ON THE STATUS OF THE SUBFAMILIES ROTYLENCHOIDINAE WHITEHEAD, 1958, AND TELOTYLENCHINAE SIDDIQI, 1960

By

M. SHAMIM JAIJAFIRI

(Received March 8, 1963)

Under the family Tylenchidae ÖRLE, 1880 BAKER (1962) includes six subfamilies — Tylenchinae DE MAN, 1876; Hoplolaiminae FILIPJEV, 1934; Pratylenchinae THORNE, 1949; Rotylenchoidinae WHITEHEAD, 1958; Belonolaiminae WHITEHEAD, 1959 and Telotylenchinae SIDDIQI, 1960. WHITEHEAD (1958) erected the subfamily Rotylenchoidinae for the reception of the genus Rotylenchoides WHITEHEAD, 1958. Rotylenchoidinae is very close to Hoplolaiminae and differs from it only in having a single functional ovary and the vulva in the posterior part of its body. Although Luc (1960) pointed out that merely these characters cannot justify the erection of a new subfamily, SHER (1961) did not include the genus Rotylenchoides under the subfamily Hoplolaiminae. In the opinion of the present author Rotylenchoidinae should be regarded as a synonym of Hoplolaiminae, because only the variation in the character of the gonads is not sufficient to justify the validity of a subfamily. The diagnosis of the subfamily Hoplolaiminae should be so emended as to include the genus Rotylenchoides also.

A key to the genera of the subfamily Hoplolaiminae

1. Single functional ovary, vulva near posterior
   - Ovary paired, vulva near middle of body
     - Phasmids large (scutella), body usually straight when killed
     - Phasmids small, body spiral in form when killed
     - One phasmid above vulva and one below vulva

2. Oesophageal glands overlap intestine ventrally, laterally and dorsally; orifice of dorsal oesophageal gland away from the base of the spear
   - Oesophageal glands overlap intestine dorsally and laterally; orifice of dorsal oesophageal gland close to base of spear

   Rotylenchoides WHITEHEAD, 1958
   Scutellonema ANDRASSY, 1958
   Heliocotylenchus STEINER, 1945
   Rotylenchus FILIPJEV, 1936

   Hoplolaimus DADAY, 1905
A study of the genus *Telotylenchus* Siddiqi, 1960 (subfamily Telotylenchinae) revealed the fact that it also keys out to the subfamily Belonolaiminae. Whitehead (1959) erected Belonolaiminae mainly on the character of the oesophageal glands, which instead of forming a basal bulb, lie enclosed in a lobe overlapping the anterior end of the intestine. Siddiqi (1960) based the diagnosis of Telotylenchinae on the same character. Except the character of the lateral field which is of specific rank, the diagnoses of the two subfamilies are similar. Thus the subfamily Telotylenchinae should be considered a synonym of the Belonolaiminae. The diagnosis of the latter is emended so as to include also the genera *Telotylenchus* and *Pseudhalenchus* Tarjan, 1958.

**Belonolaiminae Whitehead, 1959**

*Diagnosis emended.* Tylenchidae. Body long, cylindrical and transversely striated. Lateral fields marked by variable number of incisures. Head with 4 or 6 lips, set off or continuous with the body contour; lip region striated. Head framework with little or no sclerotization. Spear well developed, often its base forked. Oesophageal glands lie enclosed in a lobe overlapping the anterior end of the intestine. Ovary single or paired, outstretched. Testis single, outstretched. Spicula and gubernaculum tylenchoid. Bursa enveloping the entire tail. Tail more than twice the anal body diameter. Phasmids located usually near the middle of the tail in both sexes.

**A key to the genera of the subfamily Belonolaiminae**

1. Ovary singly, bursa not enveloping the entire tail
   - *Pseudhalenchus* Tarjan, 1958
   
2. Ovaries paired, bursa enveloping the entire tail
   - 2

2. Spear base forked
   - *Trichotylenchus* Whitehead, 1958
   - 3

3. Long worms (*L* = more than 2 mm); spear
   - very long (more than 100 μ) *Belonolaimus* Steiner, 1949
   - Short worms (*L* = about 1 mm); Spear short
     - (about 20—30 μ) *Telotylenchus* Siddiqi, 1960

The author has also examined the specimens of *Belonolaimus hastulatus* Colbran, 1960, and came to the conclusion that it is very similar to *Telotylenchus* and hence becomes *Telotylenchus hastulatus* (Colbran, 1960) n. comb.

The family Tylenchidae now includes only four subfamilies — Tylenchinae, Hoplolaiminae, Pratylenchinae and Belonolaiminae. There is every possibility that discovery of new forms may eventually lead to raise some of these to independent family ranks, but at present it seems best to consider all of them under one family.