

**STUDIES ON THE ASSOCIATION OF A NEW NEMATODE SPECIES  
*SCHISTONCHUS OSMANI* SP.N. (APHELENCHOIDEA NICKLE, 1971),  
A WASP AND FIG *FICUS RECEMOSA***

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Association of an aphelenchoid nematode *Schistonchus osmani* n. sp. (Aphelenchoidea Nickle, 1971) with a fig pollinating wasp in the fig *Ficus recemosa* is reported. *S. osmani* differs with other species of the genus in the shape of spicules, gubernaculum and male tail.

*Ficus* species are dependent on wasps for pollination and during the process of pollination the nematodes are transferred from one wasp and fig to others. The infested figs always harbour 300 - 400 nematodes moving about in the interior of the fig. The invading wasp carries the second stage juveniles in their abdominal folds and shed their wings on entering the fig through the petiole. The wasp transfers the nematode juveniles along with the pollen to the female flowers and then dies. The biology of wasp and nematodes is correlated with the maturity of inflorescence. The nematodes larvae get attached to the impregnated female wasp in the fig and come out and reach another fresh fig along with pollen.

Nematodes were collected from figs in distilled water and fixed in the mixture of 95 parts of 4% formaline and 5 parts of glycerine. Temporary mounts were made in distilled water sealed with DPX, gently warmed and observed. Second stage juveniles were collected by dissecting the wasps. Permanent mounts were made from fixed material, processed by anhydrous glycerine Nile blue slow method and sealed with DPX.

***Schistonchus osmani* n.sp. (Fig. 1)**

*Measurements : Females* :- n = 30, L = 718 - 910 $\mu$ , W = 21 - 27 $\mu$ , a = 27 - 34, b = 11.5 - 13.5, c = 14.8 - 19.6, stylet = 21 - 27 $\mu$ , v = 78 - 84, Median bulb L\*W = 12 - 13 $\mu$ /8 - 9 $\mu$ .

*Holotype Female* : L = 910 $\mu$ , W = 21 $\mu$ , a = 33.7, b = 13.8, c = 17.8, Median bulb L\*W = 12\*9 $\mu$ , stylet = 25 $\mu$ , V = 80.

*Males* : n = 30, L = 700 - 840 $\mu$ , W = 25 - 28.5 $\mu$ , a = 26 - 30, b = 10 - 13, c = 12 - 15, Median bulb L\*W = 10 - 12 $\mu$ /8 - 9 $\mu$ , stylet = 19 - 21 $\mu$ , spicules = 37 - 39.5 $\mu$ , gubernaculum 13 - 15 $\mu$ , T = 560 $\mu$ .

*Allotype male* : L = 840 $\mu$ , W = 28.5 $\mu$ , a = 29.5, b = 12.7, c = 14.7, stylet = 21 $\mu$ , Median bulb L\*W = 12\*9 $\mu$ , spicules = 37.5 $\mu$ , T = 560 $\mu$ .

*Second stage larvae* : L = 360 - 420 $\mu$ , W = 15 - 18 $\mu$ , a = 25 - 30, c = 5.8.

*Description : Female* (Figs. 1A, B, C & D) : Body ventrally reflexed and 'C' shaped. Cuticle with fine striations. Head offset, stylet long and robust with strong basal knobs : Median oesophageal bulb oval to rounded with valves. Ovary with few celled, monodelphic outstretched or slightly reflexed. spermatheca spheroid (filled with flagellated spermatozoa). Post uterine sac

present. Uterus short with a post valval sac. Valva located in the  $\frac{2}{3}$  of the body length from the anterior end. Tail attenuated with micronated tip.

*Male* (Fig. E) : Body finely striated, reflexed and C-shaped. Head offset. Stomatal and oesophageal structures are similar to that of females. Testis single outstretched. spicules paired with wide elongate apex, dorsally hooked articulated with gubernaculum. Caudal alae absent. Tail slightly arcuate with two pairs of sub median caudal papillae.

*Diagnosis and discussion* : The worm under discussion resembles in female body shape with that of a *Schistonchus caprifici* and *S. racemosa*. However, it differs with *S. caprifici* by having greater "a" and "c" ratios. It differs with *S. racemosa* in having greater "a", "b" ratios and lesser "c" ratios. In males the shape of spicules and gubernaculum differs with both the above species. The male tail is less curved than that of *S. racemosa*. Hence a new species is proposed to accomodate the nematode under discussion and is named as *Schistonchus osmani*.

Type locality	:	Osmania University
Type habitat	:	Figs of <i>Ficus racemosa</i>
Type host	:	<i>Ceratosolen</i> sps.

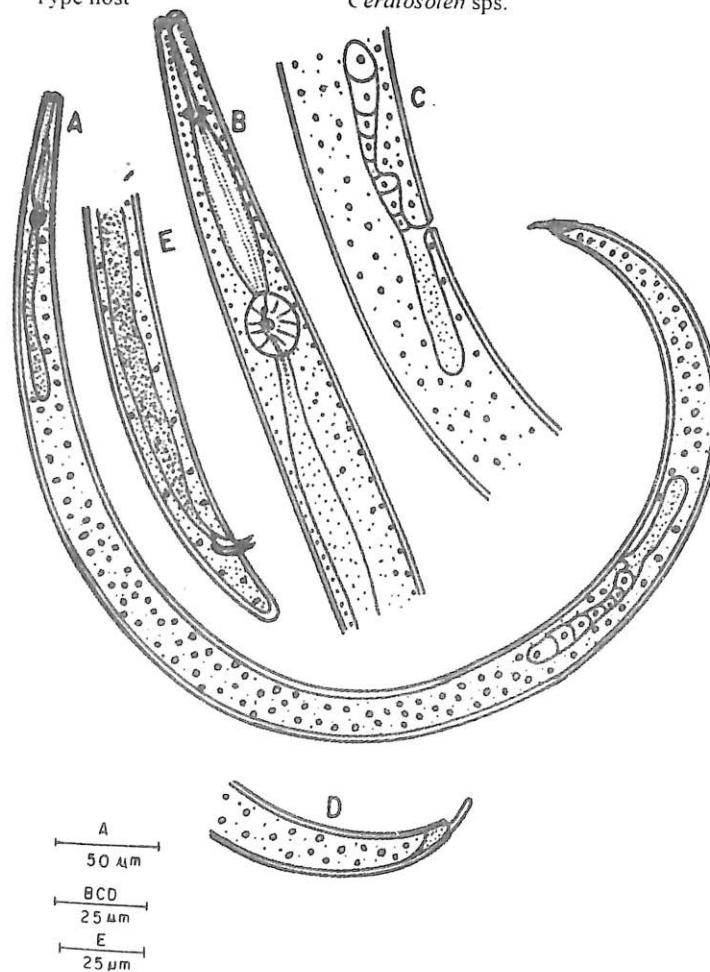


Fig. 1 : *Schistonchus osmani* sp.n. A,B,C & D. Female; E. Male.

Type material holotype and paratypes are deposited in the museum of Department of Zoology, University College of Science, Osmania University, Hyderabad.

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