

ON THE TRUE NATURE OF THE "STRIATE" SOLENIDION
IN CHIGGERS
(TROMBICULIDAE : ACARINA)¹

BY

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While studying a new species : *Schoutedenichia tiptoni* (2, 8), one of several mites collected in Madagascar, we have been able to recognize the true nature of the so-called striae on the solenidia (spurs) of tarsi 1 and 2 (9, 10).

A — *Description* (figs. 1-4) : The solenidia of this species being relatively large, one is able to observe that the apparent striae are, in fact, the lumen of numerous porose canalicules. This peculiar constitution of the solenidia (S_1 , S_2) is illustrated in figures 1 and 2. The distributional density of these canalicules may be compared with those of the scutum (fig. 3), gnathosome and coxae (fig. 4), and tarsal walls (figs. 1 & 2).

Our attention having been drawn to this matter, we have carefully studied specimens in other genera and are able to confirm the same morphology in : *Blankaartia* (*Megaciella*) (3), *Vatacarus* (*Iguanacarus*) (7), *Myotrombicula* (5), *Riedlinia* (6), *Tecomatlana* (1), etc.

In *Schoutedenichia tiptoni* and also in *Riedlinia* (*Trombigastia*) *platypygia*, we were able to make the same observation not only on S_1 and S_2 , but also on the apical solenidia of tibiae 1 and 2. Moreover, a study of the palpo-tarsal solenidion in *S. tiptoni* (fig. 5) shows an identical structure.

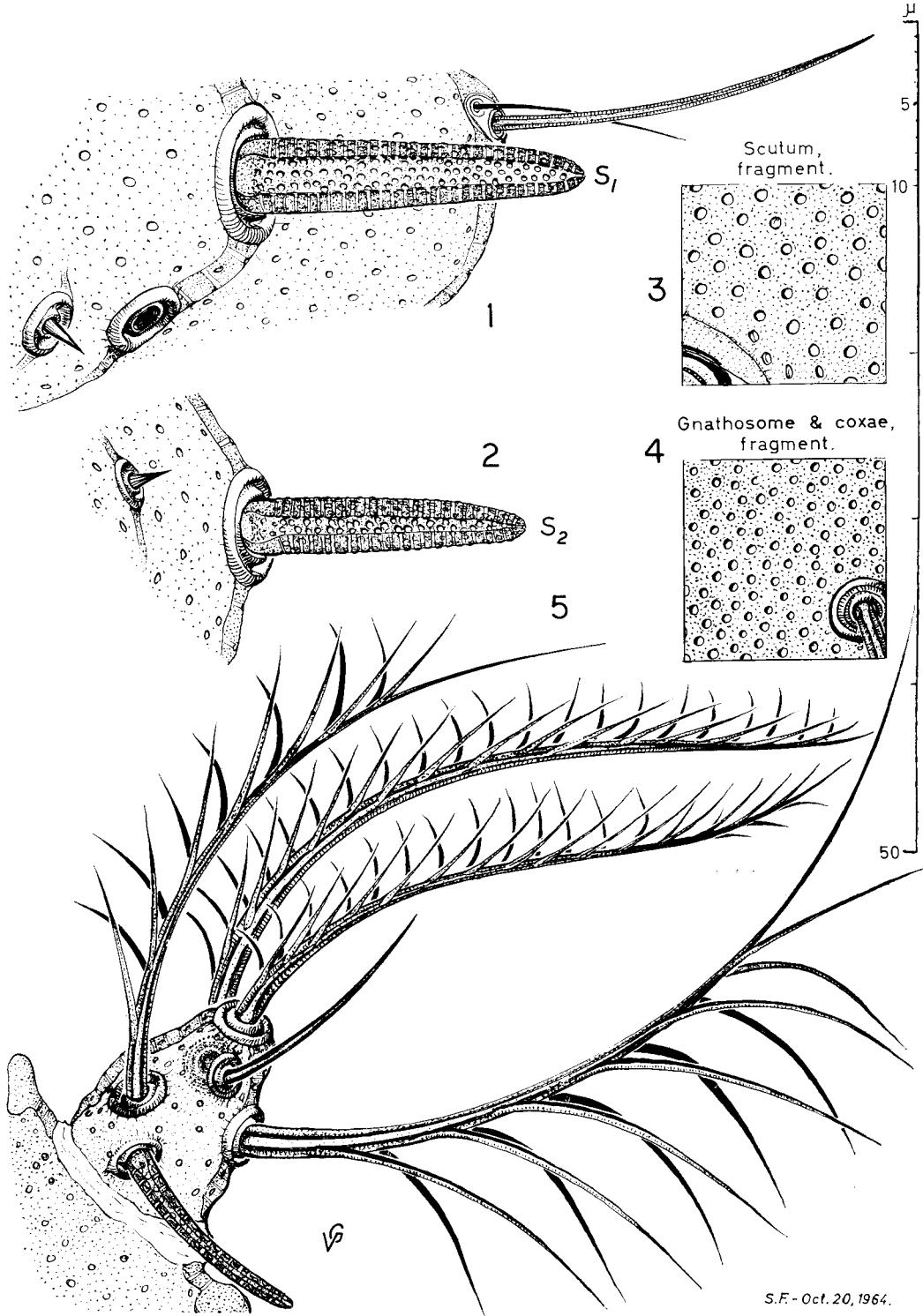
B — *Function* : This advance in our knowledge of solenidial structure induces us to give our interpretation of its possible function.

1) The peculiar distribution of the solenidia on the dorsum of the tarsi and dorsal apices of the tibiae seems to indicate a sensory function relating the organism to its environment.

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SOLENIDION POROSITY (*SCHOUTEDENICHIA TIPTONI* n.sp.)



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2) The location on the palpal tarsus implies sensory function at the level of direct contact.

3) The amazing density of the porose canalicules immediately suggests an olfactory function. We believe the leg solenidia may serve as long distance receptors of the stimuli (CO_2 , odor, etc.) used in locating the host, and that the palpotarsal solenidia may function similarly, but at closer range, in locating the parasitope.

Incidentally, we also believe that the palpo-tarsal branched setae exercise a tactile function and that the palpal tarsus is, therefore, a primarily sensory segment. The palpo-tarsal seta formula is a remarkably constant character in trombiculids and must, therefore, be considered an important part of their generic classification (4).

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