

**ANATONCHUS FEROX N.SP., WITH MISCELLANEOUS NOTES ON
ANATONCHIDAE (MONONCHIDA)**

M.R. SIDDIQI

*Commonwealth Institute of Parasitology, 395A Hatfield Road,
St. Albans, Herts, England.*

Abstract

Anatonchus ferox n.sp. from Fiji is described and illustrated. Females are 3.6-4.1 mm long and have a stoma 64-70 X 38-45 μ m, a didelphic gonad and a filiform tail 640-760 μ m long, and the male has a body 3.23 mm long and spicules 118 μ m long. The Family name Tigrionchidae Ivanova & Dzhuraeva, 1971 is emended to Tigrionchoididae and is synonymized with Anatonchidae. *Tigrionchoides* and *Tigrionchus* are proposed as junior synonyms of *Anatonchus*. *Anatonchus varidentus* (Ivanova & Dzhuraeva, 1971) n.comb. and *Anatonchus tauricus* (Kirjanova in Kirjanova & Krall, 1969) n.comb. are proposed for *Tigrionchoides varidentus* and *Tigrionchus tauricus*, respectively. *Truxonchus paralleni* (Jairajpuri & Khan, 1982) n.comb. is proposed for *Anatonchus paralleni* Jairajpuri & Khan, 1982, and *Truxonchus confundus* Siddiqi, 1984 becomes its junior objective synonym.

Specimens of *Anatonchus ferox* n.sp. were recovered from samples collected by Marshall F. Kirby in 1976 in Fiji Islands. They were heat-killed, fixed in 3-5 per cent formalin solution and mounted in dehydrated glycerin after processing through warm lactophenol. The species is described below and comments are provided on the invalidity of Tigrionchidae, *Tigrionchoides*, *Tigrionchus* and *Truxonchus confundus*.

***Anatonchus ferox* n.sp.**

(Fig. 1, A-I)

Measurements: 10 ♀♀ (Paratypes): L = 3.6-4.1 (3.8) mm; a = 45-53 (50); b = 4.6-5.1 (4.8); c = 4.9-7.6 (5.5); c' = 10-14 (12); V = 58-65 (60); stoma = 64-70 x 38-45 μ m.

1 ♂: L = 3.23 mm; a = 50; b = 4.7; c = 5.8; c' = 11; T = 32.5; stoma = 57 x 37 μ m.

Holotype ♀: L = 4.1 mm; a = 53; b = 4.8; c = 5.5; c' = 13.7; V = 9-60-8.7; stoma = 70 x 41 μ m.

Description: Female: Body ventrally arcuate to C-shaped when relaxed. Cuticle surface marked by very fine striae. Lip region almost continuous, slightly wider than adjacent body; papillae prominent. Amphid apertures slit-like, 7-8 μm long, 16-18 μm from anterior end. Stoma oval, two-thirds as wide as long, heavily sclerotized, with three large retrorse teeth, about 13 μm long, similar, equidistant, symmetrically placed in the stoma at the anterior end of metarhabdions (Fig. 1, A); tips of teeth at 45-48 μm and 32-39 μm from anterior end of body and base of stoma, respectively; wall of stoma transversely striated only in region of teeth. Oesophagus very muscular, tuberculate, 730-850 (790) μm long. Vulva small transverse slit, lips slightly raised. Vagina with sclerotization appearing irregularly triangular in optical section (Fig. 1, C).

Didelphic-amphidelphic. Ovaries reflexed. Uterine egg 166 x 65 μm . Anterior end to vulva 2160-2470 (2311) μm . Vulva-anus distance 730-870 (788) μm . Rectum and anus prominent. Tail filiform, generally 640-760 μm long; terminus round to conoid, with spinneret in centre (Fig. 1, B).

Male: Anterior end and tail similar to that of female. Testes paired. Ventromedian supplementary papillae 14, almost contiguous, beginning 35 μm in front of cloacal aperture. Spicules dorylaimoid, arcuate, terminally notched, 118 μm long medially; protractors attached to post-anal ventral side of tail wall (Fig. 1, E); Gubernaculum well developed, 40 μm long.

Juveniles: First-stage juveniles with almost continuous head, three non-retrorse teeth (plus three similar replacement teeth) about middle of metastom and filiform tail with terminal pore offset dorsally. Second- and third-stage juveniles with teeth non-retrorse, slightly anterior to middle of metastom. Fourth-stage juvenile also with non-retrorse teeth, but the replacement teeth are retrorse and elongated (Fig. 1, I).

Type-habitat and locality: Soil around roots of reed grass, *Miscanthus floridulus*, Fiji Islands. Also collected around roots of ginger in Fiji Islands.

Type-material: Collected by M.F. Kirby; holotype ♀ and 8 ♀♀, 1 ♂ paratypes at Commonwealth Institute of Parasitology, St. Albans, England; 1 ♀ paratype each at these centres: Rothamsted Experimental Station, Harpenden, England; National Nematological Research Centre, University of Karachi, Pakistan.

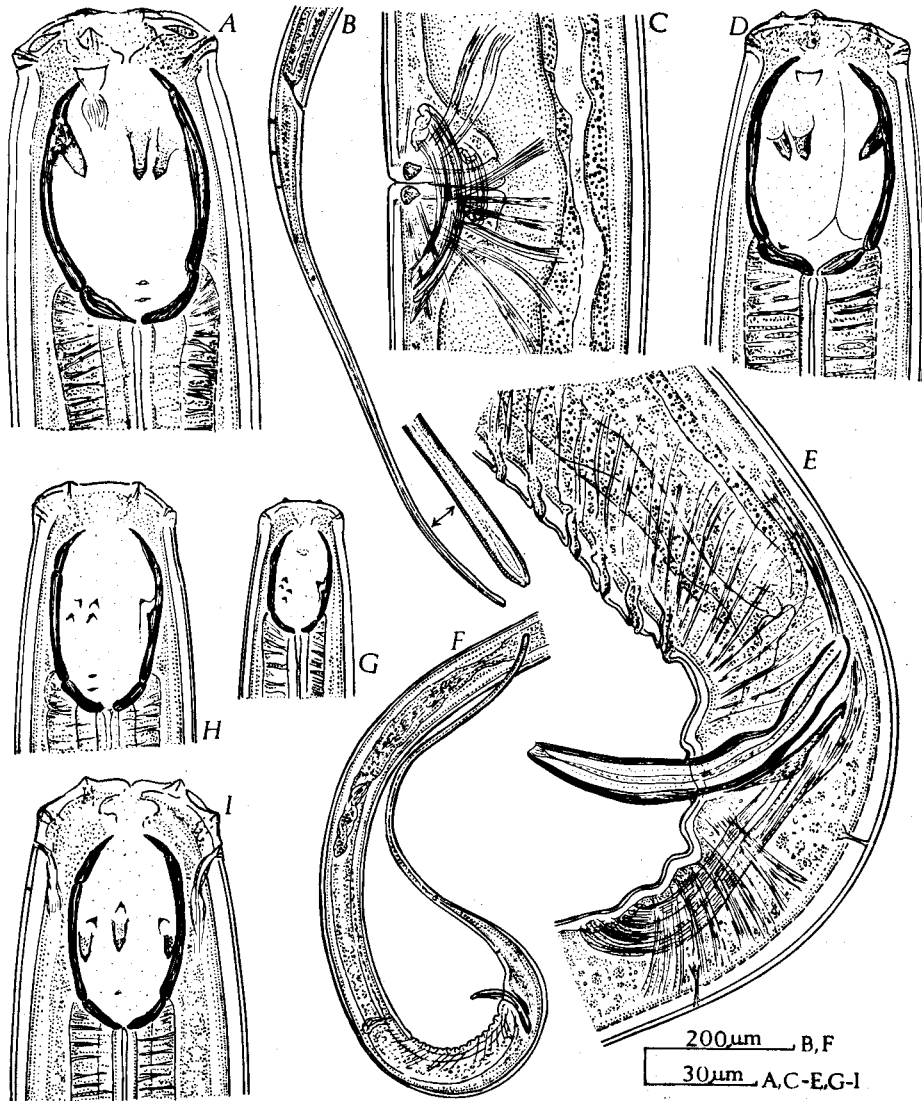


Fig. 1, A-I. *Anatonchus ferox* n.sp. A. Female, stoma. B. Female, tail end. C. Vulva region. D. Male, stoma. E. Male, spicule region. F. Male, tail end. G. First-stage juvenile, stoma. H. Third-stage juvenile, stoma. I. Fourth-stage juvenile, stoma (note elongated retrorse replacement teeth).

Relationship: *Anatonchus ferox* n.sp. comes close to *A. ginglymodontus* Mulvey, 1961 and *A. sukuli* Baqri, Das & Ahmad, 1981. From *A. ginglymodontus* it differs in having a larger body, stoma and egg, and lower c ratio (♀♀: L = 2.2-2.6 (2.4) mm, stoma 42-48 x 40-42 μ m; egg = 100 x 60 μ m; c = 9.3-11 in *A. ginglymodontus*). It differs from *A. sukuli* in having a smaller body-size, lower c ratio, narrower stoma and shorter spicules (♀: 4.93 mm long, c = 8; stoma = 62-73 x 52-71 μ m; ♂: 4.38-4.72 mm long; c = 12; spicules 142-148 μ m long in *A. sukuli*).

The genus *Tigronchoides* was proposed by Ivanova & Dzhuraeva (1971) for the species, *Tigronchoides varidentus*, collected from soil around the roots of *Fraxinus* sp. in Tadzhikistan, USSR. *T. varidentus* was proposed, described and made the type-species of the genus by Ivanova & Dzhuraeva (1971) who also proposed a new family, Tigronchidae, designating *Tigronchoides* as its type-genus. *Tigronchus* Kirjanova in Kirjanova & Krall, 1969 was also assigned to this family.

The International Code of Zoological Nomenclature lays down definite rules about naming the various taxa including those of the family-group. Article 35(b) states that each taxon of the family-group is defined by reference to its type-genus, and Article 29 provides the basis of naming a family by the addition of -idae to the stem of the name of the type-genus. Hence, the name of the family Tigronchidae is emended to Tigronchoididae.

In a subsequent paper, Ivanova & Dzhuraeva (1975) emended the diagnosis of *Tigronchoides*, and stated that the dagger-shaped onchi described for this genus earlier were, in fact, formed by the thickened walls of the stoma at their points of junction as seen in both adults and juveniles. Such a collapse of the stoma wall appears due to bad killing and fixing of nematodes, especially members of the genus *Anatonchus* Cobb, 1916. The stoma structure and other morphological features of *Tigronchoides* are similar to those of *Anatonchus*, and therefore the former is considered here as a junior synonym of the latter. *Tigronchoides varidentus*, consequently, becomes *Anatonchus varidentus* (Ivanova & Dzhuraeva, 1971) n.comb. The same arguments apply to the genus *Tigronchus* Kirjanova in Kirjanova & Krall, 1969. Its type-species, *Tigronchus tauricus* Kirjanova in Kirjanova & Krall, 1969 has a collapsed stoma, similar to one I encountered in a female paratype of *Anatonchus ferox* n.sp. from ginger soil in Fiji. It was not possible to obtain the original specimens of *Tigronchus tauricus* to ascertain the character of the stoma teeth and I therefore propose that the genus *Tigronchus* should also be

synonymized with *Anatonchus* and that *T. tauricus* be redesignated as *Anatonchus tauricus* (Kirjanova in Kirjanova & Krall, 1969) n.comb.

With respect to my proposal (Siddiqi, 1984) of a new name, *Truxonchus profundus* Siddiqi, 1984 to replace the species name, *Anatonchus paralleni* Jairajpuri & Khan, 1982, and which I proposed as nomen nudum, Dr. P.A.A. Loof (Wageningen Agricultural University) has called my attention to the Article 13(a) (ii) of the International Code of Zoological Nomenclature according to which the requirements are fulfilled for the availability of the species name *Anatonchus paralleni*. The following changes are therefore proposed.

Truxonchus paralleni (Jairajpuri & Khan, 1982) n. comb.
syn. *Anatonchus* sp., near *alleni* apud Mulvey, 1961
Anatonchus paralleni Jairajpuri & Khan, 1982
Truxonchus confundus Siddiqi, 1984 (= objective synonym).

References

- Baqri, Q.H., Das, P.K. & Ahmad, N. (1981). Nematodes from West Bengal (India) X. A new species of *Anatonchus* (Cobb, 1916) De Coninck, 1939 (Anatonchidae: Mononchida). *Bull. zool. Surv. India*, 4: 209-211.
- Ivanova, T.S. & Dzhuraeva, L.M. (1971). A new genus of a new family Tigrionchidae n.fam. (Nematoda: Mononchida) from Tadzhikistan. [In Russian]. *Izvest. Akad. Nauk Tadzhik. SSR, Biol. Nauki*, No. 4 (45): 89-93.
- Ivanova, T.S. & Dzhuraeva, L.M. (1975). The morphology of *Tigrionchoides varidentus* Ivanova & Dzhuraeva, 1971 (Nematoda: Mononchida). [In Russian] *Entomologiya Tadzhikistana (Sbornik Statei)* Dushanbe, USSR; "Donish", pp. 191-194.
- Jairajpuri, M.S. & Khan, W.U. (1982). *Predatory nematodes (Mononchida), with special reference to India*. Associated Publishing Co., New Delhi, India, 131 pp.
- Kirjanova, E.S. & Krall, E.L. (1969). *Plant-parasitic nematodes and their control*. [In Russian] Vol. I. "Nauka" Publishing House, Leningrad, 447 pp.
- Mulvey, R.H. (1961). The Mononchidae: A family of predaceous nematodes II. Genus *Anatonchus* (Enoplida: Mononchidae). *Can. J. Zool.*, 39: 807-826.
- Siddiqi, M.R. (1984). Four new genera and four new species of mononchs (Nematoda). *Pak. J. Nematol.*, 2: 1-13.