

and greater height has been treated as *E. altus* (Blyth). An examination of more than 50 specimens of *E. danricus* and 10 specimens of the subspecies has shown a good amount of similarity between the two, but revealed a marked difference in the height of body which is 3·8-4·3 in standard length in the former and 5·3-6·5 in the latter; according to Hora and Mukerji the same varies from 3·3-4·8 in *E. danricus* from different localities of India. The least depth of caudal peduncle also shows considerable variation being 6·7 in standard length in the former and 10-10·5 in the latter. A statistical analysis of the biometric data of large number of specimens from different localities of India may perhaps result in recognising more than one subspecies of *E. danricus*. The new subspecies can be easily distinguished by its very narrow body, straight dorsal and ventral profile and very narrow caudal peduncle.

The holotype 40 mm (V. 2060) standard length and the paratypes 38 mm (V. 2061), 37·5 mm (V. 2062) and 36 mm (V. 2063) standard lengths are deposited in the collection of the Central Regional Station, Zoological Survey of India, Jabalpur. Register numbers are given in the parenthesis.

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December 24, 1969.

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| Fish. 1 : 334.                          |                                     |

#### 14. A NOTE ON A HIGH INCIDENCE OF FLEA, INFESTATION IN *RATTUS RATTUS*

Ever since the association between rats, rat fleas and plague was first worked out, the problem of estimating the varying incidence and fluctuations in the flea population has been of primary importance in all their studies.

Occasionally individual rats are seen to harbour unusually large number of fleas. In a rat-flea survey of Madras Presidency (King *et al.* 1929) there were several records of rats—*Rattus rattus* harbouring 29-30 *Xenopsylla cheopis*, the maximum number of fleas of all species on any rat in that survey being 70. Even higher number of fleas have been recorded by the plague commission (1906) on rats dying of plague in Bombay. On one occasion 80 were recovered from a dying rat and in another case about 300 were recorded from three dead rats.



In the present studies rat-flea survey of a village Risima in Gondia district of Maharashtra State in India was conducted from 10-viii-65 to 21-viii-65. Rats were trapped in wonder traps and the fleas were collected from the live rats by brushing their body with a wire brush.

153 rats were collected out of which 148 were *R. rattus*. 1196 fleas all *X. cheopis* were collected from these rats. Rat density of this area was found to be 36.5 and the flea index 7.0.

Out of 1196 fleas recorded 676 fleas as detailed in the table below were recovered from 5 young rats of *R. rattus* all trapped in one trap from a single house of *Kucha* construction with mud tile roofing. The entire area of the house was about 300 sq ft with an open space near it where the house owner kept his bullock cart and two oxen and a cow.

TABLE  
SHOWING THE NUMBER OF FLEAS RECOVERED FROM FIVE *R. rattus*

Sex	Weight in gm	Number of fleas recovered
♂	22	119
	20	128
	21	142
	28	84
	32	203

Such unusual occurrence of large number of fleas on individual rats though exceptional and rare is likely to occur during the peak of a severe rat epizootic when the rodent population in an area is decimated by plague resulting in an unusual concentration of ectoparasites on the few remaining rats.

High *cheopis* index as in the present case where the area was free of plague for the last 20 years has also been recorded in a village in Hawaiian Island in U.S.A. which had remained free of plague infection during the 12 years of plague in the vicinity. In this village over 1000 *X. cheopis* were collected from 25 rats all trapped in the same locality (Eskey 1934).

In the present experiment it was interesting to note that 5 rats that yielded 676 fleas as per table were all young ones and further that they were trapped in the same trap from the same house and on the same day. This indicates that probably they were born in the same house as well.

Our thanks are due to Director, Haffkine, Institute for the facilities and to Shri M. L. Jaiswar and T. P. Masurkar for assistance.

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15. A NOTE ON *ACANTHAGYNA DRAVIDA* (LIEFTINCK)  
 [INSECTA: ODONATA: AESHNIDAE]

(With a text-figure)

While identifying a collection of Odonata from Calcutta the authors came across a male specimen of *Acanthagyna dravida*. This species was earlier reported by Laidlaw (1921) from Calcutta, but not by Fraser (1936), who worked extensively on Indian Odonates. The anal appendages of our specimen (Fig.) differ from the figure given by

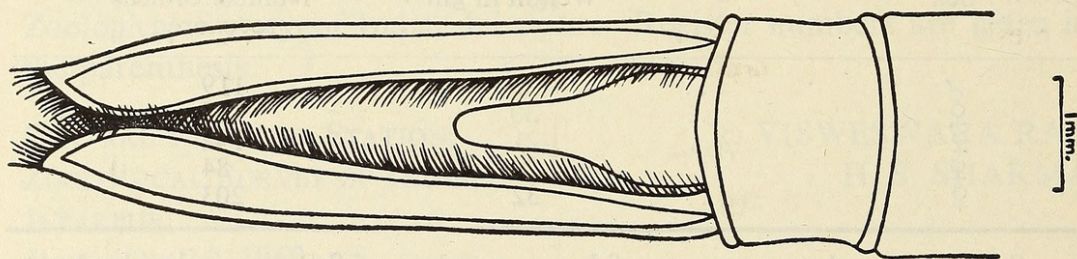


FIG. Anal appendages of the Calcutta specimen of *Acanthagyna dravida* (Lieftinck) ♂.

Fraser (1936), and they more or less agree with the description provided by Lieftinck (1960) based on specimens collected at Coorg. Moreover, our specimen differs from Fraser's description in having labrum olivaceous instead of ochreous brown, and

$$\text{nodal index } \frac{16 - 24/24 - 18}{16 - 16/18 - 17} \text{ instead of } \frac{17 - 24/25 - 17}{18 - 19/19 - 18} \text{ or } \frac{20 - 26/25 - 21}{20 - 18/19 - 21}.$$

*Material examined:*

1 ♂, Calcutta (at dusk), 30-viii-68, Coll. C.S. Roy.

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