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Summary and Conclusions

In the present study, one hundred soil samples were collected for studying its role in transmission of nematode stages (eggs and larvae) to domestic animals and birds (forty soil samples were collected from around farm stables, 10 from around poultry farms and 50 from around farmer houses). They were examined by centrifugation technique for eggs and Bearmann technique for larvae.

The rate of positive samples from around animal stables was 57.5% for eggs and 37.5% for larvae. In addition percentage of positive samples from around farmer houses was 34% for eggs and 18% for larvae. No eggs or larvae of nematodes were encountered in soil samples collected from around poultry farms.

Eggs of *Neoscaris vitelorum*, *Bunostomum* sp., *Oesophagostomum* sp., *Ascaridia galli*, and *Syngamus trachea* were encountered. On the other hand, 3rd stage larvae of *Cooperia punctata*, *Oesophagostomum radiatum*, *Bunostomum phlebotomum*, *Trichostrongylus* sp., *Dictyocaulus filaria*, *Protostrongylus* sp., and 2nd stage larvae of *Skrjabinocaulus* sp. together with 1st stage larvae of *Strongyloides papillosus*.

From soil samples around animal stables, eggs of *Neoscaris vitelorum*(60.9%) and *Bunostomum* sp. (39.1 %), while the larvae were *Bunostomum phlebotomum* (33.4%), *Trichostrongylus* .sp. (20 %), *Dictyocaulus filaria* (13.4 %), *Strongyloides papillosus*(13.4 %), *Cooperia punctata* (6.7%), *Protostrongylus* sp. (6.7%) and *Skrjabinocaulus* sp. (6.7 %) were encountered. The presence of such eggs

and larvae represented faecal pollution of the soil and is considered as a hazard for transmission of these nematode parasites to domestic animals.

From soil samples around farmer houses, eggs of *Neoscaris vitelorum* (41.2 %), *Oesophagostomum sp.* (23.5 %), *Ascaridia galli*(29.4 %) and *Syngamus trachea*(5.9 %), while larvae of *Oesophagostomum radiatum* (66.7 %) and *Bunostomum phlebotomum*(33.3 %) were encountered. This represent a hazard of human infection especially with visceral larva migrans.

No eggs or larvae of nematodes were encountered in soil samples collected from around poultry farms. This may be due to veterinary care of poultry, giving them prophylactic and therapeutic drugs.

Eggs and larvae encountered were described and identified at least the genus level, or to the species level whenever possible. All encountered stages were photomicrographed to show the characteristic morphological features. They were compared with nematode stages previously described.

In the second part of this work, eggs of *Ascaridia galli* were cultured at room temperature. Embryonation of eggs started to occur on the third day, where 2-cell stage embryos were noticed, on the 7th day, 4 – cell stage embryos developed, on the eleventh day, 8-cell stage embryos were found and on the fourteenth day the morula stage appeared. Complete embryonation with the development of larvae within egg shell occurred on the 16th day. All stages of embryonation were photomicrographed. Second stage larvae were obtained by the use of magnetic stirrer for 25 minutes. The larvae were described and microphotographed.

In a trial to find out if *Ascaridia galli* can induce visceral larva migrans in laboratory mice (and thus also in humans), the experimental inoculation of 1500 embryonation eggs/mouse /per mouth succeeded in inducing pathological features indicating larval invasion in the intestine, liver and lung while cross sections in the larval stage were seen in lungs of animals killed 10 days post-infection.