TAXONOMY OF *HEMICYCLIOPHORA* SPECIES FROM SOUTH AFRICA
(NEMATODA: CRICONEMATOIDEA)

BY

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Four *Hemicycliophora* species have been found in South Africa, two of which are described as new. *H. lutosa* n. sp., found in the Transvaal, belongs to the *similis-uniformis-zuckermani* group; *H. natalensis* n. sp., found in Natal, is distinguished by the acute terminus and very short vulva-anus distance. The others are *H. transvaalensis* Heyns, 1962 and *H. labiata* Colbran, 1960, on both of which additional information is given. The male of *H. labiata* is described for the first time.

Only four *Hemicycliophora* species have so far been found in South Africa. One, *H. transvaalensis*, was previously described from the Transvaal by Heyns (1962); another species commonly found in South Africa was described from Australia by Colbran (1960) as *H. labiata*. Two other species are described as new in this paper. The measurements and drawings were made from specimens fixed in F.A.A. and mounted in glycerin. Terminology and symbols such as R, Rex are the same as employed by De Grisse (1964) and Loof (1968). PV/ABW stands for length of postvulvar part of body divided by anal body width; VA%T is vulva-anus distance as percentage of tail length. The type slides marked by a number only are in the collection of the Plant Protection Institute at Pretoria, South Africa; those marked WT with a number are in the collection of the Landbouwhogeschool, Wageningen, Netherlands. The scale lines in the illustrations correspond to 50 μ.

**HEMICYCLIOPHORA TRANSVAALENSIS HEYNS, 1962**

*(Fig. 5, A)*

**Dimensions:**

Females (*n = 13*): L = 0.50-0.63 mm; a = 17-23; b = 4.9-5.9; c = 8.4-11.0; V = 43-68; spear = 50-61 μ; Rex = 33-39; RV = 31-41; RVan = 9-13; Ran = 20-28; R = 165-182; PV/ABW = 3.4-5.0; T/ABW = 2.2-3.8; VA%T = 40-63.

Male not found.

Body plump, small, straight or slightly curved ventrad in death. Outer cuticle fitting loosely, its annulation distinct all over the body. Width of annules on inner cuticle 3.5 μ in mid-body, decreasing to 2 μ on the distal part of the tail.
Lateral field and cuticular ornamentation as described by Heyns (1962), except that the longitudinal lines do not always reach quite to the anterior end. Lip region truncate, lips separate, the lateral ones as high as the submedian ones, labial disc not elevated; with two annules, distinct on both cuticles. Spear nearly straight, the basal knobs directed backward. Isthmus of oesophagus rather narrow, terminal bulb well developed; the nerve ring surrounds the transition from isthmus to bulb. Hemizonid two annules long, very weakly developed, in some specimens not perceptible at all; the cuticle not bulging, only the inner tissues slightly curved inward; located about level of oesophagus base. Excretory pore located two annules behind the hemizonid. In these specimens the renette gland, which is conspicuous in the holotype, was not visible. Intestinal nuclei inconspicuous. Gonad single, ovary and oviduct typical for genus; uterus moderately slender, with a round spermatheca filled with sperm at its anterior end. Vulva a marked discontinuity in the ventral body wall, with short but distinct sleeve; its lips modified, elongate. Tail subcylindroid, the distal part slightly offset in some specimens; terminus of inner cuticle acute, of outer subacute. Internal tissues of tail narrowing some distance anterior to terminus and extending nearly to it. The specific characteristics of this species were well illustrated by Heyns (1962). This species is conspicuous for its small size, short spear and complicated cuticular sculpture.

Found in the Transvaal (moss along road between Pietersburg and Louis Trichardt) and Transkei (sandy soil near ditch, near Shark Rocks, Bizana).

HEMICYCLIOPHORA LABIATA COLBRAN, 1960
(Fig. 1, 2 and 5, B-D)

Dimensions:

Females (n = 100): L = 0.63-0.95 mm; a = 18-29; b = 5.0-6.6; c = 7.0-11.6; V = 48-63; spear = 53-79 μ; Rcx = 35-47; RV = 34-59; RVan = 9-20; Ran = 23-44; R = 186-250; PV/ABW = 3.2-6.5; T/ABW = 2.1-4.8; VA%T = 28-63.

Male (n = 1): L = 0.71 mm; a = 37; b = 6.2; c = 7.6; T = 24; spicules = 22 μ; T/ABW = 6.5.

Female. — Body nearly straight in death. Outer cuticle fitting rather tightly, its annulation distinct all over the body. Width of annules on inner cuticle 4.4 μ in mid-body, decreasing to 3 μ on distal part of tail. Lateral field marked by one longitudinal line. No further cuticular sculpture. Lip region truncate, lips separate, the lateral ones as high as the submedian ones, labial disc not elevated; with two annules, distinct on both cuticles. Spear slender, almost straight, basal knobs directed backward. Isthmus of oesophagus short, surrounded by nerve ring; terminal bulb well developed. Hemizonid two annules long, located about level of oesophagus base; weakly developed, the cuticle not bulging. Excretory pore two annules behind the hemizonid. Intestinal nuclei large (9.5 × 5 μ, nucleolus 2.5 μ). Gonad single, anterior, outstretched; ovary and oviduct typical for the genus; uterus not slender, at its anterior end a spermatheca filled with sperm. Vulva a