), new comb.

1949. *Copriphis orbinellus*, Schweizer, J., *Res. Rech. Scient. Parc Nat. Suisse N. F.* 2, 21 : 76.

This species appears to be closely related to *S. octoclavata*, the club-like setae being situated on the hypostome and on coxae I-III. They can be separated from each other by the chaetotaxy of the posterior portion of the sterniti-genital shield and the broad peritreme in *orbinella*. Only the deutonymph is known.

Habitat and locality : In moss, Switzerland.

Remarks : SCHMÖLZER (1956) described a species, *Copriphis janetscheki*, which he regarded as closely related to *orbinella*. His description is likewise based on a nymph with a divided dorsal shield. The setae on the hypostome and coxae II-III are modified into spurs but are not club-like ; the genital setae are not situated on the shield ; the chaetotaxy of the posterior part of the venter is not like other species of *Saintdidieria* or *Gamasellus*. Judging from the figure of the venter of this species it resembles those of the fam. Eviphididae, the family in which SCHMÖLZER placed it.

***Saintdidieria neorbinella*, n. sp.**

DEUTONYMPH :

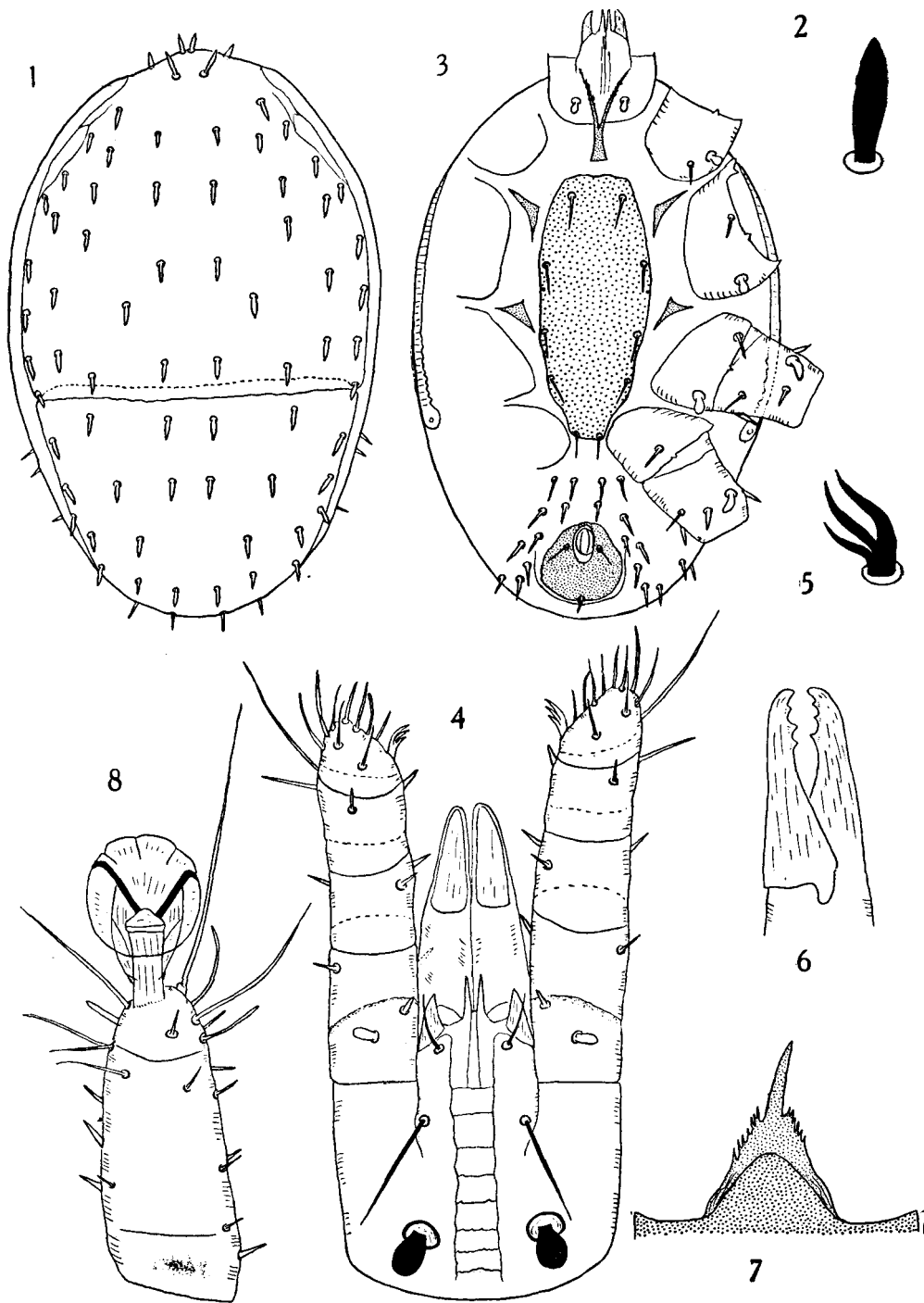
Dimensions : Length, 368 μ ; breadth, 240 μ ; length of anterior dorsal shield, 231 μ ; posterior dorsal shield, 142 μ .

Dorsum (fig. 1) : The dorsal shields are provided with short spine-like setae (fig. 2). The anterior dorsal shield which is considerably longer than the posterior one, bears 23 pairs of setae. The posterior dorsal shield, the front margin of which is overlapped by the anterior shield, carries 14 pairs of setae.

Venter (fig. 3) : The sterniti-genital shield is provided with five pairs of simple setae. The posterior end of the shield is narrow to fit into the narrow space between coxae IV. The anal shield bears the usual three setae and the para-anals are situated in line with the middle of the anal aperture. As depicted in fig. 3 the ventral interscutal membrane is covered with a number of spine-like setae. The peritreme is broad and conspicuous and extends anteriorly beyond coxa I. The tritosternum has two pilose laciniae.

Gnathosoma (fig. 4) : The most striking feature of the hypostome is the modification of the capitular setae into club-like processes. The inner posterior rostral setae are relatively long but no indication of the external rostral setae could be found in the specimens examined. The rostral setae, however, are present. The capitular groove has eight rows of small to minute denticles. The corniculi are relatively small. The distribution of the setae on the pedipalp is shown in fig. 4. The trochanter has the usual two pairs of setae of the deutonymph and adult but one pair is modified into spines and the other into stout flattened setae, similar to those occurring on trochanters II-III (fig. 3). Other setae on the palp are either simple or spine-like. The specialized seta on the tarsus is three-pronged (fig. 5). The chelicerae are relatively short and both digits of the chelicera are tridentate (fig. 6). The tectum (fig. 7) has a triangular, relatively well-sclerotized basal portion and a median denticulate, transparent process. The latter part of the tectum is not always easily discernible and on superficial examination only the better sclerotized triangular portion is seen.

Legs : All the legs are short and stout and they are mainly covered with spine-like setae. All the tarsi are provided with pre-tarsi, claws and pulvilli, similar



FIGS 1-8. — *Saintdidieria neoorbinella*, n. sp., deutonymph.

Fig. 1, dorsum; fig. 2, dorsal seta; fig. 3, venter; fig. 4, gnathosoma; fig. 5, palptarsal seta; fig. 6, chelicera; fig. 7, tectum; fig. 8, tarsus I.

to those depicted in fig. 8 for tarsus I. The tip of tarsus I bears a long seta which is situated on a small tubercle. Coxae I-III are each provided with a club-like seta. Trochanters II-IV each bears a short stout, flattened seta, in addition to other spinous setae.

Habitat and locality : Holotype and paratype deutonymphs from *Hister latipes*, Potchefstroom, Jan. 1952 ; one paratype also came from an unidentified beetle, Pietermaritzburg, collected by R. F. LAWRENCE.

Remarks : As regards the number and positions of the club-like setae this species resembles *S. octoclavata* and *orbinella*. Both these species, however, are not described and figured in detail so that it makes comparison rather difficult. *S. octoclavata* is a larger species and, judging from VITZTHUM'S figure (1920) coxae IV are relatively widely removed from one another. *S. orbinella* appears to be very similar to the South African species but SCHWEIZER (1949) gives a very brief description and the characters employed in the species discrimination are not mentioned or figured. The size of this species is practically the same as that of the present species. SCHWEIZER'S species, however, was collected from moss at a height of 1800 m under an overhanging rock. Bearing in mind its distribution and habitat as well as the fact that *orbinella* was not described in detail the present author regards the South African form as a new species.

Systematic position of the genus *Saintdidieria*.

The question as to whether this genus should be included in the Rhodacarinae cannot be answered in the affirmative until the adult forms are known. The general appearance of these mites are like those of members of the fam. Eviphididae, usually found associated with insects. The known deutonymphs of the eviphidids, however, have an entire dorsal shield (Ryke & Meyer, 1957). The dorsal chaetotaxy, especially of the anterior dorsal shield, suggests a relationship with the Rhodacarinae. Not a single known characteristic of the genus *Saintdidieria* suggests its reference to another family or subfamily. The author thus proposes that it should, provisionally, be included in the subfamily Rhodacarinae.

Genus *Lobocephalus* Kramer.

1898. *Lobocephalus*, Kramer, P., *Zool. Anz.* 21 : 418.

KRAMER (1898 b) based this genus on a nymphal specimen. BAKER & WHARTON (1952), following VITZTHUM (1940-43), placed this genus in the family Ascaidae which, according to them, are characterized by the presence of a divided dorsal shield. The present author, however, could not find any evidence in the literature (KRAMER, 1898 b and OUDEMANS, 1928) that this is the case in *Lobocephalus*. On the contrary, OUDEMANS (1928) states : " Das Rückenschild ist einfach und deckt die ganze Körperfläche völlig zu " (p. 116). Although the description of the species

is brief it can be assumed that *Lobocephalus* does not belong in the same group as the other Rhodacarinae. It is, moreover, highly improbable that it can be included in the Ologamasinae. Until evidence comes to hand the systematic position of the genus remains uncertain.

Type species : *Lobocephalus acuminatus* Kramer.

1898. *Lobocephalus acuminatus*, Kramer, P., *Zool. Anz.* 21 : 418.

1928. *Lobocephalus acuminatus*, Oudemans, A. C., *Arch. Natg.* 92 A, 4 : 115.

The type material of *Saintdidieria neoorbinella* is deposited in the collection of the Institute for Zoological Research of the Potchefstroom University. The author is indebted to Dr. J. A. VAN EEDEN for reading the manuscript.

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