

monstrated the direct use of carbohydrates during flight of the moth, *Spodoptera frugiperda*. The use of carbohydrates during flight of some other lepidopterns is also indicated by the findings of Gussin and Wyatt¹³, and Stevenson¹⁴.

Another significant deduction that can be made from the data presented in table 1, is that the ratio of LDM to TSM is above unity in all the species of butterflies indicating a uniformly higher rate of glycogen deposition in the tergo-sternal muscles than in the longitudinal dorsal muscles. It is well known from the work of Snodgrass⁸ that tergo-sternal muscles are responsible for the upstroke of the wings while the longitudinal dorsal muscles help in the down stroke. Hence the quantum of mechanical work done in the two cases is different, the TSM being under greater stress than the LDM and hence requires more fuel reserves.

Table 1 Glycogen content of longitudinal dorsal muscles (LDM) and tergo-sternal muscles (TSM) of butterflies (Lepidoptera).

Sr. No.	Species	mg/Glycogen/g wet wt. \pm SD		Ratio LDM:TSM
		LDM	TSM	
A. Fami-Papilionidae:				
1.	<i>Papilio polytes</i>	4.65 \pm 0.06	5.58 \pm 0.03	1:1.25
2.	<i>Papilio demoleus</i>	2.40 \pm 0.08	4.19 \pm 0.02	1:2.29
B. Fami.-Pieridae:				
3.	<i>Irias marianne</i>	5.32 \pm 0.42	5.42 \pm 0.25	1:1.02
4.	<i>Eurema hecabea</i>	3.13 \pm 0.04	4.88 \pm 0.21	1:1.82
5.	<i>Catopsilia pyranth</i>	1.90 \pm 0.07	2.32 \pm 0.02	1:1.50
6.	<i>Catopsilia pomona</i>	1.66 \pm 0.08	2.22 \pm 0.01	1:1.85
7.	<i>Ixias pyrene</i>	1.65 \pm 0.04	3.40 \pm 0.08	1:3.68
C. Fami.-Danaiidae:				
8.	<i>Danaus chrysippus</i>	1.48 \pm 0.01	1.54 \pm 0.02	1:1.12

Each value is an average of atleast four determinations. SD = standard deviation. Ratios of LDM:TSM were calculated from their respective average values.

The authors are thankful to Dr S. S. Dhillon for providing laboratory facilities.

6 June 1983; Revised 5 December 1983

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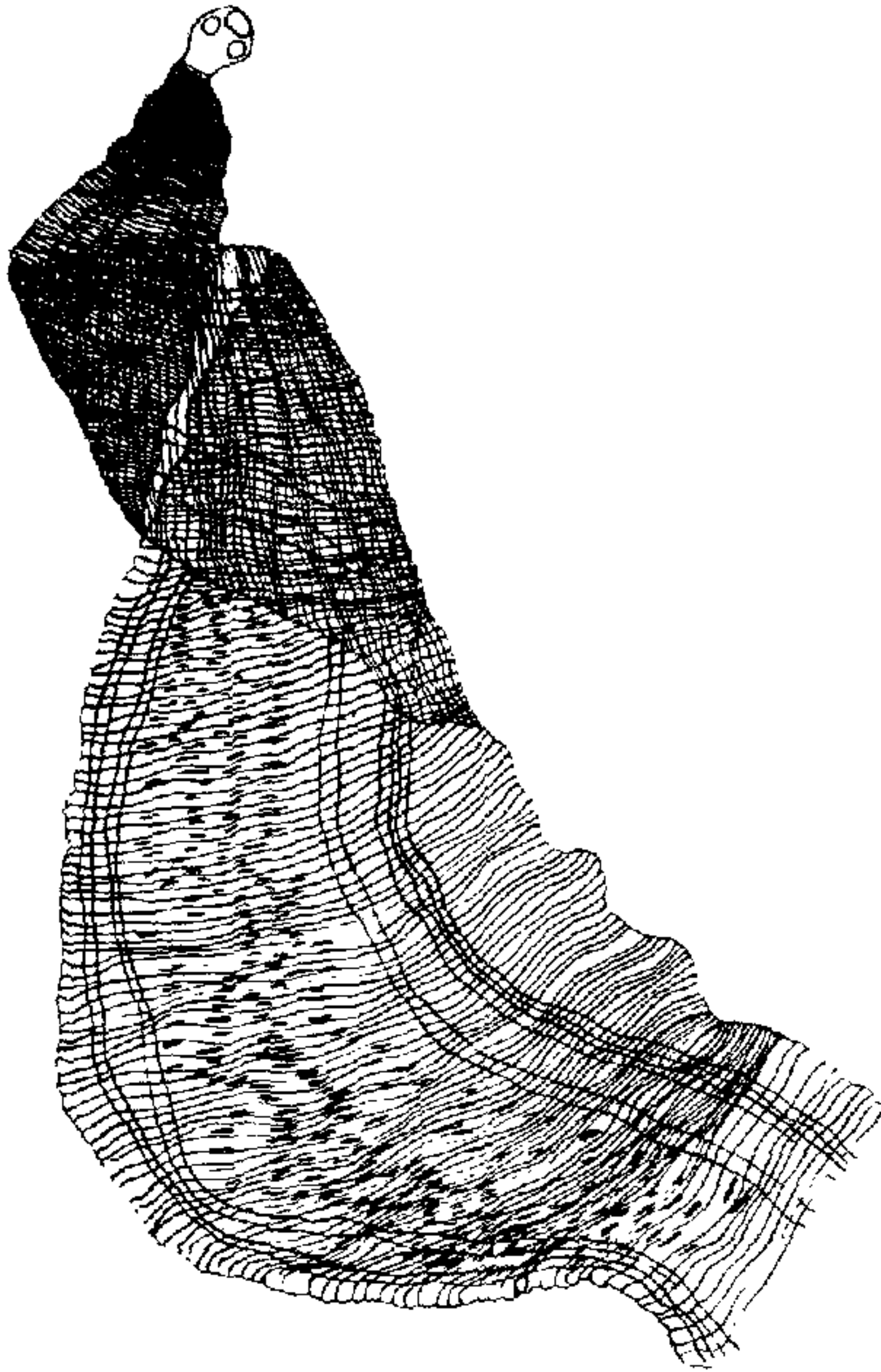
A NEW AVIAN CESTODE *PROFIMBRIARIA BACZYNSKAE* N. SP. FROM AN INDIAN SURKHAB

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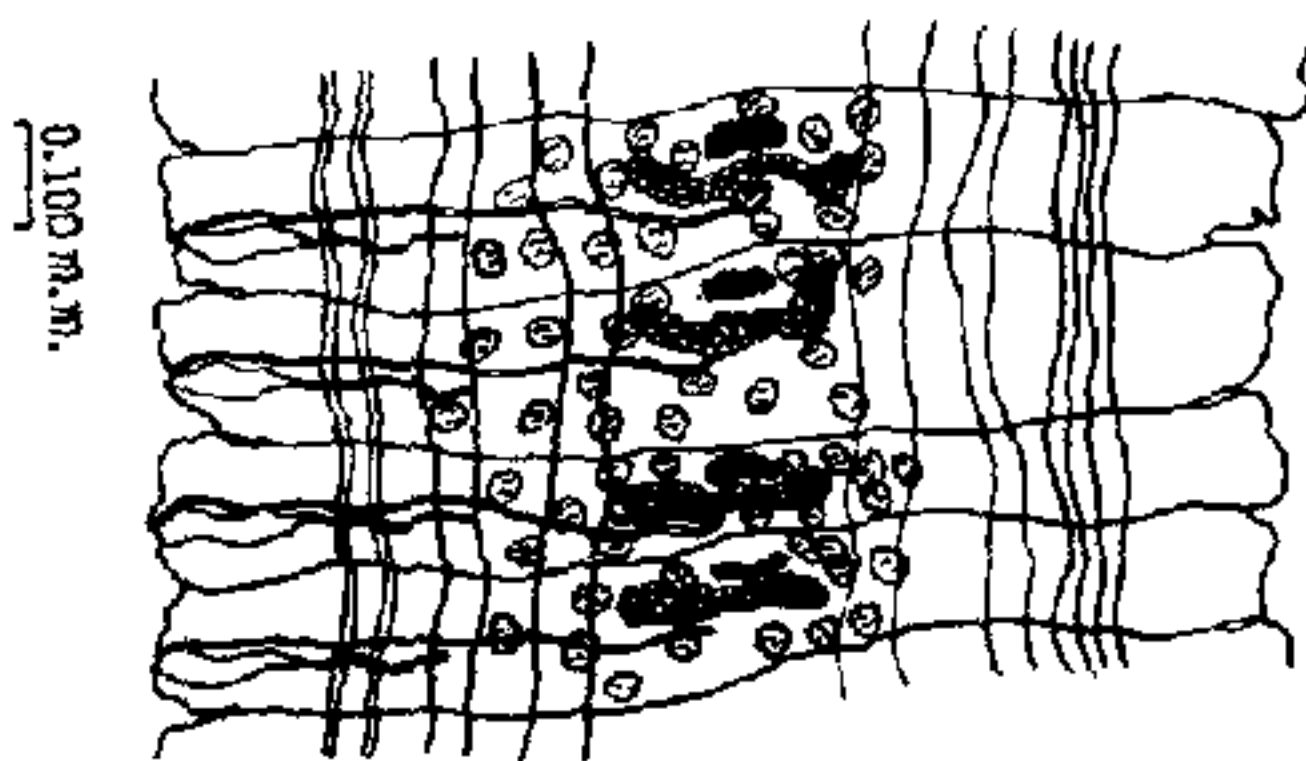
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THE paper presents the first Indian report on genus *Profimbriaria*¹, subfamily Fimbriariinae² of family Hymenolepididae³. The study was based on 24 worms collected from 3 surkhab, *Tadorna ferruginea* (Pallas) examined at Fatehpur and Pauri, U.P. The lone previous report on type species, *P. multicanalis*⁴ from *Scolopax gallinago* was from Russia. Yamaguti⁵ also considered this to be the only known species of the genus whose description was based only on the study of mature proglottides. However, the details of pseudoscolex, scolex (figure 1) and strobila of the present specimens revealed 33-108 \times 3.54 mm. worm



1



2

Figures 1 & 2. *Profimbriaria baczynski* n. sp. 1. Scolex and pseudoscolex $\times 50$; 2. mature proglottides $\times 50$.

size; rostellum small, protrusible with a prominent sac and 10 hooks in one row; unarmed suckers; genital primordia developed in pseudoscolex; testes 12–29 (20), lateroposterior and anterior to ovary (figure 2) but do not extend beyond excretory vessels and fill up entire medullary region; cirrus pouch antero-dorsal to vagina, not reaching excretory vessels; cirrus unarmed; internal and external seminal vesicles absent; a compact vitelline gland dorsal to ovary; uterus does not break down into egg capsules in gravid proglottides; genital pores unilateral in anterior half to mid-lateral proglottid margin; longitudinal muscle fibres well developed while circular muscle layer consists of only a few (2–3) fibres; and excretory vessels 8, 2 pairs dorsal and ventral each. The new species, *Profimbriaria baczynski* n. sp. differs from *P. multicanalis* in having larger proglottides, cirrus pouch, receptaculum seminis, and vitelline gland; unarmed cirrus; absence of external seminal vesicle; ovary extending almost halfway across medulla width and vaginal opening being devoid of spines. Holotype slide no. PCLS 0045/78 deposited with the Parasitology laboratory, University of Garhwal.

SKM is thankful to UGC, New Delhi for a research project.

17 September 1983

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