Table 1 *Effect of ovariectomy on the HPC during the first ovarian cycle*

Age (days)	HPC (g/100 ml) ± SE Control	Ovariectomized	*P* values
1	8.05 ± 0.66 (4)	8.09 ± 0.47 (4)	NS
2	11.39 ± 0.26 (3)	12.02 ± 0.40 (4)	NS
3	17.35 ± 0.63 (3)	16.47 ± 0.57 (4)	$P < 0.05$
4	6.24 ± 0.47 (5)	17.02 ± 0.87 (3)	$P < 0.001$
5	7.59 ± 0.46 (3)	16.88 ± 0.40 (4)	$P < 0.001$
6	8.46 ± 0.40 (4)	17.62 ± 0.42 (4)	$P < 0.001$
7	6.50 ± 0.30 (3)	16.42 ± 0.28 (3)	$P < 0.001$

Figures in parentheses indicate the number of observations.

remained unchanged in ovariectomized controls (table 2).

Since ovarian development largely depends upon the VG, ovariectomy was performed as early as in 2-day-old ultimate larval instar to see if it could interfere with the synthesis of these proteins. Since the operation has no effect either on FBPP or HPC, it indicates the absence of any inhibitory ovarian factor in this insect. The persistence of VG in the haemolymph of ovariectomized insects is apparently due to the lack of the ovaries that drain them and in the fat body possibly due to their inability to come out into the haemolymph, it being saturated with VG in the absence of ovaries. The same reason could be attributed to the lack of fluctuations in the HPC of the ovariectomized insects. However, the limit of 17 g/100 ml of protein concentration both in the control and ovariectomized insects (table 1) seems interesting in so far as it is suggestive of a built-in (genetic) mechanism that shuts off protein synthesis in the fat body once its level programme for synthesis has been achieved. A negative feedback as a possible cause of this phenomenon is ruled out since it can operate only in ovariectomized insects (in which it may be brought into play by the VG saturating the haemolymph) and not in the normal ones (where the question of saturation of haemolymph with the VG will not rise).

24 March 1986

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Table 2 *Effect of ovary implantation on the HPC*

Days after implantation	HPC (g/100 ml) ± SE Control	Experimental	*P* values
1	17.06 ± 0.86 (4)	17.23 ± 0.96 (4)	NS
2	16.36 ± 0.56 (3)	16.82 ± 0.98 (3)	NS
3	16.28 ± 0.76 (4)	15.75 ± 0.90 (4)	NS
4	15.88 ± 0.45 (4)	12.68 ± 0.67 (4)	$P < 0.01$
5	15.39 ± 0.60 (5)	9.32 ± 0.52 (3)	$P < 0.001$
6	16.08 ± 0.70 (4)	8.23 ± 0.43 (4)	$P < 0.001$
7	16.23 ± 1.23 (4)	8.07 ± 0.41 (5)	$P < 0.001$

Figures in parentheses indicate the number of observations.

A REPORT ON FOLLICULAR CYST IN THE PITUITARY OF THE BAT, *HIPPOSIDEROS SPEORIS* (SCHNEIDER)

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ADENOHYPOPHYSIAL cell types in male and female bats of three species (*Hipposideros speoris*, *Pipistrellus ceylonicus chrysothrix* and *Cynopterus sphinx sphinx*) and seasonal variations in them according to

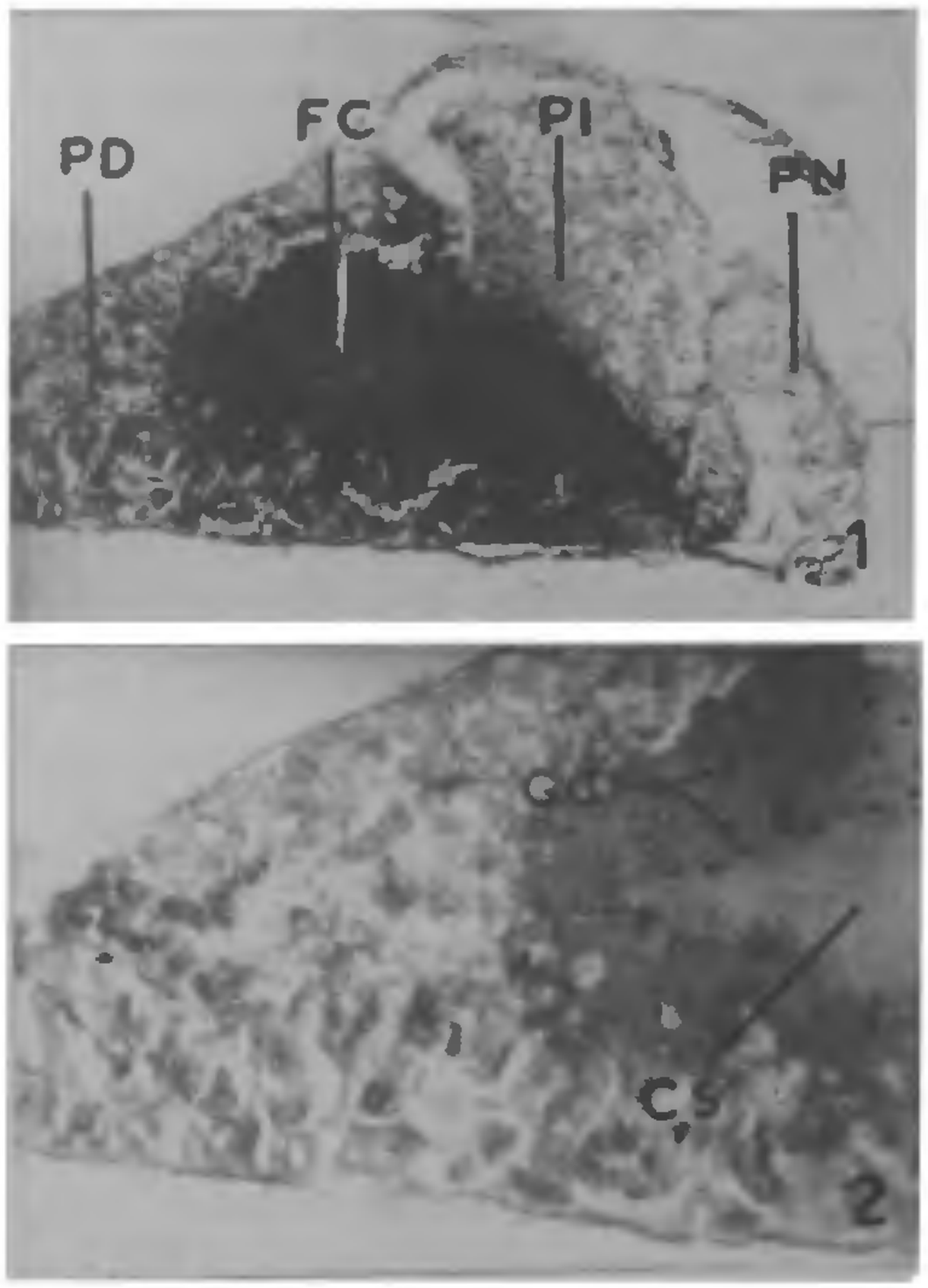
their breeding cycles were reported earlier[1]. The follicular cyst was noticed only in the pituitary of one of the females of *H. speoris*. The follicular cyst filled with colloidal material has been reported in the pituitary of palm squirrel[2], musk shrew[3], plains viscacha[4], humans[5–10] and wall lizard *Hemidactylus flaviviridis*[11]. The follicular cysts in the pituitary have been described in detail and the existing literature on follicular cysts has already been reviewed[11–13].

Five to six males and similar number of females of adult *H. speoris* were collected monthly (60 males and 72 females in a year). The animals were killed by decapitation and the pituitary was dissected out with part of the brain. The tissues were fixed in formal-sublimate for 24 hr washed in running water, dehydrated in ethanol grades, embedded in paraffin and sections were cut at 4 μm. After dewaxing and hydration the mercury precipitate was removed by Lugol's iodine and hypo. The sections of pituitary were stained with periodic acid-Schiff (PAS)-Orange G[14], PAS-Orange G-Methyl blue[15], Mallory's triple stain[16] and Crossmon's modified technique[17].

One of the pituitaries in female *H. speoris* during anestrous phase (date of collection 7 July, 1983) contained a large follicular cyst (figures 1 and 2). The cyst occupied about two-third of the pars distalis and it was bordered by pars intermedia towards caudal end. The cyst wall was multilayered (figure 2) and consisted of goblet-like cells interspersed between cuboidal to columnar epithelial cells. The lumen of the cyst was filled with colloidal secretion.

Romeis[9] considered all vesicles larger than pseudo-follicles as cysts and opined that the cysts are of normal occurrence in human pituitary. On the other hand the existing data indicate that cysts occur occasionally or rarely. In the present investigation cyst was found in the pituitary of one female among 132 specimens of this bat. Such as cyst was not observed in the pituitary of 150 specimens of *P. ceylonicus chrysothrix* and 162 specimens of *C. sphinx sphinx*. Pituitaries of nearly 100 wall lizards were studied by Haider[11] who observed cyst (Rathke's cyst) only in one pituitary. Shanklin[18] studied about 100 human pituitaries and found cyst in 13 cases.

As the contents of such cysts react with mucoid stains they are suggested to be mucopolysaccharides[9]. They are also stained positively with



Figures 1,2. 1. Median sagittal section of the pituitary of female *H. speoris* stained with Mallory's triple stain to show pars distails (PD), pars intermedia (PI), pars nervose (PN) and follicular cyst filled with colloid (FC). Green filter (×300). **2.** A magnified view of figure 1 showing goblet-like cells in the wall of the cyst (GC) and colloid secretion in the lumen (CS). Red filter (× 600).

PAS method[19]. Haider[11] reported that the cavity of the cyst in the pituitary of wall lizard was packed with PAS-positive material having colloidal or granular or foaming appearance. PAS-positive granules and droplets were very often seen among the epithelial cells lining the cyst wall. The globules were seen connected with the accumulated PAS-positive material in the cavity of the cyst. These observations indicate secreting nature of these cells.

In the pituitary of *H. speoris* also goblet-like cells in the cyst wall and the colloid secretion in the lumen stained positively with PAS, aniline blue and methyl blue. Evidently, mucoid material was secreted by the goblet-like cells. Further studies should

be carried out to characterize the nature of muco-substances in the follicular cysts.

26 May 1986; Revised 21 July 1986

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THROMBO AND LEUCOCYTIC STUDIES IN THE DOMESTIC FOWL NATURALLY INFECTED WITH *RAILLIETINA TETRAGONA* (CESTODA)

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THE present report concerns the changes in thrombocytic and leucocytic counts of the domestic fowl, *Gallus domesticus*, due to spontaneous infection with a gastro-intestinal cestode, *Raillietina tetragona*. About 25 cockerels and 17 pullets belonging to the age group of 3–4 months were examined. Among these, the uninfected (healthy) birds—8 cockerels and 7 pullets—were taken as controls for comparison. Total thrombocyte and total leucocyte counts were carried out with the blood drawn from the wing vein using Nambiar's diluting fluid[1]. A smear was also made from the same blood. Then the birds were decapitulated and they were weighed before defeathering them. The body was opened and the viscera was collected in separate polythene bags for each bird. The smears were stained with Wright-Giemsa technique as suggested by Hamre (see Lucas and Jamroz 1974)[2] and the differential leucocyte was counted following the method adopted by Sharma and Seetharaman[3]. From the total leucocyte count and the relative percentage values, the absolute counts of each of the white cell types were calculated. The visceral samples were thoroughly examined and worms (*Raillietina tetragona*), if any, were recorded according to their size and maturity[4]. The data have been shown in table 1.

Infected cockerels:

Slight drop in the total thrombocyte count was observed. There was no change in the total leucocyte count but the differential (relative and absolute) leucocyte count showed depletion in the numbers of lymphocytes and monocytes and a rise in heterophils, eosinophils and basophils.

Infected pullets:

Total thrombocyte count was almost equal to the normal. Leucopenia was marked and resulted from the fall in the numbers of lymphocytes, monocytes and basophils, which could not be compensated by