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3079

The egg-laying capacity of clonorchis sinensis.*

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Evidence presented from our investigation indicates that *egg-laying in Clonorchis sinensis* is neither periodic nor irregular, but is a *continuous process,* beginning as soon as the worm matures and probably continuing until the death of the worm. *Variations in the number of eggs in the stool are due to irregularities in fecal output of the host, to differences in consistency of the stool, and to temporary lodgement of eggs in the bile tracts or gall bladder,* and are not due to actual differences in egg-production per unit of time. Mature worms in recently acquired infections have the same egg productivity as worms that have resided in a host for many months. *In a given species of host egg-production per worm unit of time is constant. There is,* however, *a difference in egg-production in different species of hosts,* apparently independent of the size of the host. For this reason data on the relation of Clonorchis egg-production to the number of worms present in experimental mammals are not directly applicable in human cases of Clonorchis infection. Reckoning from the relation of the average number of eggs per worm per day found in the host's feces to the number of worms found at autopsy of the host immediately after egg-counts have been completed, the *average egg-laying capacity of Clonorchis sinensis in the cat is* 2400; *in the guinea pig, about* 1600; *while in the dog it is estimated at about* 1100.

* Contribution No. 72.

Data are presented to show that *calculations* of Clonorchis worms present in the bile passages, *based on the average number of eggs per worm per diem* in an infection in a particular species of host are more reliable than those based on the average number of eggs per gram of feces (Stoll method). Minimum daily egg-production per worm *per diem* is always sufficient to provide 100 eggs per gram of formed feces, *i. e.*, 1 egg per microscopic slide in decinormal NaOH dilution (Stoll technic), except in very bulky stools such as occur at times in dogs.

This modified Stoll technic, which we have utilized in detecting the presence of Clonorchis ova in experimental animals, is recommended for use in human cases suspected of having Clonorchis infection, and as a check following treatment for clonorchiasis.

3080

Experimental therapy in clonorchis infections.

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Utilizing the method worked out by Faust and Khaw, as presented in the preceding paper, for estimating the number of Clonorchis worms present in the bile passages of laboratory animals, on the basis of the average daily egg count from weighed samples of stools, the authors have tested the effect of gentian violet and mercurochrome on cats and dogs. Both mercurochrome and gentian violet, administered orally in the form of salol coated pills, have a direct effect on egg-production in Clonorchis, in that they greatly accelerate the speed of production. Under these conditions eggs are immature when laid and are frequently imperfect and non-viable.

This phenomenon of hyperproductivity of Clonorchis ova after therapeusis is not directly dependent on the clonorchicidal effect

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