

**Acarus telarius versus Tetranychus urticae (Acar.)****Notulae ad Tetranychidas 9**

by

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Since it has been found that the red spider mite *Acarus telarius*, as described by LINNAEUS in the year 1758 (Syst. Nat., Ed. 10), has been composed from at least two heterogenetic components, many problems have arisen about this name. Various acarologists have published their ideas about the matter, but so far no final decision has emerged which has been accepted by all workers.

One of the main publications is that of A. C. OUDEMANS, 1937. He was of the opinion that the name *telarius* has to be given to the lime tree (linden) spider mite from *Tilia*, and I believe he was right. Not only do we find some of LINNAEUS' original ideas in his earlier publications, but shortly after the publication of LINNAEUS' Ed. 10, RYDBECK (1758) already limited the species definitely to *Tilia*.

OUDEMANS has published his ideas as early as March 1931; later he repeated them more extensively in the *Kritisch Historisch Overzicht der Acarologie* (1937). His conclusions, however, have not always received sufficient attention. The *Kritisch Historisch Overzicht* is rare, and the text of the conclusions is in Dutch.

A recapitulation of the old publications, as enumerated in OUDEMANS' works, runs as follows:

1746. LINNAEUS, *Fauna Svecica*, Ed. 1, p. 350, n. 1212. — *Acarus viridialbicans foliorum Tiliae*. De Geer. Habitat in foliis Tiliae subtus, autumnno frequens.

id., p. 347, n. 1196. — *Acarus Alceae*. Habitat in Alcea, Malva rosea dicta, ubi sub foliis nascentibus progignitur, & inde a latere superiore palescunt folia. *Descr.* Nudis oculus vix conspicuus: totus aquei coloris urroque latere nigro.

OUDEMANS (1926) remarks that "De Geer" does not refer to an earlier published description of DE GEER, but that DE GEER has communicated the diagnosis to LINNAEUS.

1752. BAECKNER, *Noxa Insectorum*. Diss. inaug., Holmiae. —

p. 26. — *Tiliae folia* (Fl.sv. 432) quasi mucore conspurcata cernuntur ab *Acaro Tiliae* (Fn.sv. 1212) folia singula contaminata atque polluente.

OUDEMANS had not seen the original dissertation. In the idea that both text and letter type in the *Amoenitates* would be the same as in the dissertation, he copied, when publishing in 1926, the text of the *Amoenitates* 1756 and calculated p. 17 for „*Acarus telarius*” and p. 22 for „*Acarus tiliae*”. However, the pages in the original dissertation are smaller, and so the correct page for *Acarus tiliae* is p. 26.

But moreover in the *Amoenitates* many alterations of the text of 1752 have been made, and so we find that the *Acarus telarius* of 1756 and 1764 is not at all enumerated in the original dissertation of 1752 (see 1756).

1752. FORSKÅHL, *Hospita Insectorum Flora*. Diss. inaug., Upsaliae.

p. 26. — *Acarus tiliae*. Fn. 1212. *Tilia europaea*

p. 28. — *Acarus alceae*. Fn. 1196. *Malva Alcea*.

The same as for BAECKNER 1752 applies to FORSSKÅHL. OUDEMANS (1926) calculated p. 25 and p. 28 respectively, the correct pages are p. 26 and p. 28.

1756. BAECKNER, Noxa Insectorum. Reprinted in: LINNAEUS, Amoenitates academicae. Holmiae, vol. 3.

p. 352. — *Acarus telarius* in hybernaculis rariorum plantarum folia filis involvit, ut cadant, pereatque planta, quem nullis observavit, quamvis quotidie damnum maximum adferat. — This species is entirely missing in 1752!

p. 357. — *Tiliae folia* (Fl.sv. 432) quasi mucore conspurcata cernuntur ab *Acaro Tiliae* (Fn.Sv. 1212) folia singula contaminata atque polluente.

1756. FORSSKÅHL, Hospita Insectorum Flora. Reprinted in LINNAEUS, Amoenitates academicae. Holmiae, vol. 3, p. 297, 299. — *Acarus tiliae*. Fn. 1212. — *Acarus alceae*. Fn. 1196. Same text as 1752.

1758. LINNAEUS, Systema Naturae, Ed. 10, gen. 235, n. 14. — *Acarus telarius*. *Acarus hyalino-fulvus*. Fn.Svec. 1212. 1196. Habitat in Europae plantis, minus ventis expositis, caldario inclusis, tela ducens filis parallelis, quibus plantas suffocat; in *Tiliae* foliis aversis autumnno frequens.

OUDEMANS (1926) remarks (in translation):

„.....Here we read instead of „viridi-albicans” „hyalino-fulvus”; that is the transparent brown (better: orange) autumnal colour.....”

Here is a misconception of OUDEMANS: fulvus does not mean „brown”, but „reddish yellow, deep yellow, colour of a lion, etc.”.

We see furthermore, that LINNAEUS mentions first the higher no. 1212 of the Fauna Svecica (*Tilia*), and only after this the lower no. 1196 (*Acarus alceae*, from *Alcea*, *Malva rosea* dicta).

Moreover, *Tilia* is the only plant species indicated by name in this general description.

1758. RYDBECK, Pandora Insectorum. Diss. inaug., Upsaliae. p. 16: *Tilia*. *Acarus telarius*. 14. — p. 38 [sic, recte 17]: *Malva*. *Acarus*. Fn. 1196.

The indication „14” refers to the Ed. 10. The indication „Fn. 1196” refers to the Fauna Svecica. Here again (as for BAECKNER and FORSSKÅHL) OUDEMANS made a wrong calculation for the pages. He cites for *Acarus telarius* p. 14 which should be p. 16. For *Acarus* Fn. 1196 he cites p. 15 which should be p. 17, but which in 1758 by a misprint has been published as p. 38.

I think that the best I can do is to give a translation of OUDEMANS' conclusions of 1937, so as to make his text better accessible and to avoid duplicating them by my own words:

(p. 1045) „A short word about the value of the species name *telarius*, given by LINNAEUS to this species. LINNAEUS called it, 1746, *Acarus viridi-albicans foliorum Tiliae*. — BAECKNER [read LINNAEUS] 1752: *Acarus tiliae*. — FORSSKÅHL [read LINNAEUS] 1752: *Acarus tiliae*. — BAECKNER [read LINNAEUS] 1756: *Acarus tiliae*. — FORSSKÅHL [read LINNAEUS] 1756: *Acarus tiliae*. — In the meantime LINNAEUS had observed that *Tetranychus* also occurs on *Fagus*, *Althaea* and in hothouses (caldarii); consequently he gave a confused diagnosis of his *telarius* in the year 1758. In this same year BAECKNER [read

LINNAEUS] (see my remark v. E.) wrote his dissertation, in which we find: „*Tilia. Acarus telarius. 14*”. — This „14” means: „Linn., Syst. Nat., Ed. 10, 1758, genus 235, n. 14”; from which” (p. 1046) „appears that LINNAEUS called *telarius* the species which occurs on *Tilia*. Two of the other species he had named by his disciples *fagi* and *alceae*; the species of the „*caldarii*” is mentioned no more after 1756; of this species neither a diagnosis nor a name has ever been published.

Therefore HIRST was wrong in giving the name *telarius* to a species found by him in „greenhouses”. He should have given a new name to that species.”

Remark by VAN EYNDHOVEN: The above marked word „BAECKNER” is a regrettable lapsus memoriae of OUDEMANS. Here we have to read „RYDBECK” instead of „BAECKNER” and from that moment the whole reasoning of OUDEMANS at once becomes logical.

RYDBECK’s dissertation has been reprinted in the *Amoenitates* of 1760 and 1788.

BAECKNER’s *Noxa Insectorum* has been reprinted in the *Amoenitates* of 1756, 1764 and 1787. In 1764 and 1787 the name of *Acarus tiliae* has been changed to *Acarus telarius*.

In the reprinted *Noxa Insectorum* of BAECKNER, published in the *Amoenitates* of 1756 and later the species *Acarus telarius* has been added to the text of the dissertation of 1752. It refers to the mites in hothouses, which is in accordance with the ideas of PRITCHARD & BAKER (1955), but this was before 1758. Apart from later published *Amoenitates*, the name disappears again as a separate species for the hothouses.

As to the publication itself, the name *telarius* with its description is entirely general, so that no type host can be indicated. It offers the same difficulties as later, in 1758, the first valid description of *Acarus telarius* by LINNAEUS.

After his Ed. 10, LINNAEUS has reprinted in his Syst. Nat. Ed. 12, 1767, a confused diagnosis: *Acarus telarius. 14. A. rubicundo hyalinus, abdomine utrinque macula fusca. Fn. Svec. 1212. 1196.*

This diagnosis is repeated in the Ed. 13, 1767.

In the *Fauna Svecica*, Ed. altera, 1761, LINNAEUS gives the diagnosis: *Acarus telarius, hyalino-fulvus*, with a combined, confused description as in 1758.

Thus we come to the conclusion, that LINNAEUS through RYDBECK decided as early as 1758 to limit *Acarus telarius* to *Tilia*, but that by the system of reprinting previous publications some of the older conceptions of LINNAEUS appear together with the newer ones. However, the fact cannot be denied that a *first* serious decision has been made in the paper of RYDBECK, 1758.

PRITCHARD & BAKER (1955) have decided, following many other authors, to use the name „*telarius*” for what OUDEMANS (1931 etc.) called *Tetranychus urticae* C. L. Koch 1836.

So far it has proved to be extremely difficult to distinguish different species in the latter complex. Mites of this complex are present about everywhere, but with a few exceptions it has not yet been possible to establish characters which are suf-

ficiently evident to come to a justified separation of species if, indeed, we have to do with more than one species.

Apart from the circumstance that LINNAEUS' 10th edition of *Systema Naturae* is considered by the Code to have appeared on the first of January 1758, it is certain that RYDBECK's paper has been published after LINNAEUS' book, as RYDBECK cites some numbers from LINNAEUS' work. RYDBECK's date of promotion was the 15th July 1758.

From the above we may conclude:

1. If we consider RYDBECK as the first reviser of this part of *Systema Naturae* Ed. 10, his decision is valid according to the International Code, so that the lime tree (linden) spider mite of *Tilia* would have to bear the name *Acarus telarius* L. 1758.
2. RYDBECK's publication shows that in 1758 the general idea about the name *telarius* referred first of all to the lime tree spider mite.
3. RYDBECK's paper may be considered as representing LINNAEUS' own ideas.

By accepting RYDBECK as the first reviser, the lime tree spider mite, as it occurs in Sweden, must be named *Acarus telarius* L. 1758, at present *Eotetranychus telarius* (L. 1758).

By using „*telarius*” for the „common spider mite” complex, nobody can ever know exactly which is the real type species or the exact type host. The name „*Tetranychus urticae* C. L. Koch 1836” for the complex has the great advantage, that the type species is confined to *Urtica dioica* L. at Regensburg on the Danube. As KOCH's *Tetranychus urticae* is a well defined species still living in Regensburg on *Urtica dioica*, it can at any time be collected for comparison with other specimens of spider mites.

Notwithstanding all reasoning and conclusions the problem cannot be solved entirely in accordance with the present International Code. I shall therefore put the question before the International Commission on Zoological Nomenclature who can pass the definite and binding resolution.

Even if all the present acarologists might agree to use one of the two names, then it would still be indispensable that the Commission places the name on the Official List, as otherwise any future worker could start the discussion again.

If the Commission will decide to use the name *telarius* for the common spider mite, another name has to be established for the lime tree mite. PRITCHARD & BAKER (1955) consider HERMANN 1804 as the first reviser and have accepted *Acarus tiliarium* for the lime tree mite. However, also HERMANN is not a reviser in the strict sense of the Code. There exists an older name than that of HERMANN, namely *Acarus textor* Fourcroy 1785 (OUDEMANS, 1.III.1931); PRITCHARD & BAKER put it in the synonymy of the common spider mite, but in my opinion it refers to the lime tree spider mite. Here again the Commission will have to choose.

As no type material of *Acarus telarius* exists, I shall propose to the International Commission to acknowledge a neotype. The details of this neotype are: *Tilia* sp., Lund, Sverige, 29.VII.1957, leg. Dr. G. KRUSEMAN, loc. 957481.

The slide contains a male and a female, which I designate as the holotype and the allotype respectively.

LINNAEUS does not indicate a locus typicus, but it is known that he has collected in Skåne.

The problem has already been a point of discussion at the Second European Spider Mite Symposium at East Malling, 1959, whilst I had the occasion to discuss it more internationally during the XIth International Congress of Entomology at Vienna, at the meeting of the 23rd August 1960. As the decision of PRITCHARD & BAKER is rather recent (1955), while in Europe the name *telarius* generally has been maintained so far for the lime tree (linden) spider mite and *urticae* for the complex of the common spider mite, the ideas of OUDEMANS and myself as exposed above, will not cause many difficulties in the applied literature.

#### Litterature

- OUDEMANS, A. C., 1.I.1931, Acarologische Aanteekeningen CVI. *Ent. Ber.* 8 (177): 197—198 (*T. urticae*).
- , 1.III.1931, Acarologische Aanteekeningen CVII. *Ent. Ber.* 8 (178): 221 (*T. telarius*).
- , Kritisch Historisch Overzicht der Acarologie (Critico Historical Survey of Acarology), Brill, Leiden.  
1926. I. p. 109—110 (also *Tijdschr. Ent.* 69 Suppl.).  
1929. II. p. 271—284 (also *Tijdschr. Ent.* 72 Suppl.).  
1937. III-C, p. 1045—1046.
- PRITCHARD, A. Earl, & BAKER, Edward W., 1955, A Revision of the Spider Mite Family Tetranychidae. Memoirs Series vol. 2, Pacific Coast ent. Soc., S. Francisco.

Franssen, C. J. H., *Levenswijze en bestrijding van de bonekever (Acanthoscelides obtectus Say)*. Versl. Landbouwk. Onderz. nr. 67.13. 88 pagina's. Wageningen, 1962.

In deze door het Centrum voor landbouwpublicaties en landbouwdocumentatie uitgegeven studie bespreekt Dr. FRANSSEN uitvoerig alle gegevens, die thans van deze ook in ons land niet zelden schadelijk optredende kever bekend zijn. Van de vele onderwerpen, die aan de orde komen, noemen we: vindplaatsen, de import van de kever, zijn ontwikkeling en levenswijze, de overwintering in ons land, schade, resistentie tegen lage temperaturen, bestrijding, mogelijkheden tot beperking van de schade en een literatuurlijst, terwijl een Engelse samenvatting de publicatie besluit. — LPK.

Herter, K., *Sitzungsberichte der Gesellschaft naturforschender Freunde zu Berlin. Neue Folge, Band 1, Heft 1—5 (1.XI.1961), Band 2, Heft 1 (4.IX.1962), beide à D.M. 30.* Walter de Gruyter & Co, Berlin W 30.

Na een lange pauze is dit tijdschrift, dat vroeger herhaaldelijk belangrijke entomologische publicaties bevatte, weer verschenen. De hierboven vermelde afleveringen, die ter bespreking werden toegezonden, bevatten allereerst een korte geschiedenis van de Gesellschaft, herinneringsartikelen over W. ARNDT en Prof. R. HEYMONS, een artikel over het herstel van de Berlijnse dierentuin en het aquarium na de Tweede Wereldoorlog en een aantal zoölogische bijdragen, rijk geïllustreerd met uitstekende foto's (waarbij enkele in kleuren) en tekeningen. Wij hopen, dat de traditie van vroeger voortgezet zal worden en dat er ook weer even mooi verzorgde artikelen over entomologische onderwerpen in zullen verschijnen. — LPK.

Afdeling Noord-Holland en Utrecht. Voor het komende seizoen zijn de vergaderingen vastgesteld op 26 september, 28 november, 30 januari en 6 maart, telkens des avonds om 8 uur in Hotel Krasnapolsky, Warmoesstraat, Amsterdam. — W. J. KABOS, Secretaris.