SPECIES OF DISCOLAIMUS (NEMATODA: DORYLAIMOIDEA) FROM AUSTRALIA

BY

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Five species of Discolaimus collected from Australian mallee soils are described: D. major, D. texanus and three new species. In each species the lip region is an expanded, saucer shaped disc with distinct rim, divided by grooves into six sectors on the anterior surface, and variously lobed on the under surface. D. agricolus n. sp., monosexual, L = 1.30-1.73 mm, V = 45-48, odontostyle = 21-23 µm, has a multi-lobed lip region similar to D. major and an anterior oesophagus of uniform diameter throughout. D. silvicolus n. sp., monosexual, L = 1.16-1.89 mm, V = 51-53, odontostyle 20-22 µm, has a distinctively lobed lip region and prominent sheath around the basal oesophageal expansion. D. elegans n. sp., monosexual, L = 1.11 to 1.20 mm, V = 50-53, odontostyle 14-15 µm, has three rows of lateral body pores. In D. major, D. agricolus and D. silvicolus a group of large cells of unknown function is present in the cardiac region. Two subventral longitudinal grooves in the odontostyle and numerous ventral and dorsal body pores are present in all five species.

Keywords: Taxonomy, morphology, soil nematodes.

Four species of Discolaimus are common in irrigated horticultural lands along the Murray river in northwest Victoria-southwest New South Wales (the Sunraysia region) and eastern South Australia (the Riverland region). They have not been found in uncultivated lands. A fifth species occurs in adjacent native Mallee (Eucalyptus spp.) forest, but not in the horticultural areas. Populations recovered from soil samples are of small to moderate size - less than 100/kg of soil. Two of the species associated with horticulture, despite some differences from published descriptions, are assigned to known species, the others are new. This paper presents descriptions of the five species found to be common in the area and includes SEM observations on two of them.

The populations examined were collected from many different sample sites over a period of many years, but all were processed similarly. Specimens separated from soil by elutriation were killed by heating in a small drop of water and transferred to four percent formalin for a minimum of 24 hours before processing to glycerine by Seinhorst’s method, involving dehydration by vapour exchange in an alcohol/water mixture, and glycerine infiltration by evaporation of alcohol from an alcohol/glycerine mixture at 40°C.

DESCRIPTIONS

Discolaimus major Thorne, 1939
(Fig. 1, A-E; Fig. 2, A-F)  

Females (n = 25): L = 1.45-1.88 (1.71) mm; a = 27-41 (33); b = 3.8-4.5 (4.2);