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Occurence of *Echinoparyphium Recurvatum* (Linstow, 1873) in Chickens in Iowa

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During August, 1951, two White Leghorn chickens about three months old were brought to the Diagnosis Department of Dr. Salsbury's Laboratories because the birds were droopy and not developing properly. The death loss in the flock had been about five percent. At necropsy these birds showed enlarged spleens, congested livers and pale kidneys. A catarrhal enteritis was found in the jejunum and associated with this were numerous flukes. Unfortunately none of these were saved for identification. The flockowner was instructed to move the birds away from the area in which they had been maintained and to treat the birds with a proprietary anthelmintic, WORMAL, containing the active ingredients nicotine, phenothiazine and dibutyltin dilaurate. The tetravalent tin compound has recently been shown to be effective against poultry cestodes, Kerr (1952).

As soon as this infection came to our attention we requested the flockowner to send several birds to us. He forwarded three additional birds which had already been treated as we directed. A fecal examination of these three birds revealed trematode ova in two of them. The two infected birds were each given 125 mgm. dibutyltin dilaurate as a single oral dose by capsule. All droppings passed for 48 hours subsequent to treatment were washed in a screen and examined for worms. Approximately ten flukes were recovered from one bird. The birds were killed on the fourth day following medication. No flukes were found in them. It was not possible to make a definitive identification of the flukes passed as a result of the medication because none of them were intact. However, a tentative identification as *Echinoparyphium recurvatum* was made.

During September the farm from which the birds originated was visited in an attempt to determine the source of the infection. The farm is located in Hancock County about three miles west and five miles north of Britt, Iowa. The immediate terrain is rolling with several natural ponds which, even in the driest years, always contain water. On one of these ponds, immediately adjacent to the area in which the chickens had been maintained, a coot and her clutch of young were observed. The two houses in which the chickens were brooded had been located along a slope, at the bottom of which ran a small creek. The creek emptied into the pond on which

the coots were living. The creek provided the only water supply for the chickens.

Snails, *Physa sp.*, were fairly abundant in the creek. About 150 of them were collected from the area closest to the site where the brooder houses had been located. In the laboratory these snails shed two species of cercariae, a furcocercous and a stylet cercaria. Upon crushing some of these snails an ovoid metacercaria was found in the mantle cavity.

Two New Hampshire chickens, three weeks old, were each given an uncounted number of metacercaria by pipet into the back of the throat. Three weeks later these birds were killed and their intestines examined for flukes. In one bird one mature fluke was recovered from the jejunum. This intact specimen was identified as *Echinoparyphium recurvatum*. No epithelial lesions were noted except at the site of attachment, for the spiny collar and the anterior sucker of the fluke were rather firmly embedded in the mucosa. It is presumed that the fluke feeds on blood, at least in part, because the anterior portion of its intestine was filled with blood.

The occurrence of this fluke in chickens is not a new finding, for Todd (1947) reported the recovery of two specimens of this species from a Barred Rock hen examined in Washington County, Tennessee. Annereaux (1940) has reported finding this fluke in turkeys in California. The latter author reported a severe inflammation of the upper part of the small intestine of the infected turkey poults. That report and our findings indicate that when the infections are severe enough the fluke can cause considerable damage to the growing birds.

It is hoped that further studies can be conducted on this fluke, particularly with reference to the anthelmintic activity of the organic tin derivative.

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