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PATHOGENICITY OF *MELOIDOGYNE INCOGNITA* AND
TYLENCHORHYNCHUS VULGARIS ON BAJRA AND
THEIR INTERRELATIONSHIP

BY

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Pathogenicity tests gave conclusive evidence of the destructive potential of *Meloidogyne incognita* and *Tylenchorhynchus vulgaris* on bajra. A population level of 1000 larvae of *M. incognita* or adults and larvae of *T. vulgaris* per 500 g of soil was the marginal threshold level for damaging the plant growth in terms of shoot length, shoot weight and root length. The host infestation in case of root-knot nematode and multiplication in both nematode species proved bajra to be a good host. The effect of combined inoculum of these nematode species on plant growth was additive. *T. vulgaris* exhibited antagonistic relationship towards *M. incognita*, while *T. vulgaris* itself reproduced better in the presence of *M. incognita*.

STUDIES ON THE LANCE NEMATODE *HOPLOLAIMUS INDICUS*
I-PATHOGENICITY AND HISTOPATHOGENESIS ON MAIZE

BY

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One hundred *Hoplolaimus indicus* per 500 g soil may cause significant growth reduction and stunting of maize in sandy-loam soil. The growth of plants was inversely correlated with the increasing initial nematode population. The nematodes may act as vagrant endoparasites causing root-lesions, thickening of cell wall and formation of tunnels in cortical region. In heavily infested roots sloughing off of epidermal and cortical tissues was noticed.

SOIL AND PLANT-PARASITIC NEMATODES FROM MAHARASHTRA,
INDIA. IV. TWO NEW SPECIES OF *TELOTYLENCHUS*
SIDDIQI, 1960 (TYLENCHIDA : NEMATODA)

BY

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Telotylenchus teres n. sp., collected around the rhizosphere of sugarcane at Pimpalgaon-Baswant, Nasik is distinctive in having knob-like, lip region $L=0.88-1.00$ mm, outer incisures crenate, anteriorly directed, spear knobs, cylindrical, elongate tapering tail with $T/ABW=3.4-5.0$ and an unstriated rounded tail terminus. *T. impar* n. sp., collected around the roots of grape vine at Sangamner Ahmednagar has $L=0.90-1.00$ mm, lateral fields with plain incisures, backwardly sloping, spear knobs, long oesophageal lobe and elongate conoid tail ending with unstriated terminus.

**BARE ROOT TREATMENT WITH SYSTEMICS FOR CONTROLLING
ROOT-KNOT NEMATODE IN TOMATO TRANSPLANTS**

BY

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Dimethoate at 500 ppm for six hours, phosphamidon and dichlofenthion at 1,000 ppm for eight hours were found to be effective root dips for suppressing the root-knot nematode, *Meloidogyne javanica* (Treub, 1885) Chitwood, 1949. Dimethoate was superior to phosphamidon and phosphamidon to dichlofenthion. But dimethoate at 750 and 1,000 ppm for six hours and at 500, 750 and 1,000 ppm for eight hours had reducing effect on tomato root growth.

OXYBELONDIRA N. GEN. (DORYLAIMIDA : OXYDIRIDAE) WITH
DESCRIPTIONS OF TWO NEW SPECIES

BY

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Oxybelondira n. gen. is proposed to accommodate *Belondira singularis* Williams, 1958 and *Belondira perplexa* Williams, 1958 and two new species collected from Malaysia and India. The new genus shares characters of the genera *Belondira* Thorne, 1939 and *Oxydirus* Thorne, 1939. *Oxybelondira penangi* n. sp. collected from soil around roots of jack tree from Penang, Malaysia is closely related to *Oxybelondira singularis* but differs in having a longer and narrower body and posteriorly located vulva. *Oxybelondira paraperplexa* n. sp. collected from soil around roots of banana from Imphal, Manipur, India differs from *Oxybelondira perplexa* in having a smaller body and posteriorly located vulva.

RELATIVE EFFICACY OF SELECTED NON-VOLATILE NEMATICIDES
IN FIELD FOR CONTROL OF ROOT-KNOT NEMATODES
ON OKRA AND TOMATO

BY

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Non-volatile nematicides fensulfothion, carbofuran, mocap, phorate and aldicarb at different dosages and methods of application were evaluated in field to control *Meloidogyne incognita*, *M. javanica* infecting okra and tomato. Mocap at higher dosages (6 and 8 kg AI/ha in okra and 10 kg AI/ha in tomato) was phytotoxic and reduced yield. The yield of okra and tomato in other nematicidal treated plots was increased when compared to untreated plots. The yield increase was not proportional to root-knot control obtained in nematicide treated plots. Spot application was superior than row or broadcast in reducing root-knot incidence. However, broadcasting the chemicals and then incorporating into the soil increased the yield of tomato. Systemic nematicides significantly reduced the incidence of viral diseases on tomato but not yellow vein mosaic of okra.

SOIL AND PLANT-PARASITIC NEMATODES FROM MAHARASHTRA,
INDIA. V. *TYLENCHORHYNCHUS PUNENSIS* N. SP. AND
MERLINIUS MACROPHASMIDUS N. SP.
(NEMATODA : TYLENCHIDA)

BY

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Tylenchorhynchus punensis n. sp., collected around the rhizosphere of egg plant from Manjri Farm, Pune, is distinctive in having L=0.60-0.75 mm, lip region continuous with body contour bearing 2-3 annules, lateral field with crenate outer incisures, spear 16-18 μ m long and postanal blind sac present. *Merlinius macrophasmidus* n. sp., collected from soil around grape roots at Pune, is characterized in having 0.76-0.99 mm, long body, spear 24-26.5 μ m long, phasmids large and tail bluntly conoid with striated terminus.

OCCURRENCE AND DISTRIBUTION OF *RADOPHOLUS SIMILIS*
(COBB, 1893) THORNE, 1949 IN SOUTH INDIA

BY

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The burrowing nematode, *Radopholus similis* is widely distributed in South India associated with coconut, arecanut, banana and pepper. In coconut and arecanut plantations *R. similis* occurred maximum in sandy-loam soil. Banana as an intercrop was found to favour multiplication of *R. similis* in arecanut gardens. A range of 10–20°C was the optimum temperature for extraction of active *R. similis* population from banana and pepper roots. The introduction of *R. similis* to a new area through infested coconut seedlings recorded here, warrants the need for immediate intra and interstate regulatory measures against distribution of nematode infested planting materials.