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Plant and soil nematodes from Lokchao Yangoupokpi Wildlife Sanctuary, Manipur, India

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The Lokchao Yangoupokpi Wildlife Sanctuary, renowned for its rich biodiversity, is situated in Chandel District of Manipur (94°13′5″-94°23′51″E & 24°13′51″-24°26′N) covers an area of 184.80km². The eastern side of the Sanctuary borders with Myanmar:

There is little information available on invertebrate fauna of the sanctuary, particularly on nematodes. In the present study soil samples were collected from the sanctuary to investigate about what nematode species are associated with different plant hosts. Nematodes are round, microscopic, un-segmented, transparent, thread-like animals, found in almost every kind of environment. These nematodes may be plant-parasitic, predaceous, or free-living feeding on bacteria and other detritus food. Each nematode trophic group plays a significant role in the energy cycle of the habitat.

Nematodes were extracted from soil by sieving and decantation methods using Baermann's funnels; fixed in warm 4% formalin-acetic acid (1:1) solution and mounted in anhydrous glycerin. The analysis yielded 18 species of plant-parasites, 12 of predatory and nine of free-living nematodes which belonged to 12 families under three orders (Table 1).

The present study shows rich nematode diversity in Lokchao Yangoupokpi Wildlife Sanctuary. Twenty-five genera of nematodes were encountered. Of these 12 genera consisting of 18 species belong to the phytonematode group, six genera consisting of nine species belong to the free-living group while seven genera consisting of 12 species belong to the predatory group. The parasitic nematodes encountered were ectoparasites. No significant external symptoms due to the parasitic nematodes could be found. More intensive survey in the deep interior areas of the sanctuary will yield more species of nematodes.

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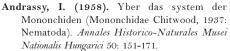
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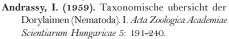
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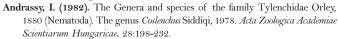
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Table 1. List of plant and soil nematode species recorded from Lokchao Yangoupokpi Wildlife Sanctuary

Namatodes	Host	Authors
Plant-parasitic Aglenchus muktii Coslenchus assamensis Coslenchus costatus Boleodorus citri Boleodorus bambosus Basiria hissariensis Helicotylenchus dihystera Ogma omama Criconemella furniae Criconemella onoensis Criconemella ornata Discocriconemella limitanea Hemicriconemoides dipterocarpus Hemicriconemoides mangiferae	Unidentified grasses Cynodon dactylon Pers Cynodon dactylon Pers Plantago erosa Bambusa tulda Unidentified grasses Cynodon dactylon Pers. Asplenium delitescens Grass Bambusa griffithiana Ficus glomerata Roxb. Cynodon dactylon Pers Asplenium delitescens Dipterocarpus tuberculatus Roxb. Bambusa balcooa Roxb.	Phukan & Sanwal 1980 (Phukan & Sanwal 1980); Andrassy 1982 (De Man, 1921); Siddiqi 1978 (Javed 1982); Siddiqi 1986 Mohilal et al. 1999 Bajaj & Bhatti 1978 (Cobb, 1893); Sher 1961 Mohilal & Dhanachand 1998 (Luc 1959); Luc & Raski 1981 (Luc 1959); Luc & Raski 1981 (Taylor 1936); Luc & Raski 1981 (Raski 1958); Luc & Raski 1981 (Raski 1958); Luc & Raski 1981 (Luc 1959); De Grisse & Loof 1965 Mohilal et al. 2004 Siddiqi 1961
Hemicycliothernoldes mangiferae Hemicycliophora typica Xiphinema americanum Xiphinemella moreatum	Ficus glomerata Roxb. Mangifera indica Linn Dipterocarpus tuberculatus Roxb	de Man 1921 Cobb 1913 Dhanachand et al. 1991
Non-parasitic Belondira clava Axonchium saccatum Axonchium amplicolle Axonchium asacculum Thornenema cavalcantii Lagenonema clavicaudatum Tylencholaimus lokus Tylencholaimus minutus Proleptonchus amphidius	Vanguirea spinosa Hooke Spondias pinnata (Linn.f.) Kurz. Dipterocarpus turbinatus Quercus serrata Tamarindus indica Linn Punica granatum Dipterocarpus tuberculatus Roxb. Quercus dealbata Cynodon dactylon Pers.	Thorne 1939 Jairajpuri 1964 Cobb 1920 Siddiqi 1968 (Lordello 1955); Andrassy 1959 (Gambhir & Dhanachand 1990); Mohilal et al. 1996 Mohilal & Dhanachand 2003 Vinciguerra 1986 Jairajpuri 1964
Predatory Aquatides aquaticus Coomansus icarus Coomansus conoidus Cobbonchus impositus Iotonchus indicus Iotonchus terminus Hadronchus denticulus Parahadronchus subhonicus Parahadronchus andamanicus Mylonchulus index Mylonchulus minor Mylonchulus sigmaturus	Psidium guajava L. Vanguirea spinosa Hooke Wild grass Grass Dipterocarpus tuberculatus Roxb. Imperata cylindrica Beauv. Imperata cylindrica Beauv. Dipterocarpus tuberculatus Roxb. Psidium guajava Linn Musa paradisiaca L. Unidentified grass Unidentified grass	(Thorne 1930); Thorne 1974 Jairajpuri & Khan 1982 Mohilal & Dhanachand 1998 Mohilal & Dhanachand 1998 Jairajpuri 1969 Mohilal et al. 2000 (Dhanachand et al. 1991); Andrassy, 1993 Dhanachand et al. 1991 (Jairajpuri 1963); Mulvey 1978 (Cobb 1906); Cobb 1917 (Cobb 1893); Andrassy 1958 (Cobb 1917); Altherr 1953

Lagenomema Andrassy, 1987 from Manipur. Uttar Pradesh Journal of Zoology 16: 36-38.

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