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**Two New Species of the Genus *Criconemoides* from
North India**

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Two New Species of the Genus *Criconemoides* from North India

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SUMMARY

C. ananasi n. sp. with 58-75 body annules, first annule non-retrorse, spear 51-69 μ long, excretory pore on 20th-23rd body annule, vulva and anus on 4th-6th and 3rd-5th and annules respectively from posterior end. *C. bareilli* n. sp. with 90-100 body annules, 1st annule slightly retrorse, spear 35-50 μ long, excretory pore on 28th-29th body annule, and vulva and anus on 7th to 9th and 6th-8th annules respectively from posterior end.

Criconemoides ananasi n. sp. and *C. bareilli* n. sp. found associated with the rhizospheres of *Ananas comosus* Merr. and *Rosa brobonia* Desp. respectively are figured and described.

CRICONEMOIDES ANANASI N. SP.

(Figure 1A-K, K₁ and L)

Measurements :

30 Females : L=0.27-0.48 mm ; a=7-11, b=2.5-4.8 ; c=20-36 ; V=90-95 ; spear=51-69 μ ; body annules=58-75.

7 Larvae : L=0.21-0.27 mm ; a=5-9 ; b=2.5-3.5 ; c=20-24 ; spear=28-32 μ ; body annules=60-72.

Female (Holotype) : L=0.38 mm ; a=10 ; b=3.6 ; c=20.8 ; spear=53 μ ; V=91, body annules=63.

Body cylindrical, ventrally arcuate on death, tapering anteriorly to a bluntly conoid head and posteriorly to a broadly conical tail ends. Lip region consisting of two annules, 1st annule non retrorse, smaller than the 2nd, measuring 11 μ ; the 2nd annule 14 μ , slightly retrorse. The height of the annule at mid-body 7 μ . Labial disc not prominent, sublateral lobes fairly distinct, not projecting beyond the labial disc. *En face* view of the head shows 6 oval lips surrounding an oval, oral aperture, amphid aperture slit-like, one on either side of the oral aperture. Stylet robust 53 μ long with prorhabdion 38 μ long, basal knobs 10 μ across and 3 μ high with anteriorly directed process. Excretory pore situated on 20th annule, 95 μ from anterior end (90-130 μ in paratypes), situated at the junction of oesophagus and intestine. Oesophagus extends up to 20th body annule, typically criconematoid with a short basal bulb, 16 μ in diameter. Ovary anteriorly outstretched with oocytes arranged from one to two rows. Spermatheca not observed. Vulva situated as a transverse slit in the middle of 6th annule (4th-6th in paratypes) from tail end. Intestine leads into an indistinct rectum and anus the latter situated on 5th annule from tail end (3rd-5th in paratypes). Last annule simple, rounded or forked.

Larvae : Body contour similar to that of the adult. The body annules are more

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retrorse in the larvae and young females as compared to the mature females. The posterior margin of the annules of the larvae very often irregular but not broken. No annular anastomosis observed.

Males : Not observed.

Holotype : Female collected on 12th November 1967. Slide No. Cr./67/6, deposited in the Biology Department, Allahabad Agricultural Institute, Allahabad, Uttar Pradesh, India.

Paratype : Females & larvae. Slide Nos. Cr/67/1-5 & 7-10, other details same as that of Holotype.

Type host : Rhizosphere of Pineapple (*Ananas comosus* Merr.)

Type locality : Pantnagar, District Nainital, Uttar Pradesh, India.

Diagnosis :

Based on the keys given by Oostenbrink (1960) and Raski and Golden (1965), *C. ananasi* comes close to *C. sphaerocephalus* Taylor, 1936. However, it differs from it in having a relatively longer body length ($L=0.32-0.42$ mm. in *C. sphaerocephalus* as per Raski and Golden, 1965), larger spear ($43-58 \mu$ in *C. sphaerocephalus*), same number of annules on the dorsal and ventral sides (Number of annules on the dorsal side is more than that on the ventral in *C. sphaerocephalus*), unbroken annules on the lateral area (annules broken at the lateral area to form zig-zag structure in *C. sphaerocephalus*).

It is also somewhat closer to *C. basili* (*C. goodeyi* Jairajpuri, 1963) Jairajpuri, 1964 and *C. complexus* Jairajpuri, 1963. It differs from the former in having a smaller body and spear lengths, ($L=0.54-0.60$ mm and spear= $68-74 \mu$ in *C. basili*), relatively smaller number of body annules (71-74 body annules in *C. basili*), more anteriorly located

anal opening (anus located on 2nd-3rd annule from posterior end in *C. basili*), lower 'a' and 'b' values ($a=12-12.6$ and $b=4.3-4.8$ in *C. basili*), no annular anastomosis (anastomosis present in *C. basili*) and in the nature of the 1st and last annules. It differs from the latter in having a relatively shorter body ($L=0.45-0.53$ mm in *C. complexus*), non-retrorse 1st annule (1st annule retrorse in *C. complexus*), more posteriorly located vulval opening (vulva located on 7th-8th annule from posterior end in *C. complexus*) and in the nature of the last annule.

CRICONEMODES BAREILLI N. SP.

(Figure 2A-C)

Measurements :

4 Females : $L=0.28-0.35$ mm ; $a=7-12$;
 $b=3.5-4.5$; $c=14-20$; $V=91-45$;
spear= $35-50 \mu$;
body annules= $90-100$.

Female (Holotype) : $L=0.32$ mm ; $a=7.5$;
 $b=3.9$; $c=14.4$; $V=91.4$;
spear= 49μ ; body annules= 93 .

Body cylindrical, slightly ventrally arcuate on death, consisting of 93 retrorse annules, tapering anteriorly to a bluntly conoid head end and posteriorly to a conical tail end. Lip region continuous with the body contour consisting of two annules. 1st. annule less retrorse than the rest measuring 12.0μ wide, 2nd annule as retrorse as the rest measuring 15μ wide. Body annules 3.5μ high in the midbody region. Labial disc fairly prominent above the 1st annule. Sublateral lobes very distinct, not extending beyond the labial disc. *En face* view of the head could not be taken as the number of specimens were very few.

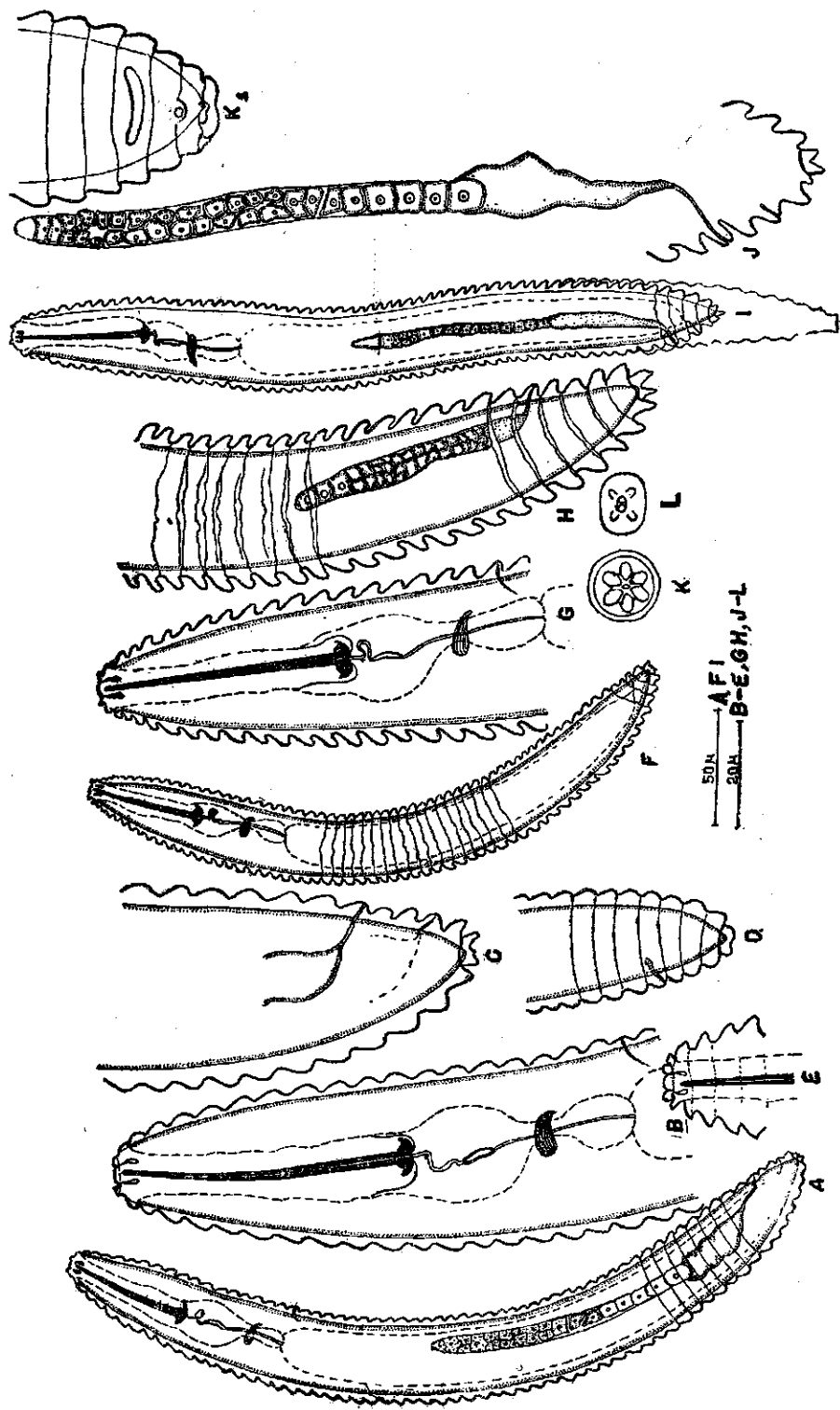


Fig. 1 A—Entire female. B—Enlarged anterior end of female. C—Enlarged posterior end of female. D—Posterior end of female showing tail variation. E—Anterior end of female in upper focus. F—Entire female having highly retrorse annules. G—Enlarged posterior end of female having highly retrorse annules. H—Enlarged posterior end of the female showing peculiar annular thickening. I—Adult female inside the last moult. J—Enlarged view of female gonad. K—Posterior end of female showing vulva and anus in surface view. K₂ and L—En face view and cross section of the head of the female.

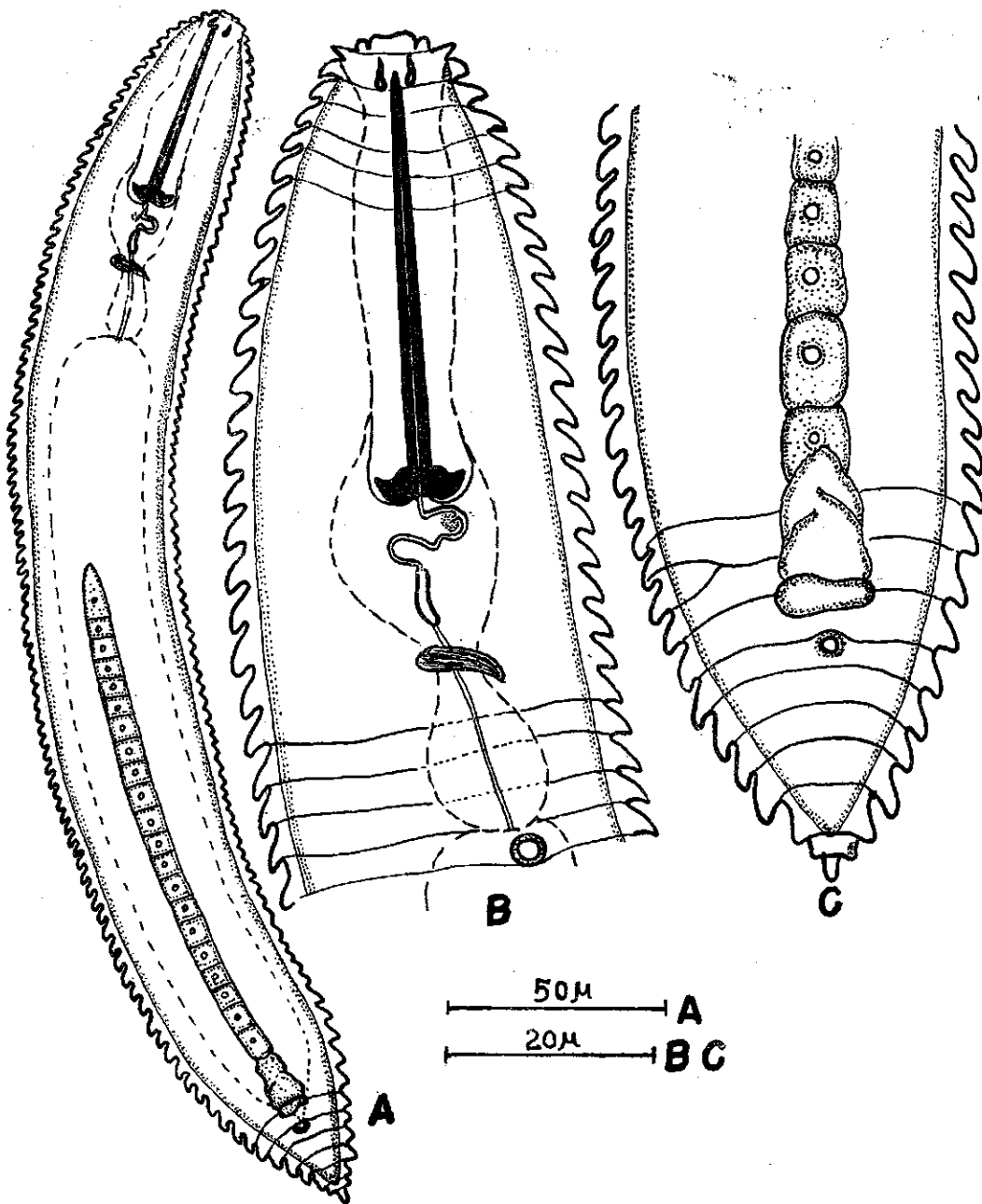


Fig. 2

- A—Entire female.
 B—Enlarged anterior end of female.
 C—Enlarged posterior end of female showing vulva, anus and annular anastomosis.

Stylet robust, 49 μ long, prohabdion measuring 35 μ long. Basal knobs massive, measuring 10.5 μ across and 4 μ high, with its outer margins directed anteriorly. Oesophagus typically criconematoid with median bulb 18 μ across, joined by short isthmus 7 μ long, crossed by nerve ring, to the basal bulb 10 μ across. Excretory pore located on 29th body annule (28th—29th in paratypes) just near the junction of oesophagus with intestine, 85 μ from anterior end (75-87 μ in paratypes).

Ovary anteriorly outstretched occupying 22 per cent of the total body length with oocytes arranged in a single row except near the anterior end. Spermatheca not observed. Vulva a transverse slit, situated on 9th annule from tail terminus (7th-9th in paratypes).

Anus not easily discernible situated on 8th annule from tail terminus (6th-8th in paratypes). Annules broken near the tail region showing anastomosis. Tail terminus conical with the last annule pointed.

Males: Not observed.

Holotype: Female collected on 30th December, 1967, Slide No. Gr/67/1, deposited in the Biology Department, Allahabad Agricultural Institute, Allahabad, Uttar Pradesh, India.

Paratype: Three females. Slide No. Gr./67/2-3, rest same as in Holotype.

Type host: Rhizosphere of rose bush (*Rosa borboniana* Desp.)

Type locality: Bareilly, Uttar Pradesh, India.

Diagnosis

Based on the keys given by Oostenbrink 1960 and Raski and Golden, 1965 *C. barielli* n. sp keys close to *C. similis* (Cobb, 1914) Chitwood, 1949 and *C. rihandi* Edward and Misra, 1968.

It differs from *C. similis* in having a shorter body and spear ($L=0.55-0.65$ mm and spear= $70-75$ μ respectively in *C. similis*), distinct sublateral lobes (absent in *C. similis*), more anteriorly located excretory pore (31th-33rd annule from anterior end in *C. similis*), and in the absence of two ventrolateral rounded projecting vulval lips.

It differs from *C. rihandi* in having distinctly retrorse body annules (annules slightly retrorse in *C. rihandi*), more prominent sublateral lobes, retrorse 1st annule (1st annule slightly pointing anteriorly), a higher 'c' value with more anteriorly located anus ('c'=20-35 and anus on 5th-6th in *C. rihandi*), head consisting of two retrorse annules (Head consisting of three annules of which the 1st is not retrorse), relatively shorter body ($L=0.30-0.41$ mm. in *C. rihandi*) and more posteriorly located excretory pore (excretory pore on 25th-27th body annule in *C. rihandi*).

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