

depends perhaps not only on the immediate reaction mechanisms that follow the injury, but also on the relatively independent function of the ganglionic system that is capable of facilitating the acquisition of information at the segmental level. Although headless and intact systems do not differ significantly with regard to the acquisition of learning, the better performance of the headless animals during the initial five-minute period could be attributed to the integral organization of segmental ganglionic system that can independently regulate the acquisition of information irrespective of the imposed cephalic inhibition. It is probable that effective coordination between brain and nervous system in intact animals facilitates the retention capacity of the information processing system, although brain by itself may not directly influence the retention of acquired information. In spite of the postural learning of leg position being predominantly a segmental phenomenon, a possible secondary role of brain in processing, storage and consolidating the retention of information could be considered to some extent in view of the transfer of learning known to occur between the segments of nervous system<sup>7</sup>. This aspect of study may throw some light upon the intermediary mechanisms involved in the process of learning and consolidation of traces of memory.

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ON A NEW COCCIDIUM, *EIMERIA LOPHURAE*  
N.SP. (PROTOZOA : EIMERIIDAE) FROM  
KALIZ-PHEASANT, *LOPHURA LEUCOMELANA*

FROM pheasants, seven eimerian species have been described<sup>1-3-5</sup>. So far there is no report of any coccidium from Kaliz-pheasant, *Lophura leucomelana*. The present communication deals with a new species, *E. lophurae* from this host.

Fresh droppings of a Kaliz-pheasant, collected during our visit to Delhi Zoo in December, 1974, revealed on microscopic examination coccidian oocysts. The material was left in 2.5% potassium dichromate solution for sporulation in a clean Petri-dish. Sheather's sugar solution was used for concentrating the oocysts by centrifugation<sup>2</sup>.

*Eimeria lophurae* n. sp. (Fig. 1).

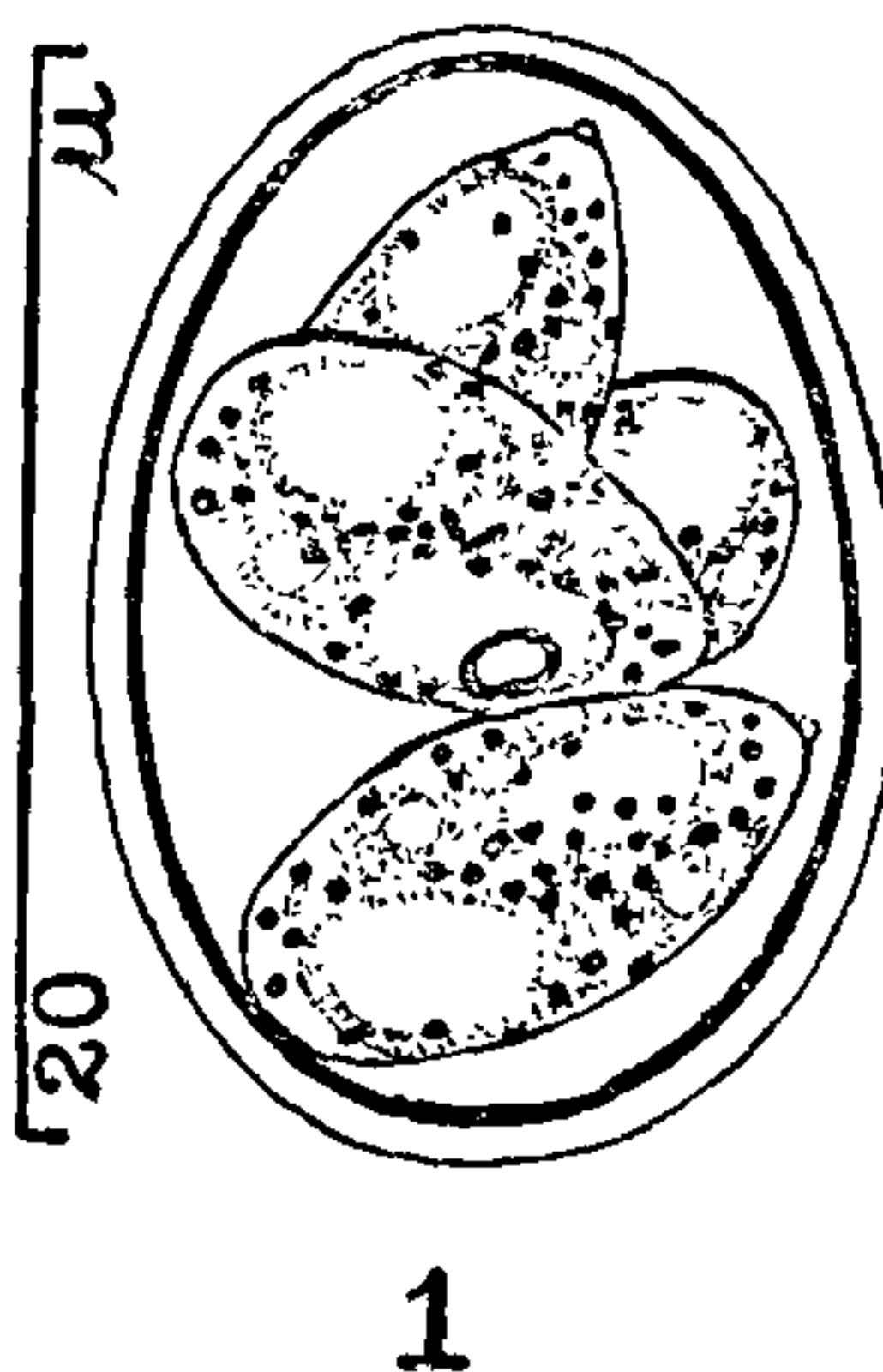


FIG. 1. Sporulated oocyst of *Eimeria lophurae* n. sp.

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Oocysts ellipsoidal, 20–24  $\mu$   $\times$  14.6–17.3  $\mu$  (21.8  $\times$  16.1) in size, had an oocystic wall of 1.3  $\mu$  thickness with an outer yellowish green and inner bluish brown layers. Length width ratio was 1.23–1.50 (1.35). Oocystic residuum absent. An ovoid dark polar granule present. Sporocysts, ellipsoidal with a narrower anterior end carrying a small knob-like stieda body, measured 10.7–12  $\mu$   $\times$  5.3–6.7  $\mu$  (11.4  $\times$  6.3). Sporocystic residuum present as dark scattered granules. Sporozoites, elongate, with one end broad and rounded and the other tapering carried one large and the other small refractile globule.

The present material differs from *E. dispersa* in which the larger oocysts have neither a polar granule nor a stieda body. In *E. phasiani* the oocysts are elongated ellipsoidal in shape, having a

bright opercle and sporozoites carrying one globule. The oocysts in *E. pacifica*, *E. duodenalis* and *E. putus* differ because of their ovoid shape. The oocystic shape and a greater oocystic size and thickness of its wall differentiate the oocysts of *E. megalostomata* from the present species. The large sized oocysts in *E. colchici* are easily distinguished by their elongated shape and the presence of a micropyle. The present oocysts are, therefore, assigned to a new species, *E. lophurae*—the first coccidium from Kaliz-pheasant (*Lophura leucomelana*).

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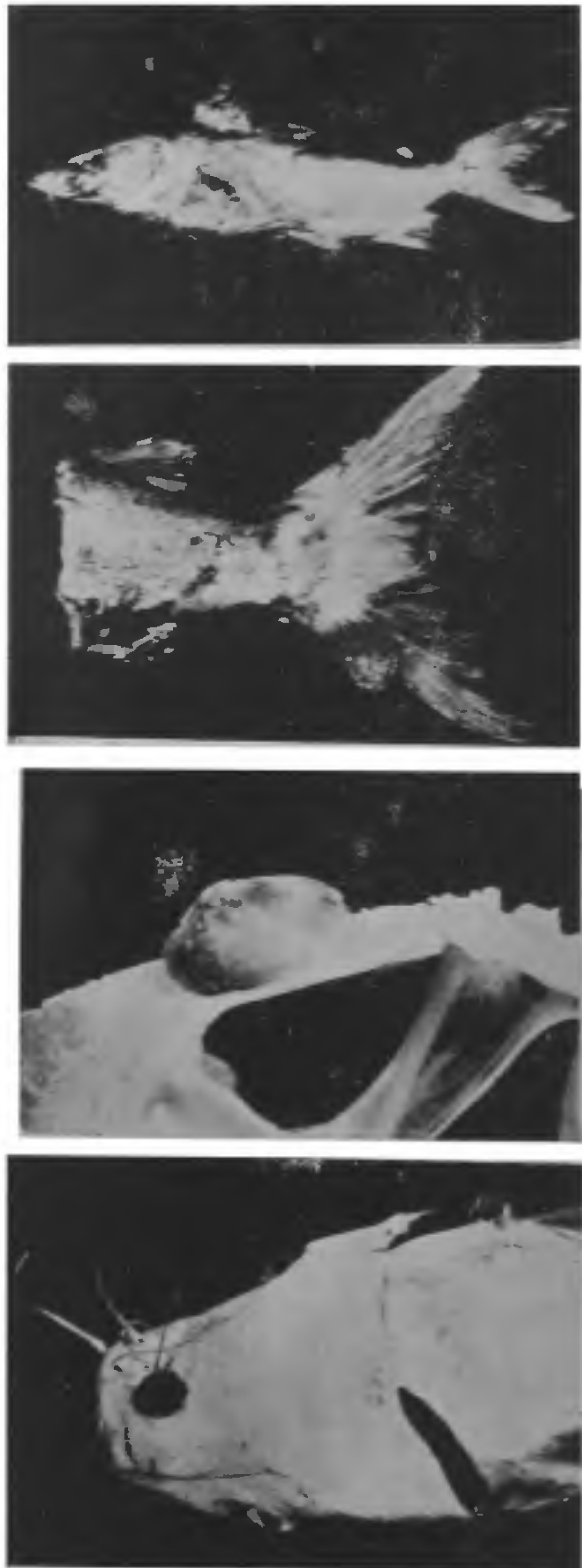
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#### ON THE OCCURRENCE OF OSTEOMA IN A MARINE CAT FISH

TUMOURS of bone (osteoma) in fishes were first reported as early as the 17th century<sup>1</sup> and the latest is by Selvaraj *et al.*<sup>2</sup>. The occurrence of osteoma in the marine cat fish, *Arius maculatus* (Thunberg, 1792)<sup>3</sup> occurring in Porto Novo waters in the East Coast of India is reported here. A survey was made during the past 3 years (1973–1975) and interestingly *A. maculatus* was the only fish affected by osteoma. The details on number of specimens examined and the nature of tumours are given in Table I.

A total of 17 tumour affected fishes were collected during the period of survey. The caudal and dorsal fins were found to be the most commonly affected areas (Figs. 1 and 2). In 2 cases the tumours were found on the rostrum (Fig. 3—skin removed). In only one fish a tumour was

found on one of the barbels (Fig. 4). The tumours



FIGS. 1-4.