

- TONAPI, G. T. 1959. Studies on the aquatic insect fauna of Poona (Aquatic Heteroptera). *Proc. natn. Inst. Sci., India*, **25B** (6) : 321-32.
- TONAPI, G. T. AND KHOLE, V. 1975. Effect of pollution in the fresh-water animal life in Poona and vicinity areas. *Proc. 62nd Indian Sci. Cong.* : 69.
- TONAPI, G. T. AND OZARKAR, V. A. 1969. A study of aquatic Coleoptera of Poona. *J. Bombay nat. Hist. Soc.*, **66** (2) : 310-16.
- USINGER, R. L. 1968. *Aquatic insects of California*. Univ. California Press Berkley & Los., 508 pp.
- VAZIRANI, T. G. 1968. Contribution to the study of aquatic beetles (Coleoptera) 2. A review of subfamilies Noterinae, Laccophilidae, Dytiscinae and Hydroporinae (in part) from India. *Oriental Ins.*, **2** : 221-241.
- VAZIRANI, T. G. 1970. Contribution to the study of aquatic beetles (Coleoptera) 6. A review of Hydroporinae, Dytiscidae (in part) from India. *Oriental Ins.*, **4** (1) : 93-129.
- VAZIRANI, T. G. 1977. Catalogue of oriental Dytiscidae. *Rec. Zool. Soc. India*, Miscellaneous publication occasional paper no. 6 : 1-111.

ON THREE NEW SPECIES OF SPIDERS OF THE GENUS
CALLILEPIS (WESTRING (FAMILY : GNAPHOSIDAE)
FROM INDIA.

By

U. A. GAJBE

*Zoological Survey of India,
Central Regional Station, Napier Town, Jabalpur (M. P.)*

(With 18 Text-figures)

INTRODUCTION

The spiders of the family Gnaphosidae are very little known in the Indian Fauna. Even the classical work of Pocock (1900) on Indian spiders contains on reference to this Family. Recently Tikader (1962, 1966 and 1973) has published a few papers on this group of spiders. Tikader and Gajbe (1977) reported this genus for first time from India and described three new species.

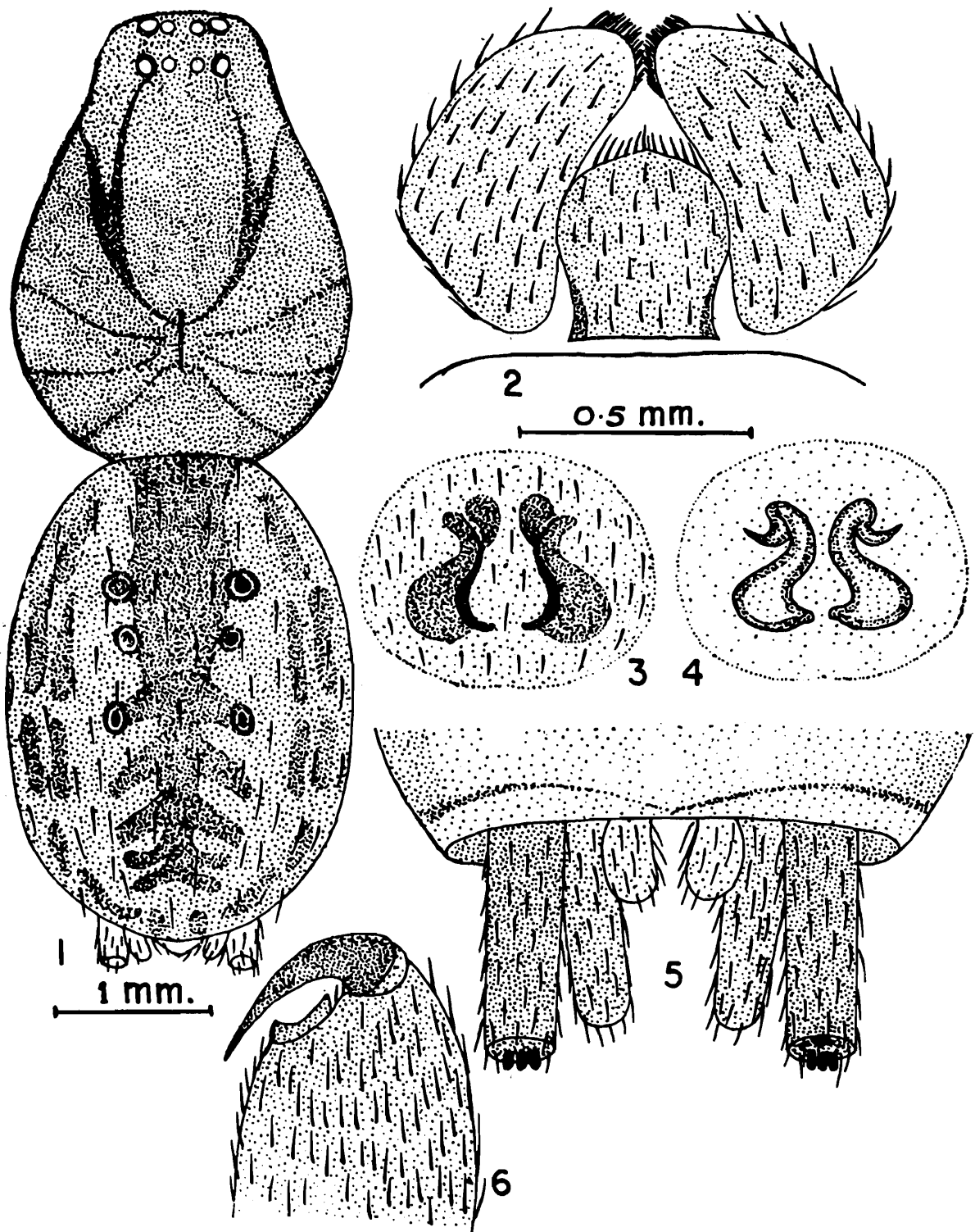
While studying the spider collection, I came across three new species of *Callilepis*, which are described in this paper.

All type specimens will be deposited in the National Zoological Collection, Zoological Survey of India, Calcutta.

1. *Callilepis pawani* sp. nov.

General : Cephalothorax and legs reddish brown, abdomen brown. Total length 6.10 mm. Carapace 3.30 mm. long 2.40 mm. wide ; abdomen 3.50 mm. long, 2.50 mm. wide.

Cephalothorax : Longer than wide, narrowing in front, slightly convex, posterior middle provided with a conspicuous fovea and V-shaped brown patch starting from fovea, clothed with pubescence. Eyes pearly white except anterior medians, anterior row nearly equal to posterior row. Anterior row of eyes slightly procurved (as seen from in front) ; medians smaller than the laterals and closer to laterals than to each other. Posterior row of eyes slightly recurved, medians conspicuously silvery white, oval, smaller than the laterals and little closer to laterals than to each other. Sternum heart-shaped, pointed behind and clothed with hairs. Labium and maxillae with conspicuous scopulae, shape as in Text-fig. 2. Chelicerae vertical, inner margin provided with a narrow lamina without serrated ridge as in Text-fig. 6. Legs relatively long, stout, clothed with hairs and spines. Legs Formula 4123.



Text-figs. 1-6. *Callilepis pawani* sp. nov.

1. Dorsal view of female, legs omitted.
2. Labium and maxillae
3. Epigyne
4. Internal genitalia
5. Spinnerets
6. Chelicera

Abdomen : Nearly elliptical, clothed with pubescence and some hairs, dorsally with three pairs of sagitta and a brown longitudinal band up to middle of abdomen and four pairs of cheverons as in Text-fig. 1. Ventral side lighter than the dorsal with a pair of longitudinal brown band starting from epigastric furrow to anal tubercle. Epigyne as in

Text-fig. 3. Internal genitalia as in Text-fig. 4. Spinnerets prominent, anterior spinnerets longer, darker with three spigots, posterior spinnerets smaller than the anterior as in Text-fig. 5.

Male : Unknown.

Holotype : Female in Spirit.

Type-locality : Pakaiya Hills, Bhuri, District Hazaribagh, Bihar, India. Coll. R. Tilak, 10-12-1968.

This species resembles *Callilepis lambai* Tikader and Gajbe but differs from it as follows : (I) Abdomen dorsally provided with three pairs of sagilla and a brown longitudinal band up to the middle of abdomen and four pairs of cheverons but in *Callilepis lambai* abdomen dorsally provided with light cheverons. (II) Abdomen ventrally provided with a pair of longitudinal brown band starting from epigastric furrow to anal tubercle but in *Callilepis lambai* there is no such band. (III) Epigyne and internal genitalia also structurally different.

2. *Callilepis ketani* sp. nov.

General : Cephalothorax and legs reddish-green, abdomen brownish-green. Total length 8 mm. Carapace 3 mm. long, 2.10 mm. wide ; abdomen 4.80 mm. long, 2.50 mm. wide.

Cephalothorax : Longer than wide, narrow in front, slightly convex, clothed with pubescence and hairs, posterior middle provided with a conspicuous short fovea. Eyes pearly white except anterior medians, posterior row slightly longer than the anterior row. Anterior row of eyes slightly procurved (as seen from in front) ; medians smaller than the laterals and closer to laterals than to other. Posterior row of eyes slightly recurved, medians silvery white, oval, smaller than the posterior laterals and closer to each other than to adjacent laterals. Sternum heart-shaped, pointed behind, clothed with fine hairs. Labium and maxillae provided with conspicuous scopulae, shape as in Text-fig 8. Chelicerae vertical, not strong, inner margin provided with a narrow lamina without serrated ridge as in Text-fig. 11. Legs relatively long, stout, clothed with hairs and spines. Legs formula 4123.

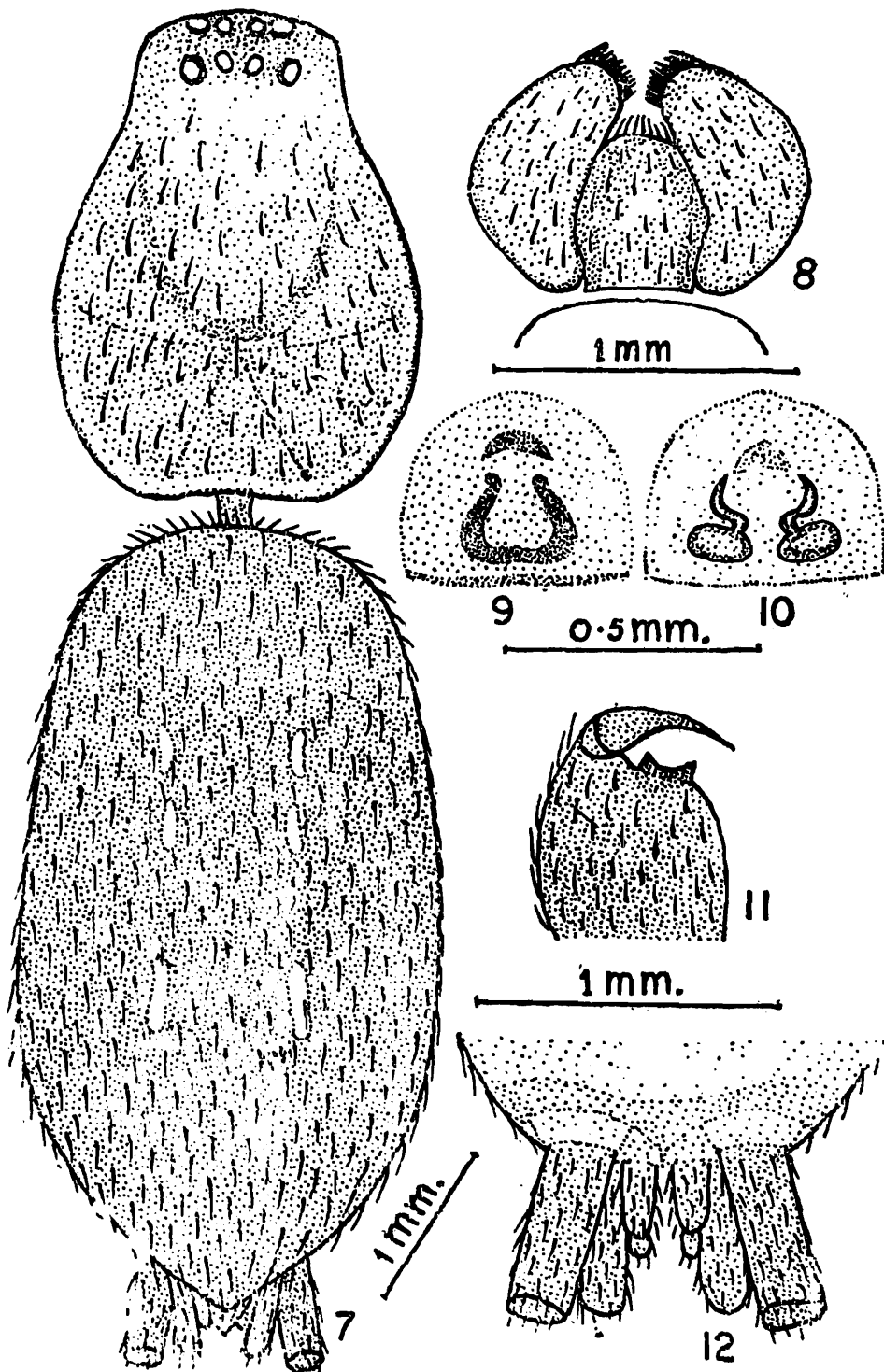
Abdomen : Longer than wide, narrowing posteriorly, clothed with hairs and dorsally provided with three pairs of sagilla as in Text-fig. 7. Ventral side slightly lighter than the dorsal. Epigyne as in Text-fig. 9. Internal genitalia as in Text-fig. 10. Spinnerets prominent, anterior spinnerets longer than others as in Text-fig. 12.

Male : Unknown.

Holotype : Female in Spirit.

Type-locality : Sambhar lake Gudha, District Nagaur, Rajasthan, India. Coll. A. K. Mukherjee, 19-12-1957.

This species closely resembles *Callilepis rajasthanicus* Tikader and Gajbe but differs from it as follows : (I) Posterior middle of cephalothorax provided with conspicuous fovea but in *Callilepis rajasthanicus*



Text-figs. 7-12. *Callilepis ketani* sp. nov.

7. Dorsal view of female, legs omitted.
8. Labium and maxillae
9. Epigyne
10. Internal genitalia
11. Chelicera
12. Spinnerets

posterior middle of cephalothorax provided with inconspicuous fovea. (II) Abdomen provided with three pairs of sagilla but in *Callilepis rajasthanicus* abdomen provided with some deep brownish patches. (III) Epigyne and internal genitalia also structurally different.

3. *Callilepis rajani* sp. nov.

General : Cephalothorax and legs reddish-brown, abdomen deep brown. Total length 6.90 mm. Carapace 3.00 mm. long, 2.20 mm. wide ; abdomen 4.10 mm. long 2.90 mm. wide.

Cephalothorax : Longer than wide, narrowing in front, slightly convex, clothed with pubescence, posterior middle provided with a conspicuous fovea and U-shaped deep brown patch starting from fovea. Eyes pearly white except anterior medians, posterior row as long as the anterior row. Anterior row of eyes slightly procurved (as seen from in front) ; medians smaller than the laterals and closer to laterals than to each other. Posterior row of eyes slightly recurved, medians silvery white, oval, smaller than the laterals and closer to laterals than to each other. Sternum heart-shaped, pointed behind, clothed with hairs. Labium and maxillae provided with conspicuous scopulae, shape as in Text-fig. 14. Chelicerae vertical, not strong, inner margin provided with a narrow lamina without serrated ridge as in Text-fig. 17. Legs relatively long, stout, clothed with hairs and spines. Legs formula 4123.

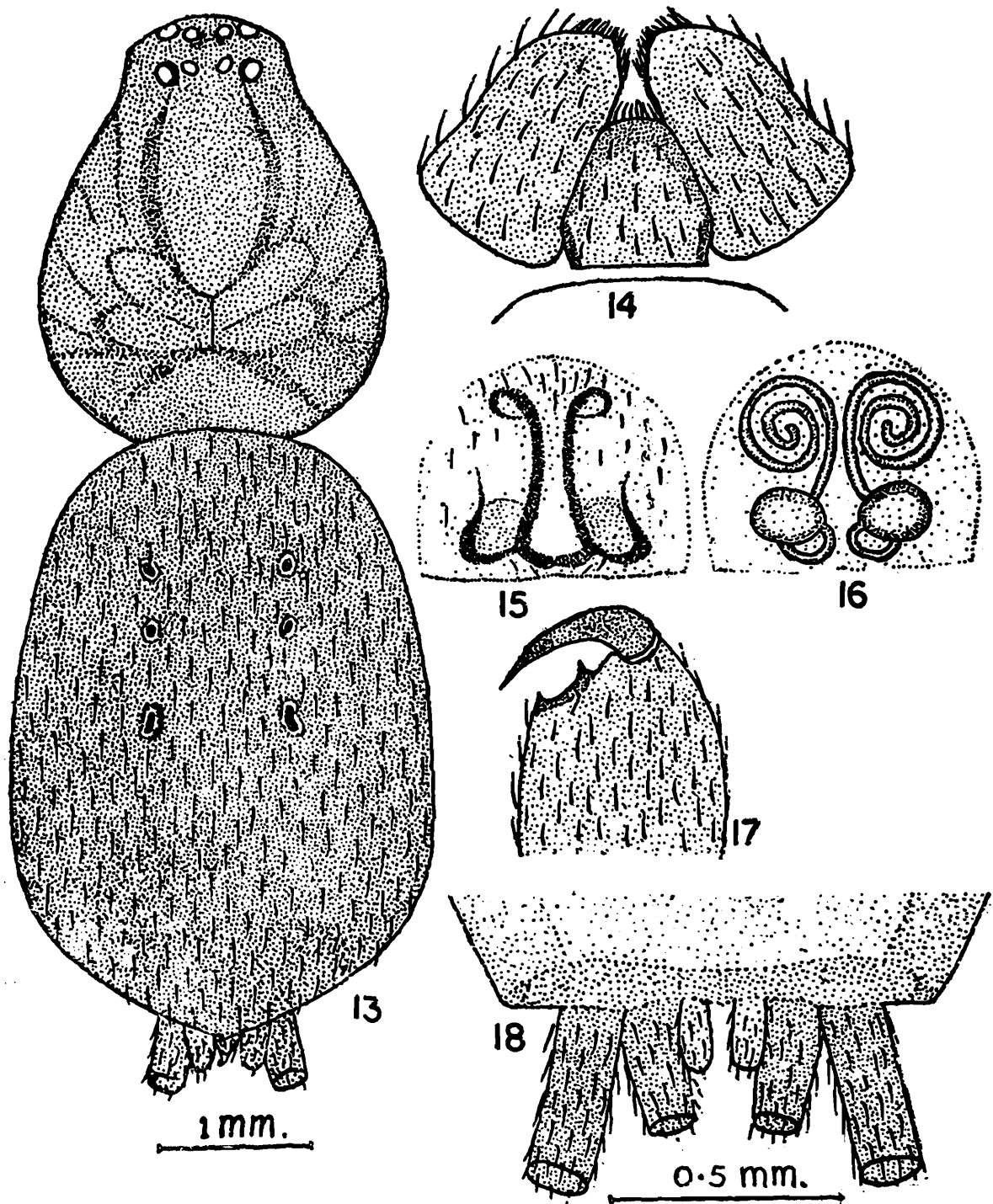
Abdomen : Nearly elliptical, clothed with pubescence, dorsally provided with three pairs of sagilla as in Text-fig. 13. Ventral side lighter than the dorsal. Epigyne as in Text-fig. 15. Internal genitalia as in Text-fig. 16. Spinnerets prominent, anterior spinnerets longer than other as in Text-fig. 18.

Male : Unknown

Holotype : Female in spirit.

Type-locality : Sahastradhara, District Dehra Dun, U. P. India. Coll. G. U. Kurup, 16-2-1961.

This species closely resembles with *Callilepis rukminiae* Tikader and Gajbe but differs from it as follows : (I) Posterior middle of cephalothorax provided with U-shaped deep brown patch starting from fovea but in *C. rukminiae* cephalothorax provided with V-shaped brown patch starting from fovea. (II) Abdomen dorsally provided with three pairs of sagilla but in *C. rukminiae* abdomen without sagilla but provided with some round whitish spots. (III) Epigyne and internal genitalia also structurally different.



Text-figs. 13-18. *Callilepis rajani* sp. nov.

- 13. Dorsal view of female, legs omitted.
- 14. Labium and maxillae
- 15. Epigyne
- 16. Internal genitalia
- 17. Chelicera
- 18. Spinnerets

ACKNOWLEDGEMENTS

I am thankful to Dr. B. K. Tikader, Director, Zoological Survey of India, Calcutta, for guidance and encouragement and to Dr. K. Reddiah, Deputy Director, Zoological Survey of India, Central Regional Station, Jabalpur for necessary facilities.