NEW DATA ON EPIDEMIOLOGY AND LIFE CYCLES OF PROTOSTRONGYLUS IN SPAIN.


4,625 snails (11 spp. of Helicidae) were studied for natural infection by Protostrongylinae. 7 Cernuella & Helicella spp. were found infected by C.o., M.c., N.l., & Protostrongylus spp. Experimentally the most convenient hosts were: Cernuella (C,) virgata for C.o.; Monacha (A,) granulata for M.c.; Cochlicella barbara for N.l.

By infecting Cernuella (X,) cespitum arigonis with dosis from 50 up to 1,000 L1/snail it was proved that penetration and evolution up to L3 was function of dosis with C.o. In N.l, penetration into the snail was density dependent in a quadratic function, and evolution to L2 gave less larvae than to be expected in proportion to the dosis, while still density dependent. Practically all L2 passed to L3. M.c. was highly dependent on the density of larvae for penetration (a 3rd degree function). Evolution from L1 to L2 above a certain dosis goes down and the same for L2 to L3.

Internal migration of N.l. was studied in 19 lambs infected by 5,000 L3 and killed from 24 hours up to 60 days p.i. Larvae were present in the wall of caecum and colon during the first 24 h, but 48 h. p.i. they had disappeared from the enteric contents. From 3-5th days they were in the liver. The arrival in lung started on 3rd day and by 10th day p.i. all had already reached the lungs. The first L4 were found on 8th day and L5 from 16th day onwards. The main migration route is haematic, but some larvae follow the lymphatic system through caeco-colic glands. Patency began from 44-55 days p.i.