

STUDIES OF PLANT AND SOIL NEMATODES

8. TWO NEW SPECIES OF CRICONEMA (NEMATODA : CRICONEMATIDAE) FROM QUEENSLAND

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SUMMARY

Criconema alticolum n.sp. and *Criconema imbricatum* n.sp. are described.

C. alticolum has 98 annules, 16 rows of laterally contiguous, semicircular scales and a stylet 51.0–61.1 μ long; *C. imbricatum* has 70–72 annules, 8 rows of laterally contiguous, semicircular scales and a stylet 67.6–80 μ long.

The two species described in this paper were found in soil from *Eucalyptus* forests. Females and larvae were obtained by carefully sorting the screenings left on 300-mesh sieves used in the Seinhorst ehrlenmeyer method; practically no specimens passed through modified Baermann funnels.

In both species the distance between the stylet and opening of the dorsal oesophageal gland was measured in living females; all other measurements were made on glycerine-mounted specimens.

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***Criconema alticolum* n.sp.**

(Figure 1)

Females (n = 10).—L = 298–488 μ ; a = 5.1–8.8; b = 3.5–4.6; c = 15.2–24.3; V = 92.1–94.7 per cent.; stylet = 51.0–61.1 μ ; prorhabdion = 42.2–48.7 μ .

Body stout, C-shaped when relaxed. Number of annules 98. Transverse striae about 3.4 μ apart in mid-body region. Cuticle with 16 rows of laterally contiguous, semicircular scales. Lip region with anterior annule wider than posterior annule but narrower than first body annule. Stylet extending through 15–16 annules; knobbed base 9.5 μ wide, points anteriorly directed. Dorsal oesophageal gland orifice 4 μ behind stylet. Excretory pore 28–29 annules from base of lip region. Vulva 8 annules from terminus. Ovary single, prodelphic, outstretched; oocytes at anterior end in double row. Spermatheca spherical, 11–12 μ in diameter, 49 μ from vulva. Anus about 5 μ from vulva, 6 annules from terminus. Tail broadly conoid.

Holotype.—L = 339 μ ; a = 8.3; b = 4.4; c = 16.1; V = 92.1 per cent.; stylet = 51.0 μ ; prorhabdion = 42.4 μ .

Body with 98 annules. Stylet extending through 16 annules.

Males.—Unknown.

Types.—Holotype slide Reg. No. G 3535 in the Queensland Museum; paratypes in the nematode collections of the Queensland Department of Primary Industries, Brisbane, and the Department of Nematology, University of California, Davis.

Type habitat.—Soil about the roots of *Themeda australis* (R.Br.) Stapf (kangaroo grass).

Type locality.—South Queensland: roadside within half a mile of the summit of Mt. Nebo.

Differential diagnosis.—*C. alticolum* is distinguished from the other species of *Criconema* with 12–16 longitudinal rows of scales by the shorter stylet. (*C. alticolum*, 51.0–61.1 μ ; *C. coronatum* (Sch. Stek. & Teun.), 94–100 μ ; *C. cobbi* (Micoletzky), 84–103 μ ; *C. minor* (Schneider), 82 μ).

Other records.—*Criconema alticolum* n.sp. was also found in soil around the roots of *Themeda australis* near the Cunningham Highway half a mile west of the summit at Cunningham's Gap.

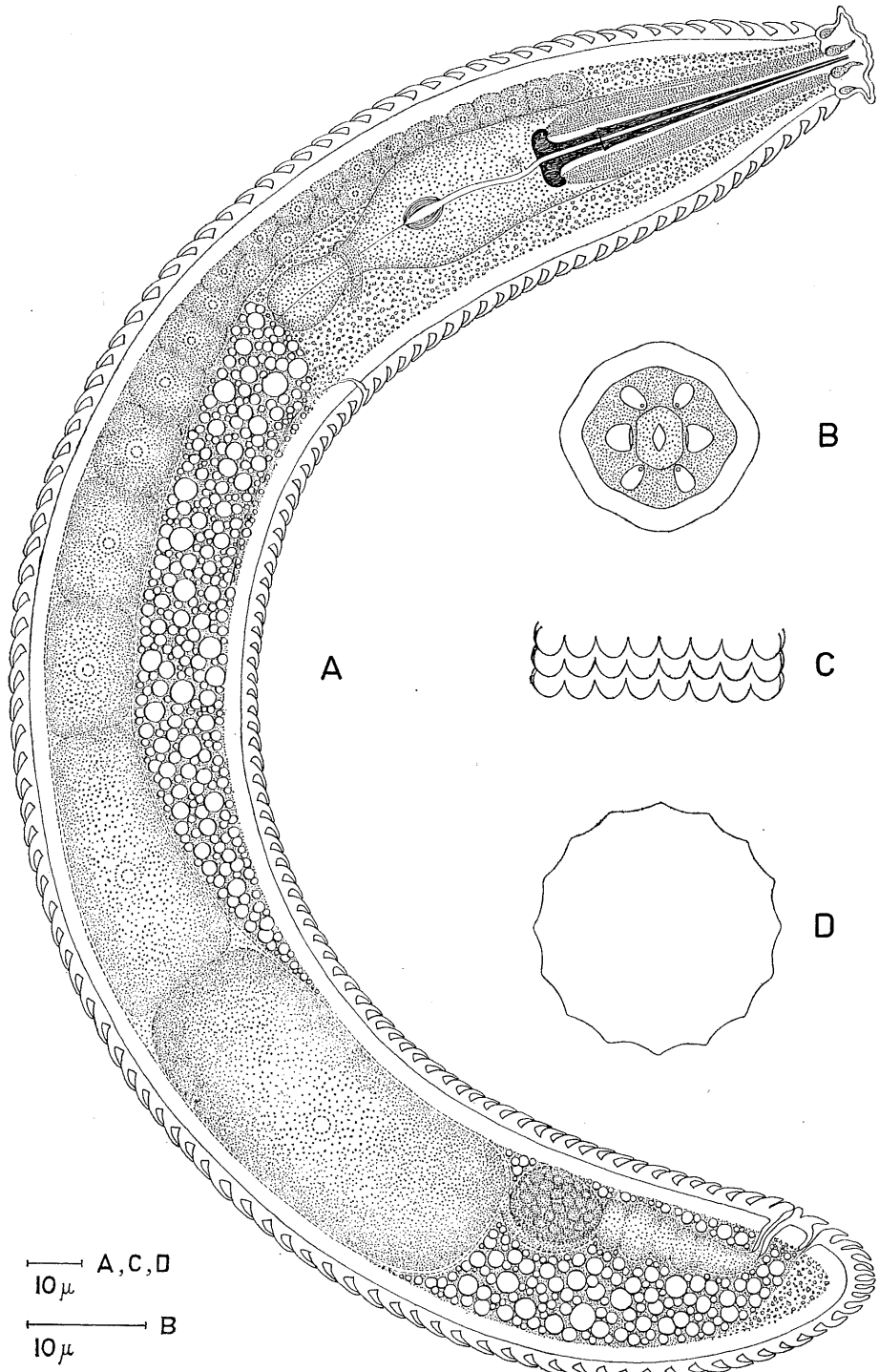


Fig. 1.—*Criconema alticolum* n.sp. A, female; B, en face view; C, pattern of cuticular scales; D, transverse section in mid-body region.

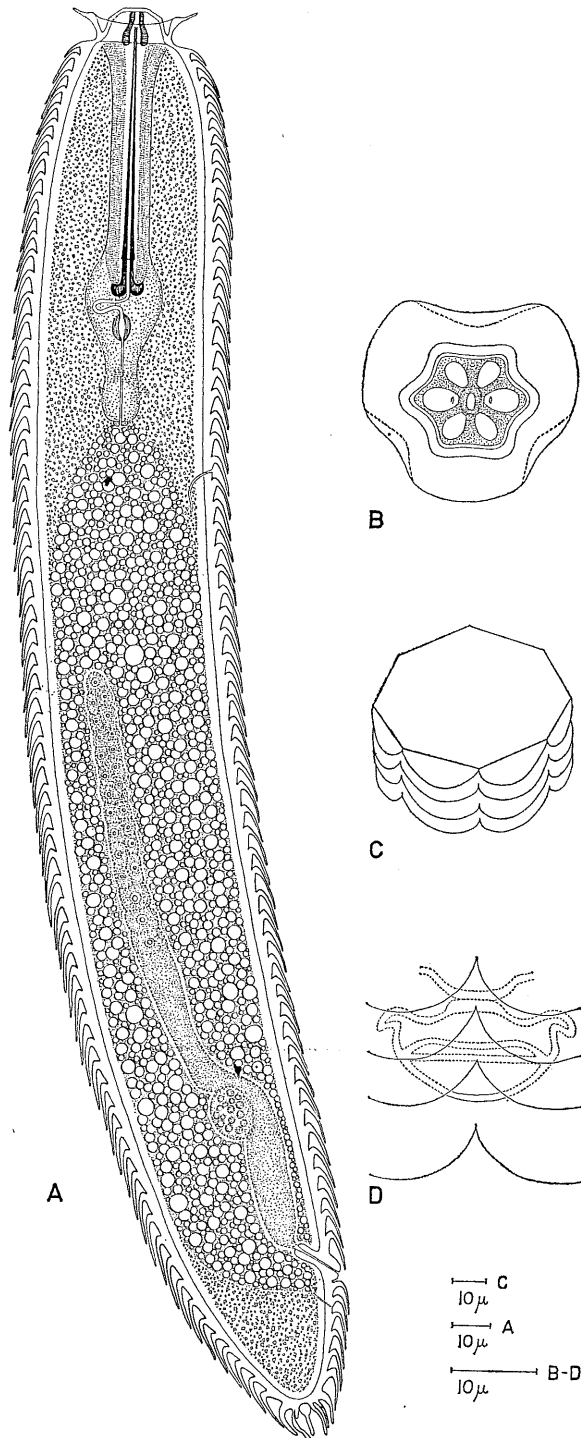


Fig. 2.—*Criconema imbricatum* n.sp. A, female; B, en face view; C, transverse section in mid-body region; D, ventral view of vulva.

***Criconema imbricatum* n.sp.**

(Figure 2)

Females (n = 10).—L = 227–407 μ ; a = 5.8–9.5; b = 2.9–3.7; c = 12.5–14.7; V = 89.1–92.8 per cent.; stylet = 67.6–80 μ prorhabdion = 56.0–70.3 μ .

Body short, stout, slightly curved when relaxed. Number of annules 70–72. Transverse striae about 5.5 μ apart in mid-body region. Lip region with large saucer shaped basal annule. Cuticle with 8 rows of laterally contiguous, semi-circular scales each scale overlapping scale in same row on following annule. Stylet extending through 16–18 annules; knobbed base 9.4–11.0 μ wide, points anteriorly directed. Dorsal oesophageal gland orifice 5 μ behind stylet. Oesophagus with club-shaped corpus containing a sclerotized valve 8.5 μ long and 7 μ wide, very short isthmus and small terminal bulb. Excretory pore 22–23 annules from base of lip region. Vulva 8 annules from terminus. Ovary single, prodelphic, outstretched; oocytes at anterior end in double row. Spermatheca spherical, 13–17 μ in diameter, 26–42 μ from vulva. Anus 6 annules from terminus. Tail broadly conoid.

Holotype.—L = 352 μ ; a = 6.8; b = 3.1; c = 14.5; V = 91.1 per cent.; stylet = 80 μ ; prorhabdion = 70 μ Number of annules = 7. Knobbed base of stylet 10.2 μ wide. Excretory pore 22 annules from base of lip region.

Males.—Unknown.

Types.—Holotype slide Reg. No. G 3536 in the Queensland Museum; paratypes in the nematode collections of the Queensland Department of Primary Industries, Brisbane, and the Department of Nematology, University of California, Davis.

Type habitat.—Sandy soil in a forest dominated by *Eucalyptus pilularis* Sm. (blackbutt).

Type locality.—Queensland: Fraser Island (compartment 18, Mackenzie logging area).

Differential diagnosis.—*C. imbricatum* is distinguished from other species of *Criconema* with 8 longitudinal rows of scales as follows—*C. paxi* (Schneider) and *C. southerni* (Schneider) have fewer body annules (53–54 and 60 respectively); *C. octangulare* (Cobb) has a conoid tail which tapers to a subacute terminus; *C. spinalineatum* Chitwood has a shorter stylet (40 μ); *C. zernovi* (Kirjanova) has a longer stylet (90 μ); *C. australe* Colbran has scales which are flattened on the posterior margin and a shorter stylet (50–56 μ).

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