STUDY OF SOME AGLENCHUS AND COSLENCHUS SPECIES  
(NEMATA: TYLENCHIDA)

BY

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Three known Aglenchus species were studied: A. agricola, A. muktii and A. mardanensis. A. dakotensis sp. n. has a relatively short tail as has A. mardanensis but tail, oesophagus and stylet are slightly smaller and body annuli larger than in A. mardanensis. A. fragariae is transferred to Filenchus because it has the end-on view of that genus and not of Aglenchus. Several Coslenchus species are synonymized: C. acceptus with C. costatus, C. brevis, C. lycus and C. tausifi with C. alacinatus, C. temperatus with C. cocophilus. The following Coslenchus species were studied: C. tuberosus, C. costatus, C. rhombus, C. emelcius, C. franklineae, C. multigyrus and C. polonicus. Coslenchus aquaticus sp. n. is a large bisexual species with 14 longitudinal ridges and a relatively thick tail with finely pointed or rounded terminus, it resembles C. cocophilus, C. bisexualis and C. pastor. SEM observations are presented of four Aglenchus species and six Coslenchus species.

Keywords: taxonomy, morphology, SEM, descriptions, soil nematodes.

Numerous populations of Aglenchus and Coslenchus from California and Colorado (U.S.A.), Poland, Belgium and the Netherlands have been studied by light microscopy and by SEM. The methods used have been described in earlier articles in this series (e.g. Raski & Geraert, 1987).

Genus Aglenchus Andrássy, 1954

Details of the history of this taxon are in a comprehensive review by Andrássy (1980). A total of 19 nominal species have been described, six under the generic name Aglenchus, seven under Tylenchus (Aglenchus) and six others as Tylenchus and transferred to Aglenchus. In his review Andrássy (1980) acknowledged only two species A. agricola, the type, and A. fragariae with the others transferred to various genera, declared species inquirendae or nomina nuda. In the same year A. muktii Phukan & Sanwal, 1980 was added and more recently A. mardanensis Maqbool, Shahina & Zarina, 1984.

The Aglenchus populations studied belong to four species: A. agricola, A. muktii, A. dakotensis sp. n. and A. mardanensis (type material).

Brzeski (in litt.) doubted the position of A. fragariae which is probably not congeneric with Aglenchus because of the fine cuticular annulation, lateral field
with three bands separated by four incisures, unmodified cloacal lips not tube-shaped but provided with two small projections on anterior cloacal lip. A detailed study showed this species can be transferred to *Filenchus*; an anterior bending of the vagina and absence of a post-vulval uterine sac has been found in species now ascribed to *Filenchus* (cf. Raski & Geraert, 1987) but originally described as representatives of separate genera: *Duosulcius* Siddiqi, 1979 and *Zanenchus* Siddiqi, 1979.

*Aglenchus agricola* (de Man, 1884) Andrássy, 1954
(Fig. 1A; Fig. 2 A-B; Table I)

This species is very common in Europe: e.g. it occurred in 60 of 85 samples from arable soil in the neighbourhood of Ghent.

It has been studied several times (cf. Andrássy, 1980). In Table I Andrássy’s (1980) measurements from European populations have been compared with Sigareva & Krasnopolskij’s (1974) measurements of three Ukrainian populations and with measurements from Belgian and English populations. The comparison of all these measurements show that Andrássy’s and our measurements are consistent; the Russian populations have a larger body, shorter tail (as a consequence a more posterior V) and a longer oesophagus. Moreover the Russian female specimens have a definite posterior uterine sac (absent in *A. agricola*) and the male specimens have no cloacal protuberances (present in *A. agricola*). All these observations suggest that Sigareva & Krasnopolskij (1974) probably studied a different species.

Andrássy’s (1980) description also applies to the Belgian and English populations we studied, except for a few minor details:
- there is usually one inner line in the lateral field but we concur that this line is “weakly” expressed;
- the head width can be as small as 5.5 μm (height 2.5-3 μm);
- the amphidial shape differs in male and female: in the female from Winches Farm (England) the oval labial plate shows two crescent-like amphidial apertures; in the male from the same locality plate and apertures are laterally elongated;
- the two stylet parts are not completely equal, the anterior part occupying 41-46% of the total stylet length;
- the spermatheca can be as small as 9 μm, Andrássy (1980) reported a maximum of 18 μm, we found 17 μm; Brzeski (*in litt.*) gives 37 μm;
- the tail length reported by Andrássy (134-190 μm) included the Californian population with the very long tail: a similar, long-tailed population has been described as *A. muktii* (see below);
- males are indeed less common: in Belgian populations there are generally about twice as many females as males;