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***PSILENCHUS GRAMINUS* SP. N. AND *DELADENUS DURUS* (COBB, 1922)  
THORNE, 1941, A NEW RECORD FROM INDIA**

BY

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Descriptions of *Psilenchus graminus* sp. n. and *Deladenus durus* (Cobb, 1922) Thorne, 1941 (a new record from India), collected from soil around the roots of wheat in Haryana state have been provided. *P. graminus* is distinctive with 0.81-1.07 mm long body; lip region having 3-4 annules; procorpus swollen and shorter than isthmus; ovary oligopropagatory; spermatheca tubular; tail 4.4-5.6 anal-body-widths long, without swollen terminus.

***TOBRILUS KHERAI* SP. N. (NEMATODA : TRIPYLIDAE) WITH A KEY  
TO THE SPECIES OF *LONGUS* GROUP**

BY

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*Tobrilus kherai* sp. n. has been described. It is distinguished from the hitherto known species by the shape of the tail, the size of the spicules and the gubernaculum. A key to the species of the *Tobrilus-longus* group is presented.

POST-INOCULATION SOIL TREATMENTS OF PESTICIDES ON THE  
DEVELOPMENT AND REPRODUCTION OF *MELOIDOGYNE INCOGNITA*  
IN TOMATO

BY

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The relative efficacies of nine pesticides on the development and reproduction of *Meloidogyne incognita* in tomato roots have been evaluated under pot culture conditions by applying to soil at the rates of 2, 4 and 8 kg ai/ha, 10 days after infestation with 3000 larvae per pot. Phenamiphos, oxamyl, fensulfothion, carbofuran, phorate and aldicarb reduced the total endoparasitic population. The development of nematodes was inhibited by phenamiphos, oxamyl, fensulfothion and carbofuran for 40 days of larval inoculations. Egg-mass production was suppressed for 30 days by phenamiphos and oxamyl at 2 kg ai/ha, fensulfothion and carbofuran at 4 kg ai/ha and 8 kg ai/ha of phorate and aldicarb. Quinalphos, chlorpyrifos and mepospholan did not affect normal development and reproduction of the nematodes though quinalphos had initially reduced the total number of nematodes in tomato roots.

**EFFECT OF BARE ROOT-DIP TREATMENTS WITH PESTICIDES  
ON *ROTYLENCHULUS RENIFORMIS* AFFECTING BRINJAL**

BY

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Effect of root-dip treatments with 500 and 1000 ppm of aldicarb, carbofuran, DBCP, disulfoton, phorate and turbufos for 15 and 30 minutes was studied on the plant growth and development of *Rotylenchulus reniformis* on brinjal Cv. 'Pusa purple long'. DBCP was phytotoxic. Aldicarb, carbofuran and turbufos accounted for 73.6, 86.8 and 88.0 per cent reduction of both soil and root-populations of reniform nematode six weeks after treatment. Phorate and disulfoton were least effective. For prophylactic treatment in brinjal against reniform nematode infestation, 30 minutes root-dip treatments before transplanting can be advocated in 500 to 1000 ppm of aldicarb or carbofuran or turbufos.

EFFECT OF SOME ORGANIC AND INORGANIC AMENDMENTS  
ON HATCHING, INFECTIVITY AND DEVELOPMENT OF  
*MELOIDOGYNE JAVANICA*

BY

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Hatchability in *Meloidogyne javanica* was reduced and infectivity and development of the juveniles was considerably retarded by several organic and inorganic amendments. Sheep dung and rice straw were most effective, pigeon droppings and horse dung were intermediate and poultry droppings were the least effective. No emergence of juveniles occurred in 10 g urea or ammonium nitrate per litre but emergence was low in ammonium sulphate. Hatching increased after removal of egg masses from the toxic solutions into water, though pretreatment with sheep dung, rice straw, pigeon droppings and urea remained significantly inhibitory at the higher concentrations. Second stage Juveniles when treated with inorganic amendments were more seriously affected than those treated with the organic substances. Subsequent to transfer of egg masses to fresh water, test materials had no effect on infectivity, except for sheep dung, rice straw, pigeon droppings and urea which had irreversible effects.

TWO NEW SPECIES OF THE GENUS *CEPHALENCHUS* (GOODEY, 1962)  
GOLDEN, 1971 WITH A KEY TO SPECIES\*

BY

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Two new species of *Cephalenchus* (Goodey, 1962) Golden, 1971 from Almora and Nainital districts of Uttar Pradesh, India are described and figured. *C. cylindricus* sp. n. is characterized in having a body 0.62-0.75 mm long, broadly hemispherical head with well sclerotized cephalic framework and ring, 20-21  $\mu\text{m}$  long spear, oesophagus measuring 98-108  $\mu\text{m}$  with cylindrical basal bulb, anteriorly located vulva, a long tail measuring 190-225  $\mu\text{m}$  and in the absence of males. This new species is close to *C. leptus* (Siddiqi, 1963) Golden, 1971 and *C. emarginatus* (Cobb, 1893) Golden, 1971. *C. cephalodiscus* sp. n. is characterized in having a body 0.62-0.69 mm long, broadly hemispherical head with 2-3 annules, 20-21  $\mu\text{m}$  long spear, prominent cardia, anteriorly located vulva, spermatheca with sperms and a shorter tail. The male is characterized in having a shorter body measuring 0.59 mm, 15  $\mu\text{m}$  long spicules and 28  $\mu\text{m}$  long bursa. This new species is close to *C. leptus* (Siddiqi, 1963) Golden, 1971 and *C. lobus* Dhanachand and Jairajpuri, 1980. A key to the species of the genus is given.

*NENOCRICONEMA DORGESKI* GEN. N., SP. N., (NEMATODA ;  
CRICONEMATIDAE) FROM MAHARASHTRA, INDIA

BY

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*Nenocriconema* gen. n. is distinct by possessing 38-42 retrorse body annules (except first three) with a fringe of continuous serration, set-off head with two distinct annules, fused six lips, absence of submedian lobes and open vulva. The type species, *N. dorgeski* sp. n. is described from the specimens obtained in soil samples around the roots of ber, *Zizyphus jujuba* Mill from Khandala jungle of Sahyadri Range, Pune, Maharashtra State.

SOIL AND PLANT PARASITIC NEMATODES FROM MAHARASHTRA,  
INDIA. VIII. *MAMMILLONEMA MAMMILLATUS* GEN. N., SP. N.  
(DORYLAIMIDA : NEMATODA)

BY

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*Mammillonema mammillatus* gen. n., sp. n. is characterised by the presence of set-off head with prominent mammillate papillae; sub-labial, abnormally large amphids; attenuated spear with a sharply pointed tip. Asymmetrical spear extension, anteriorly zig-zag. Amphidelphic female gonads. Spicules with lateral guiding pieces; supplements, in the form of adanal pair and a series of seven mammillate ventro median supplements. Tails in both the sexes elongate, conoid. The specimens were collected from the soil around the roots of pomegranate (*Punica granatum* L.) at Ruhuri, Dist. Ahmednagar, Maharashtra State.

**PROTEIN PATTERNS IN RESISTANT AND SUSCEPTIBLE TOMATO  
VARIETIES INOCULATED WITH THE ROOT-KNOT NEMATODE  
*MELOIDOGYNE INCOGNITA***

**BY**

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Proteins and peroxidase activity were determined in healthy and *Meloidogyne incognita*—inoculated tomato varieties Pusa Ruby, SL-120 and Nematex. Vars. Nematex and SL-120 showed resistant reactions, and var. Pusa Ruby was susceptible to the nematode. Increased protein levels were observed in the diseased tissues of all the three vars., 28 days after inoculation. Quantitative changes in protein concentrations were accompanied with qualitative alterations in protein patterns. The increases in the peroxidase activity in the inoculated plants of all the three vars. were sharp, and more conspicuous in the resistant-reacting vars. The qualitative changes in peroxidase activity were characterized by (i) formation of new components only after nematode infestation of host tissues (ii) increased or decreased intensity of newly formed isozymes (iii) changed intensity of pre-existing components and (iv) disappearance of some components after the parasitic invasion of host tissues. Contrary to the resistant var., the inoculated susceptible var. failed to restore the shift in enzymic balance, 28 days after inoculation.

**INAGREIUS GLORIOSUS GEN. N., SP. N. AND DESCRIPTIONS OF  
THREE NEW SPECIES OF XIPHINEMA COBB, 1913 ALONG  
WITH REPORT ON X. RADICICOLA T. GOODEY, 1936 AND  
X. ELONGATUM SCH. STEK. & TEUN., 1938 (NEMATODA :  
LONGIDOROIDEA) FROM INDIA**

BY

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*Inagrei* gen. n. is proposed and diagnosed under the subfamily Paralongidorinae for forms having small cup like amphidial pouch, with the basal lining bilobed, amphidial aperture slit like; lip region set off and is followed by a second constriction. *Siddiqia beryllus* is designated as the type species. *I. gloriosus* gen. n., sp. n. collected from soil around pomegranate roots at Nagarjun Konda, Andhra Pradesh, is distinctive by the long body, dorsally convex conoid tail which is slightly longer than anal-body-diameter. *Xiphinema nagarjunensis* sp. n. also collected from Nagarjun Konda, is characterized by small body size set off head and protoplasmic core extending more deeply in tail region. *X. mamillocaudatum* sp. n. collected from Assam has a short body, opisthodelphic gonad and hemispherical tail with a short mammiolate peg. *X. neodimorphicaudatum* sp. n. isolated from soil around pear roots is unique in having more number of males than females, the former showing distinct sexual dimorphism in tail character. Variations in *X. radicicola* and *X. elongatum* are reported.

***DUOTYLENCHUS BILINEATUS* GEN. N., SP. N. AND  
*TYLENCHORHYNCHUS BADLIENSIS* SP. N. (TYLENCHIDA :  
NEMATODA) FROM HARYANA, INDIA**

BY

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*Duotylenchus bilineatus* gen. n., sp. n. proposed under sub-family Duosulciinae is distinctive by having a post uterine sac and slit-like sublabial amphidial aperture. *Tylenchorhynchus badliensis* sp. n. is distinct by its flattened and anteriorly directed spear knobs and plain outer lines of lateral field.