

STUDIES ON SPIDERS OF THE GENUS *CASTIANEIRA* KEYSERLING
(FAMILY : CLUBIONIDAE) FROM INDIA

B. K. TIKADER

Zoological Survey of India, Calcutta

ABSTRACT

A revisionary study of Indian spiders of the genus *Castianeira* Keyserling (Family Clubionidae) is given with illustrations, descriptions and key. Only five species of this genus are known so far from India.

INTRODUCTION

The spiders of the family Clubionidae are very common in India and it is a large family of spiders. The members of this family are of two-clawed hunting spiders commonly encountered on foliage or on the ground, where they may make tubular retreats in rolled up leaves, or under stones, in litter, etc. Though the family is very large but the genus *Castianeira* from India received a little attention by previous worker. Only Simon (1897), Gravely (1931) and Tikader & Biswas (1980) have published some work on the genus *Castianeira* from India. These spiders run over on the ground and may resemble large ants or mutillid wasps. They resemble in form and manner of movement like large carpenter ants and they have been found associated with the ants on the ground.

I have received *Castianeira* collection from our Head quarters and Western Regional Station, Poona for my study. I also got the

opportunity to study the type specimens of Gravely, which were deposited in National Collection of Zoological Survey of India, Calcutta.

I have illustrated and redescribed four known species and described one new species in this paper and have also included internal genitalial characters of all the species, because the superficial architecture of epigyne of different species is of almost uniform pattern. Key to the species is also given for easy identification. Type specimens of new species are deposited in the National Collections of Zoological Survey of India, Calcutta.

Genus *Castianeira* Keyserling

Castianeira Keyserling, 1897. *Verh. zool.-bot. Ges. Wien*, 37 : 335.

Castaneira : Simon, 1897. *Hist. Naturelle des Araign.*, 2 : 172.

Castaneira : Gravely, 1931. *Rec. Indian Mus.*, 33 (3) : 272.

Characters : These spiders are of medium size, brown or black in colour, with the abdomen ringed or otherwise marked with white or some other bright colour. Cephalothorax oval, convex and provided with a well marked median furrow. These spiders run about over the ground and may resemble large ants or mutillid wasps. Abdomen dorsally provided with sclerotized scutum.

Type-species : *Castianeira rubicunda* Keyserling.

Distribution : AFRICA, ASIA, MALAYSIA, INDIA, AMERICA.

Key to species of the genus **Castianeira**

- | | |
|--|------------------------|
| 1. Eyes approximately uniform size, two lines almost parallel, slightly convergent distally; anterior coxae very dark, almost black, the remaining coxae much paler. ... | <i>C. zetes</i> |
| Eyes not uniform size, two lines not parallel, strongly convergent laterally, coxae more uniformly coloured. ... | ... 2 |
| 2. Anterior median eyes much larger than the anterior laterals. ... | ... 3 |
| Posterior median eyes much larger than the posterior laterals. ... | <i>C. flavipes</i> |
| 3. Chelicerae very strong and prominent, dorsal sclerotized scutum large. ... | <i>C. indica</i> |
| Chelicerae weak, not prominent, dorsal sclerotized scutum small. ... | ... 4 |
| 4. Legs with strong longitudinal markings as in <i>C. zetes</i> ; posterior tibiae dark with conspicuous band at apex. ... | <i>C. albopicta</i> |
| Legs without longitudinal markings or white bands. ... | <i>C. himalayensis</i> |

1. **Castianeira zetes** (Simon)

(Figs. 1-4)

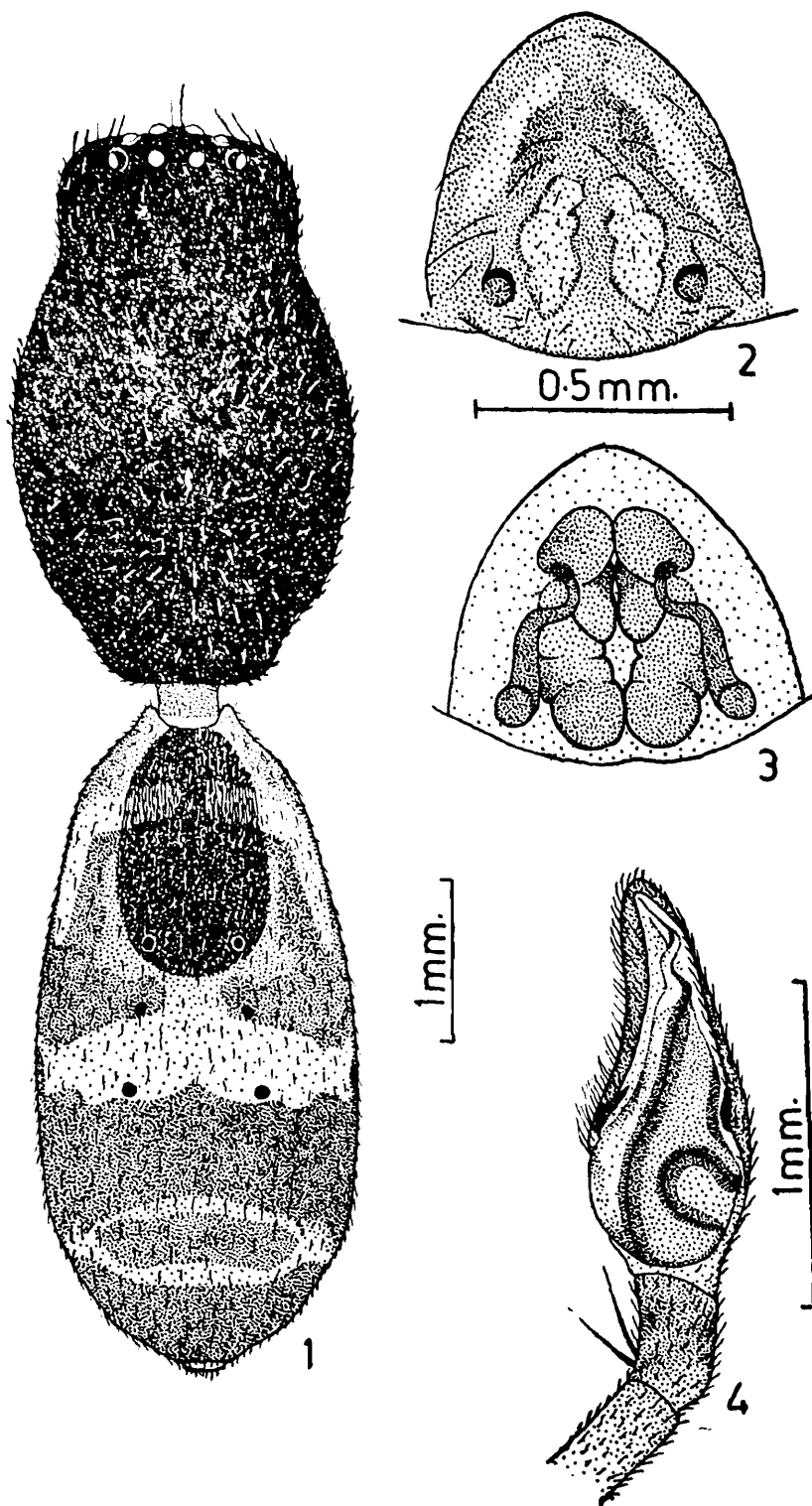
1897. *Castaneira zetes* Simon, *Bull. Mus. Hist. nat., Paris*, 3 (7) : 294.
1906. *Castaneira zetes* : Simon, *Annls Soc. ent. Fr.*, 75 : 302.
1931. *Castaneira zetes* : Gravely, *Rec. Indian Mus.*, 33 (3) : 273.
1954. *Castianeira zetes* : Roewer, *Katalog der Araneae*, 2 : 60.9

General : Cephalothorax, abdomen and legs brown in colour, Total length 9.20 mm. Carapace 4.20 mm. long, 2.50 mm. wide; abdomen 4.80 mm. long, 2.10 mm. wide.

Cephalothorax : Longer than wide, wider in front. Convex, clothed with fine hairs, middle provided with a fovea. Eyes pearly white both row straight but posterior row slightly long. Sternum heart-shaped, longer than wide, clothed with fine hairs. Labium brown but anterior margin white. Maxillae brown but anterior end white and provided with scopulae. Chelicera moderately strong, outer margin three and inner margin provided with three teeth. Legs moderately strong, clothed with hairs and spines. Legs formula 4123. Tibia and metatarsus I provided with three and two pairs of ventral spines respectively. Male slightly smaller than female, male palp as in Fig. 4.

Abdomen : Long, clothed with fine hairs, slightly wider in posterior end than anterior. Dorsally in front provided with small sclerotized scutum and three pairs of longitudinally arranged minute sigilla as in Fig. 1. Ventral side uniform pale colour. Epigyne as in Fig. 2. Internal genitalia as in Fig. 3.

Distribution : INDIA : Madras, Bangalore, Barkuda Island (Cilka lake), Orissa; Calcutta, Kalimpong, West Bengal; Assam; Daccan (Type-locality), Maharashtra, BHUTAN.



Figs. 1-4. • *Castianeira zetes* (Simon)

- | | |
|---|------------------------|
| 1. Dorsal view of female, legs omitted. | 3. Internal genitalia. |
| 2. Epigyne. | 4. Male palp. |

2. *Castianeira flavipes* (Gravely)

(Figs. 5-8)

1931. *Castianeira flavipes* Gravely, *Rec. Indian Mus.*,
33 (3) : 275.

1954. *Castianeira flavipes* : Roewer, *Katalog der
Araneae*, 2 : 611.

General : Cephalothorax, abdomen and legs brown. Total length 5.00 mm. Carapace 2.20 mm. long, 1.80 mm. wide ; abdomen 2.80 mm. long, 1.80 mm. wide.

Cephalothorax : Longer than wide, slightly wider in front, convex, clothed with fine hairs, middle provided with a fovea. Eyes pearly white, posterior row procurved and anterior row slightly recurved ; eyes of posterior rows slightly larger in size than anterior row. Sternum nearly oval, deep brown, clothed with fine hairs. Labium wider than long, brown but anterior margin white. Maxillae longer than wide, brown, but anterior margin white and provided with scopulae. Chelicera moderate, inner row provided with two and outer row of three small teeth. Legs moderately strong, clothed with hairs and spines. Tibia and metatarsus of I provided with three and two pairs of ventral spines respectively. Male slightly smaller than female and more dark, male palp as in Fig. 8.

Abdomen : Longer than wide, clothed with hairs, anterior dorsal side provided with small sclerotized scutum and three pairs of longitudinally arranged minute sigilla as in Fig. 5. Ventral side uniform pale colour. Epigyne as in Fig. 6. Internal genitalia as in Fig. 7.

Distributions : INDIA : Bangalore, Karnataka ; Nilgiri, Tamil Nadu ; Burkuda Island (Type-locality), Chilka lake, Orissa.

3. *Castianeira indica* sp. nov.

(Figs. 9-12)

General : Cephalothorax deep brown, abdomen brown and legs reddish-brown. Total length 5.30 mm. Carapace 2.20 mm. long, 1.90 mm. wide ; abdomen 3.00 mm. long, 2.00 mm. wide.

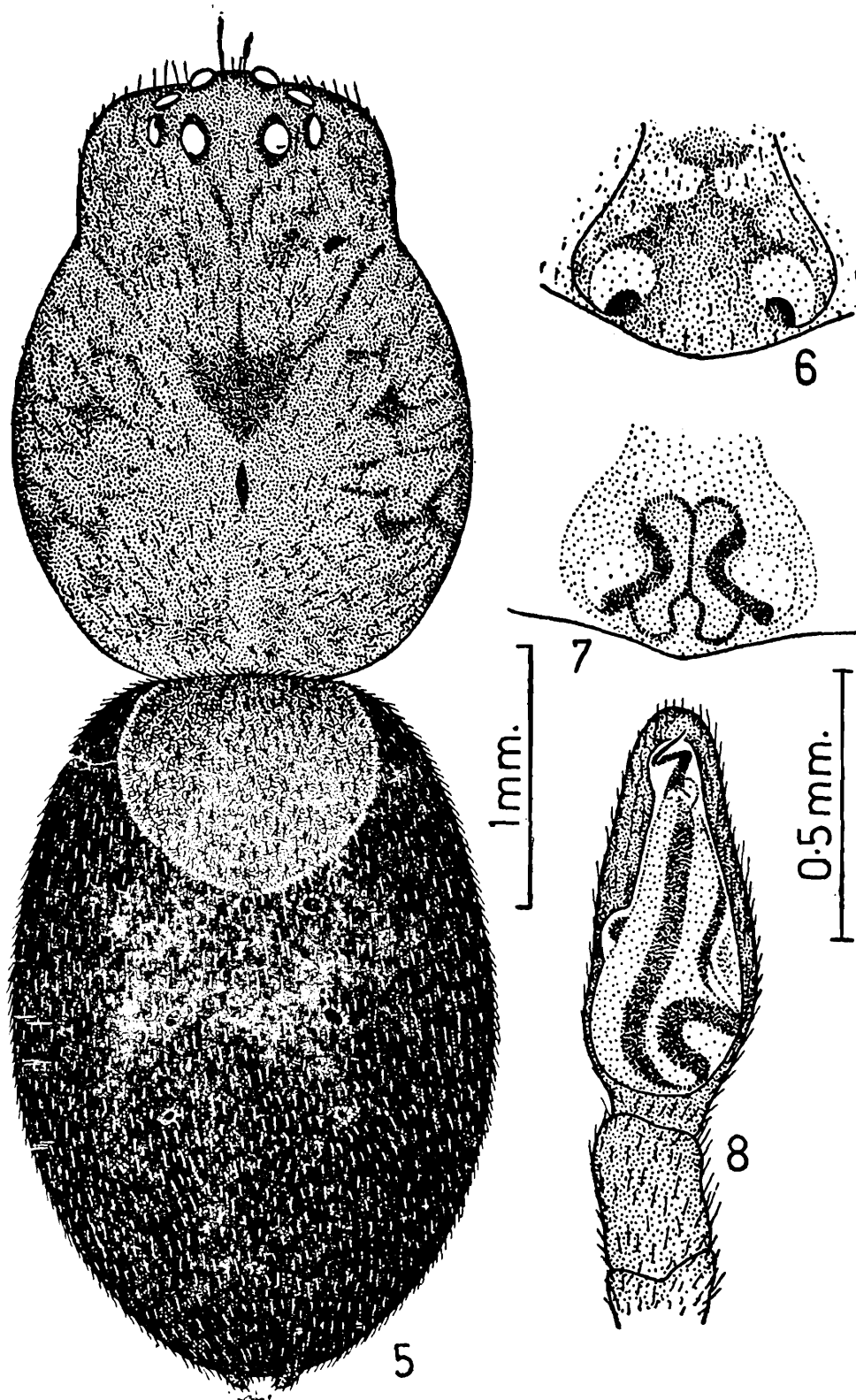
Cephalothorax : Longer than wide, wider in front than behind, convex, cephalic region high, middle provided with a fovea. Eyes pearly white, anterior row shorter than the posterior row and nearly straight, posterior row slightly procurved. Anterior row of eyes nearly equal in size but larger in size than posterior eyes. Sternum nearly oval, slightly longer than wide, red colour, clothed with fine hairs. Labium longer than wide, with prominent lateral notch, red in colour. Maxillae also red like labium but anterior margin white and scupulated. Chelicera very strong, outer margin three and inner margin provided with six teeth. Legs moderately strong, clothed with hairs and spines. Tibia and metatarsa of I provided with 8 and 5 pairs of ventral spines, respectively. Legs formula 1423. Male palp as in Fig. 12.

Abdomen : Longer than wide, wider behind the middle, clothed with hairs, anterior half of the dorsal side provided with large sclerotized scutum as in Fig. 9. Ventral side uniform pale colour. Epigyne as in Fig. 10. Internal genitalia as in Fig. 11.

Holotype female, *paratype* 11 ♀♀, *allotype* 1 ♂ in spirit, 12.10.1979. Coll. B. K. Tikader. Regd. No. 5096-98/18.

Type-locality : INDIA : MAHARASHTRA : Flower garden, Poona University Compound, Poona.

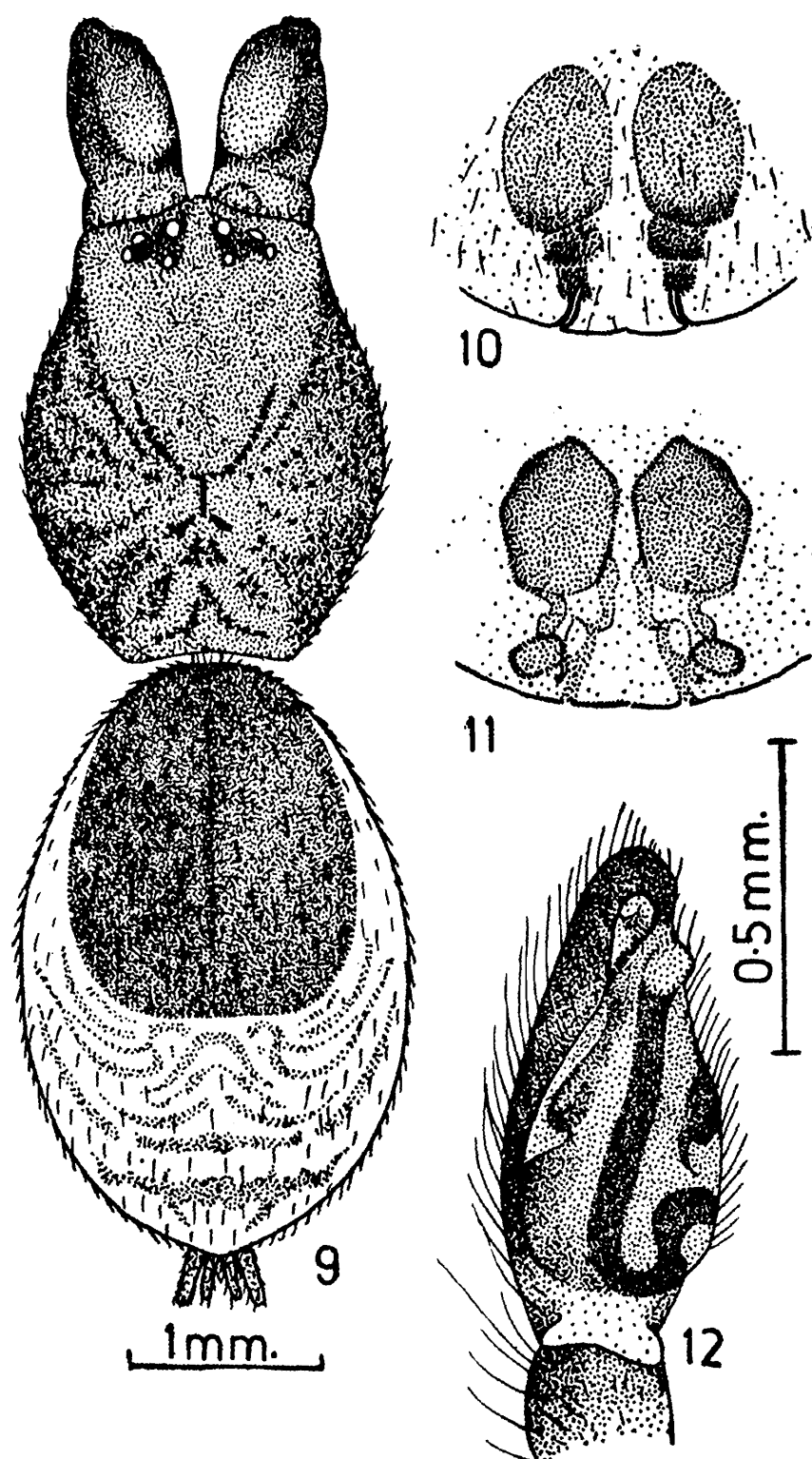
This species close to *Castianeira flavipes*



Figs. 5-8. *Castianeira flavipes* (Gravely)

5. Dorsal view of female, legs omitted.
6. Epigyne.

7. Internal genitalia.
8. Male palp.

Figs. 9-12. *Castianeira indica* sp. nov.

- | | |
|---|-------------------------|
| 9. Dorsal view of female, legs omitted. | 11. Internal genitalia. |
| 10. Epigyne. | 12. Male palp. |

(Gravely) but it is separated as follows : (i) Anterior median eyes larger than others but in *C. flavipes* posterior median eyes larger than others. (ii) Chelicerae very strong,

prominent and dorsal sclerotized scutum large but in *C. flavipes* the chelicerae not strong or prominent and dorsal sclerotized scutum small. (iii) Epigyne also structurally different.

4. *Castianeira albopicta* (Gravely)

(Fig. 13)

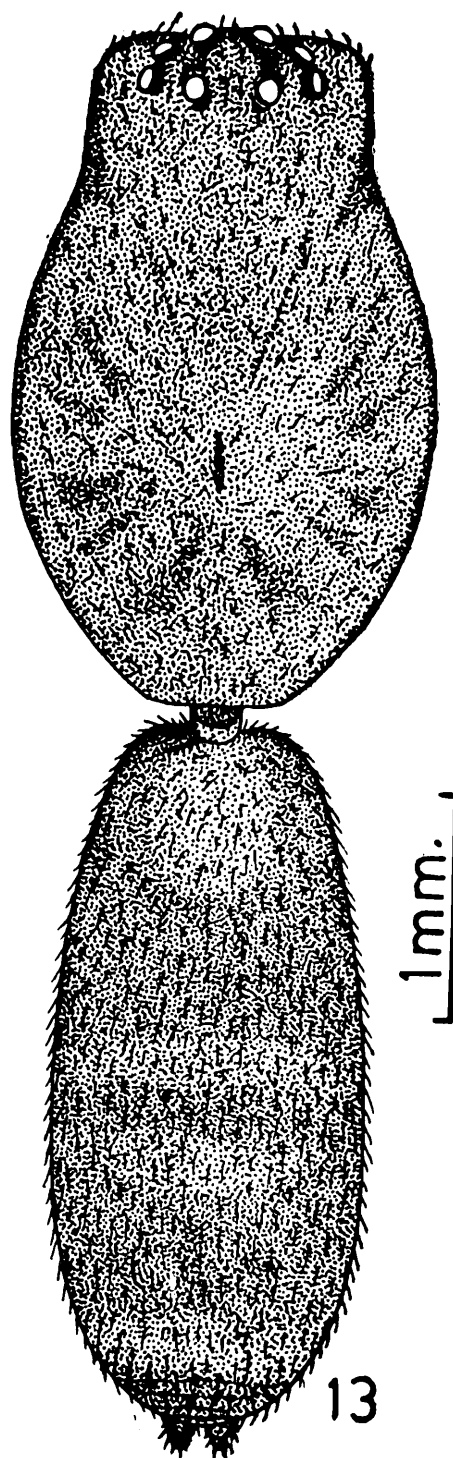
1981. *Castianeira albopicta* Gravely, *Rec. Indian Mus.*, 33 (3) : 275.1954. *Castianeira albopicta* : Roewer, *Katalog der Araneae*, 2 : 611.

General : Cephalothorax, abdomen and legs light brown. Total length 6.00 mm. Carapace 2.80 mm. long, 1.80 mm. wide ; abdomen 3.00 mm. long, 1.30 mm. wide.

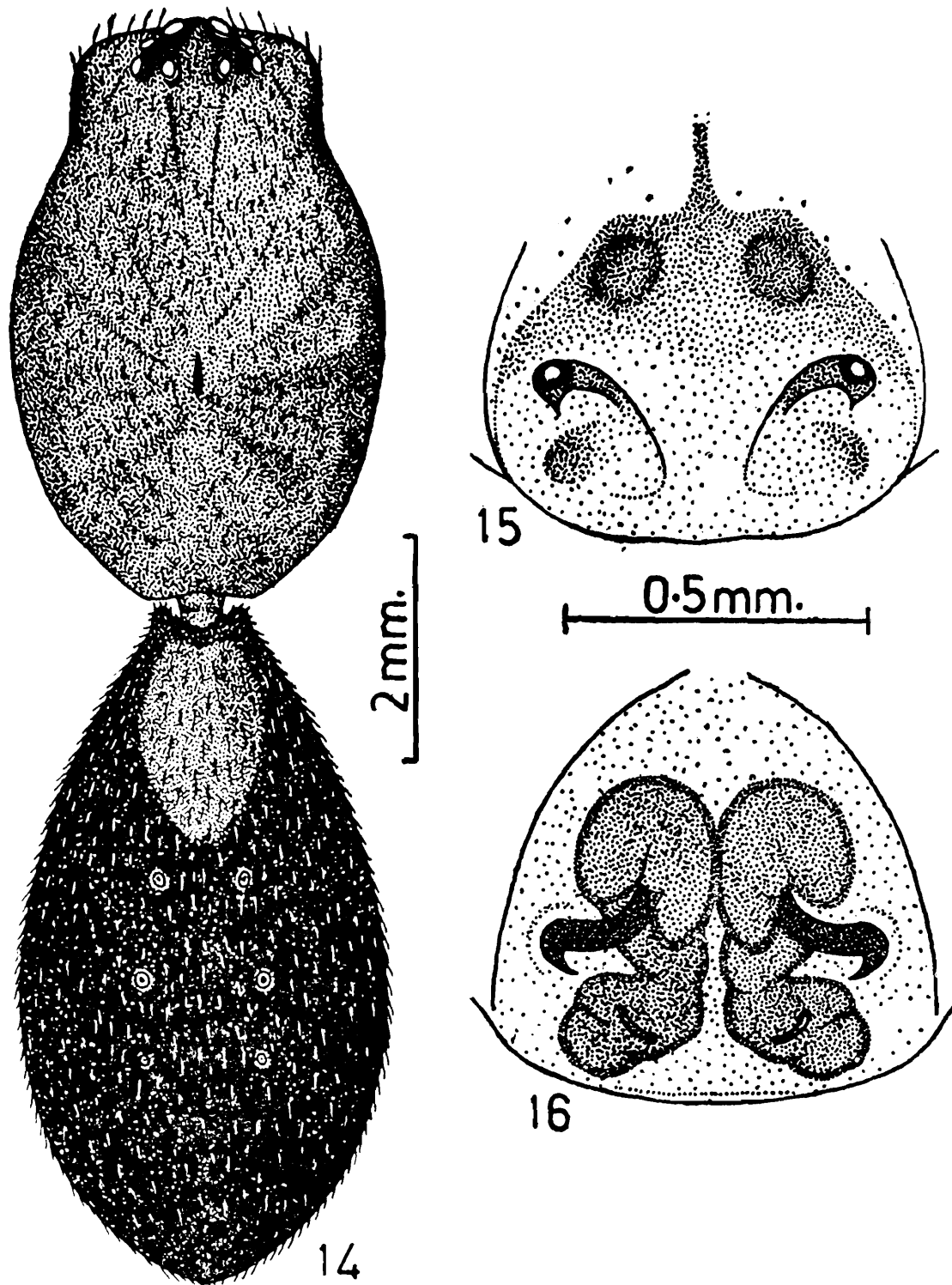
Cephalothorax : Longer than wide, slightly wider in front, convex, clothed with fine hairs, middle provided with a fovea. Cephalic region slightly high. Eyes pearly white, bases of all eyes encircled by black patch. Posterior row straight and longer than anterior row ; anterior row slightly recurved, ocular quad nearly square. Sternum heart-shaped, pointed behind, light brown, clothed with fine hairs. Labium nearly as long as wide, deep brown but anterior margin white. Maxillae longer than wide light brown, anterior margin provided with scopulae. Chelicera strong, inner margin provided with two and outer margin with three small teeth. Legs moderately strong, clothed with hairs and spines. Legs formula 4132. Tibia and metatarsus of I provided with three and two pairs of ventral spines.

Abdomen : Long, clothed with fine hairs ; anterior dorsal side provided with a small sclerotized scutum as in Fig. 13. Ventral side uniform pale colour. This specimen is subadult female, epigyne is not developed.

Distribution : INDIA : Pashok (*Typelocality*) Darjeeling, West Bengal,

Fig. 13. *Castianeira albopicta* (Gravely)

13. Dorsal view of sub-adult female, legs omitted.



Figs. 14-16. *Castianeira himalayensis* (Gravely)

- 14. Dorsal view of female, legs omitted.
- 15. Epigyne.
- 16. Internal genitalia.

5. *Castianeira himalayensis* (Gravely)

(Figs. 14-16)

1931. *Castianeira himalayensis* Gravely, *Rec. Indian Mus.*, 33 (9) : 275.1980. *Castianeira himalayensis* : Tikader & Biswas, *Rec. zool. Surv. India, Occ., Pap.* No. 30 : 72.1954. *Castianeira himalayensis* : Roewer, *Katalog der Araneae*, 2 : 611.

General : Cephalothorax, abdomen and legs brown. Total length 11.40 mm. Carapace 5.10 mm. long, 3.00 mm. wide ; abdomen 6.00 mm. long, 3.20 mm. wide.

Cephalothorax : Longer than wide, slightly wide in front, convex, cephalic region slightly high, middle provided with a fovea. Eyes pearly white, posterior row straight and slightly longer than anterior row, anterior row slightly recurved and eyes slightly larger than the posterior row. Sternum heart-shaped, pointed behind, brown colour, clothed with fine hairs. Labium nearly as long as wide, deep brown, anterior margin provided with conspicuous white. Maxillae longer than wide, anterior end wide, brown but anterior margin provided with white and scopulate. Chelicera strong, inner margin provided with two and outer margin with three small teeth. Legs strong and long, clothed with hairs and spines. Legs formula 4132. Tibia and metatarsus of I provided with three and two pairs of ventral spines respectively.

Abdomen : Longer than wide, clothed with fine hairs, wider behind the middle. Anterior end of dorsal side provided with a small sclerotized scutum as in Fig. 14.

Ventral side nearly the same colour like dorsal but mid-ventrally provided with a conspicuous longitudinal deep brown band extending from epigastric furrow up to base of spinnerets. Epigyne as in Fig. 15. Internal genitalia as in Fig. 16.

Distribution : INDIA : Tindharia (*Type-locality*). Darjeeling, Calcutta, West Bengal.

ACKNOWLEDGEMENTS

I am thankful to Dr. Salil Gupta, Superintending Zoologist, Acarology Division, and Dr. Bijan Biswas, Asst. Zoologist, Zoological Survey of India, Calcutta, for kindly providing the type specimens of the genus *Castianeira* which are deposited in the National Collections of Zoological Survey of India, Calcutta. I am also thankful to Dr. Animesh Bal, Asst. Zoologist, Zoological Survey of India for assisting me in various way. The illustrations used in this paper are prepared by Shri P. W. Garde and Shri D. J. Kamble, Artists of the Western Regional Station, Poona, to whom my thanks are also due.

REFERENCES

- GRAVELY, F. H. 1931. Some Indian spiders of the families Ctenidae, Sperassidae, Selenopidae and Clubionidae. *Rec. Indian Mus.*, 33 (3) : 211-280.
- SIMON, E. 1897. *Histoire Naturelle des Araignees*, Paris. 2 (1) : 1-192.
- TIKADER, B. K. AND BISWAS, BIJAN. 1981. Spider fauna of Calcutta and vicinity. *Rec. zool. Surv. India, Occ., Pap.* No. 30 : 1-149.

