What is Notaspis theleproctus Hermann?

By

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Although during recent years several papers have been published dealing with the identification of *Notaspis theleproctus* Herm. (Jacot 1929, Sellnick 1930, Trägårdh 1931) it has evidently not been possible for the European acaridologists to convince their American colleague that this species is without the slightest doubt a *Neoliodes*. Thus Jacot in a recent paper (1934) writes: »Trägårdh quotes me as appointing *Oribata concentrica* as type of this genus *(Udetaliodes)* when I distinctly appointed as type specimens which I had before me, as above indicated. Thus much that Trägårdh says is to no account and only serves to cloud the issue concerning the species that Hermann actually described and not what subsequent writers thought he described.» It is therefore necessary to recapitulate briefly the facts in this controversy.

The species in question was described and delineated by Hermann in 1804. The description is a follows (p. 91): »Abdomen déprimé, allongé en une papille par derrière; des rides sémicirculaires en dessus». The latin translation is also given: »Notaspis abdomine depresso, postice in papillam producto; supra rugis semicircularibus.» The species is referred to a distinct section of the genus *Notaspis*, called: »Notaspes unguibus tridactylis» and the following details are added to the diagnosis, »Il vit entre les mousses. Le corps est orbiculaire, d'un cendré noir. Le corselet est distinct.»

If we examine the drawings of Hermann, we notice, beside such details which have already been emphasized in the diagnosis, such as for instance the pointed apex of the hysterosoma and the three claws, that there are 4 whitish, semicircular, concentrical lines on the hysterosoma. These lines, which at least in my copy of the work of Hermann are distinctly discernible and are also mentioned in the diagnosis, although their number is not given, undoubtly represent the margin of one larval and 3 nymphal dorsal shields which remain attached to the body of the adult.

In 1826 v. Heyden made the species the type of a genus *Liodes*.

In 1883 Berlese delineated and described (fasc. III no 2) *Nothrus Doderleini* Berl. and *N. theleproctus* (Herm.) K. but later in 1896 in the comprehensive treatment of the Oribatide he referred both species to *Neoliodes* Berl. 1888.

In the meantime, (Berlese 1888 p. 217) had changed the name into *Neoliodes, Liodes* being preoccupied for a beetle, and described from Paraguay *N. theleproctus* Herm. var. *porcellus* (p. 217, 1888).

In 1898 Berlese gives a more detailed diagnosis of the genus: »Addome convesso sul dorso, rotondeggiante. Dorso colle squame dorsali delle larve persistenti e da queste protetto, disposte concentricamente. Piedi forniti di tre unghie pressochè eguali fra di loro. Labro inferiore quasi romboidale, composto di due pezzi traversi. Capotorace senza carinule en senza tubercoli recanti setole. Pelle dura, aspra. Tipo *N. theleproctus*.

He also gives a detailed description of a species which he had found commonly at Portici and which he identified with *N. theleproctus* Herm., which he names as the type of the genus. He also gives a very detailed drawing of the species (fig. 48 p. 92), from which it is evident that the proterosoma has a very distinct tooth-shaped projection between the first and second pairs of legs exactly as delineated by Hermann.

Berlese considers the species described from England by Michael as *N. theleproctus* as identical with his and Hermann's species, although Michael (l. c. p. 527) distinctly states: »The *Nothrus theleproctus* of Berlese is a different species». Subsequently Berlese (1916, p. 333) created for *N. doderleini* a new subgenus, *Platyliodes*, characterized as follows: »Ex. gen. *Neoliodes*. Dorsum abdominis non convexum, sed planum, vel leniter excavatum. Margines abdominis, ubi exuviae, non sunt extensae, haud striis transversis parallelis exarati. Pedes laciniati. Typus *Nothrus doderleini* Berl. Adde: *Neoliodes hoodi* Ewing.»

According to generally accepted rules this leaves *N. theleproctus* (Herm.) as the type of *Neoliodes* Berl. either as a genus s. str. or subgenus. Consequently there is not the slightest reason to institute a new genus for the remaining species of *Neoliodes* as Jacot has seen fit to do.

Jacot writes (p. 30, 1929) »In 1916 Berlese (p. 333) divided off from Neoliodes (as *understood* but not as designated by himself), the subgenus *Platyliodes*, . . .» and further: »This definitely limits his *concept* of *Neoliodes* s. s. to those species which are characterized by a convex dorsum and corrugated girdles and abdomen rim. As this clearly defined group remains unnamed and uncharacterized, I propose the term: *Udetaliodes* gen. nov.»

Anybody who reads this statement and has no knowledge of the relevant literature will of course assume that Berlese has not

given any diagnosis of *Neoliodes* but merely changed v. Heydens generie name for *Notaspis theleproctus* from *Liodes* to *Neoliodes*. This is, however, not true because, as I have shown above, Berlese gave a detailed diagnosis of *Neoliodes* both in his work Acari Austro-Americani 1888 and in Gli Acari Agrarii. Furthermore, as he appointed in the latter work *N. theleproctus* as the type of *Neoliodes* and this species is characterized (l. c. p. 44) »Dorsum *convexum*[1] scutulis larvarum, nympharumque dorsalibus ellipti cis ad marginum terreis, *radiatim striatis*[1], concentricis sed mobilibus, auctum». Jacot's reasoning is at fault. *Berlese gave a diagnosis of Neoliodes, appointed N. theleproctus as genotype and gave a detailed diagnosis of the genotype.*

Turning our attention to the United States we find that Say in 1821 described a species *Notaspis concentricus* which later (1895 p. 15) was rediscovered by Banks. As I have pointed out elsewhere (1931 p. 559) it is extremely doubtful whether Banks' species is the same as Say's; an assumption which is confirmed by the fact that Ewing 1909 (p. 23—26, pl. 16) described a species which he called *Neoliodes concentricus* (Say?), on specimens which, according to him, do not agree with Banks' figure of the species. Ewing further says: »If it should prove in the future to be new, I would suggest that it be named after Mr. Hood, who first found the species in the middle part of the continent.»

Nevertheless Jacot made *N. concentricus* Banks the genotype of the new genus *Udetaliodes*, quite ignoring the fact that if Banks' species is the same as Say's then it must be called *concentricus* Say, and if it is not identical with Say's species, then it cannot be called *concentricus* but must be renamed.

As Sellnick (1930 p. 35) rightly emphasizes, unless Jacot is able to prove that *Neoliodes concentricus* Say belongs to another genus than *Neoliodes theleproctus* (Hermann) *Udetaliodes* is not valid.

It finally remains to consider the arguments which Jacot brings forward to show that Hermann's species is not *Neoliodes* but a *Damaeus* in the sense of C. L. Koch. As Sellnick has very convincingly proved (l. c. p. 32) Jacot bases his arguments on a comparison between Hermann's figure and Michael's drawings. It has however been conclusively proved by Sellnick that neither C. L. Koch's nor Michael's species, but another species, *N. farinosus* (C. L. Koch) is identical with Hermann's. If Jacot had looked at Berlese's drawings he would, as Sellnick (l. c. p. 34) points out, have found that the shape of the proterosoma of Hermann's species resembles that of Berlese's in its salient points, if we take

[1] Spaced by me.

into consideration that Hermann's drawings can not possibly be as accurate as later authors.

For the rest I may be allowed to quote Sellnick (l. c. p. 34): »Jacot hat aber gar nicht die Figuren A, L und M bei Hermann in Betracht gezogen. Man wird nicht umhin können, diese dort dargestellten Beine und Beinteile als zu einer *Neoliodes*-Art zugehörig zu betrachten. Keine echte *Damaeus*-Art hat 3 Krallen. Keine echte *Damaeus*-Art hat so unterschiedliche Verhältnisse in der Grösse von Tarsus und Tibia. Keine echte *Damaeus*-Art hat eine so breite und eckige Femur wie die, welche Hermann in seiner Figur M zeichnet. Solche Femur besitzt von den häutetragenden Oribatiden nur *Neoliodes*.»

If Jacot compares Hermann's drawing of one leg (l. c. figs A and M) with his own drawing of legs of *Neoliodes* (1924 fig. 8 & 12), he will be astonished to see how alike they are, with the exeption that Hermann has delineated two basal joints, which as Sellnick points out, must be an error, as no Oribatei so far known have 6 joints.

Lately Willmann (1935) has found *N. ionicus* Sellnick near Vienna and discovered that the articulation between trochanter and femur is of a singular shape in-as-much as the proximal end of the femur is widened so as to receive in an oblique socket the distal end of the trochanter. This structure (l. c. p. 33, figs 15 & 16) which according to Willman is not so well developed in *N. theleproctus* and *N. farinosus* may according to Willman have been interpreted by Hermann as a separate sixth joint.

W. further points out that the anterior margin of the nymphal skins in *N. ionicus* is convex, a feature which also agrees with Hermann's drawing. It may be then that *Neoliodes ionicus* is the same as Hermann's species.

The discovery in Europe of a third species which in two respects agrees more closely with Hermann's species than Berlese's only strengthens the opinion that Hermann's species is a *Neoliodes* and not, as Jacot will make us believe, a *Damaeus*.

In the beginning of this paper I quoted a sentence of Jacot in which he accuses me of »clouding the issue concerning the species that Hermann actually described, and not what subsequent writers thought he described». One may infer from this that although Jacot distinguishes between the species that Hermann describes and »what subsequent writers thought he described» he is not inclined to include himself amongst those writers but in some mysterious way he manages to usurp the position as a superior judge whose words as to the genus to which *theleproctus* Hermann belongs are the law.

I have endeavoured to show how illfounded Jacot's opinion

is. All the acaridologists of Europe have unanimously accepted *Notaspis theleproctus* Hermann as a *Neoliodes* and they will continue to do so.

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