

STUDIES ON SOME SPIDERS OF THE GENERA
SCOPODES CHAMBERLIN, *MEGAMYRMECION*
REUSS, *SCOTOPHAEUS* SIMON AND
LIODRASSUS CHAMBERLIN (FAMILY :
GNAPHOSIDAE) FROM INDIA

By

B. K. TIKADER and U. A. GAJBE

Western Regional Station, Zoological Survey of India, Poona

(With 4 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 no reference to this family. Recently Tikader (1962, 1964, 1966 and 1973) has published a few papers on this group of spiders and he has reported only two species of the genus *Scotophaeus* Simon. The other genera are being recorded here for the first time from India.

While examining spider collections received from the Northern Regional Station, Dehra Dun, the High Altitude Zoology Field Station, Solan and the Western Regional Station, Poona, of the Zoological Survey of India, we came across a new species each of the genera *Scopodes*, *Megamyrmeccion*, *Scotophaeus* and *Liodrassus* which are described in this paper. A key to the four genera is given.

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

KEY TO THE GENERA

1. Posterior row of eyes strongly procurved. 2
- Posterior row of eyes not strongly procurved. 3
2. Inner margin of furrow of chelicera with one tooth. Bulb of male palpus with a stout median apophysis..... *Scopodes* Chamberlin

- Inner margin of furrow of chelicera without tooth. Bulb of male palpus simple, with no true apophysis . . . *Megamyrmeleon* Reuss.
3. Eyes of posterior row nearly equal in size and equidistant from each other. Inner margin of furrow of chelicera with teeth. . . *Scotophaeus* Simon
Eyes of posterior row not equal in size, posterior medians much larger than the laterals and closer to laterals than to each other. Inner margin of furrow of chelicera without tooth. . . *Liodrassus* Chamberlin.

Genus 1. Scopodes Chamberlin

1922. *Scopodes* : Chamberlin, *Proc. Biol. Soc. Washington*, 35 : 156.
1940. *Scopodes* : Comstock, *The Spider Book*, New York, 328.

Characters : The cephalothorax is ovate and much narrower in front. The anterior row of eyes close together in a strongly procurved line, the anterior medians larger than the anterior laterals. The posterior row of eyes very strongly procurved in a semicircular line which is more or less equal or slightly longer than the anterior line. The chelicerae are of moderate size, the inner margin is armed with a single, minute tooth. The spinnerets are comparatively long. The bulb of the male palpus has a stout median apophysis.

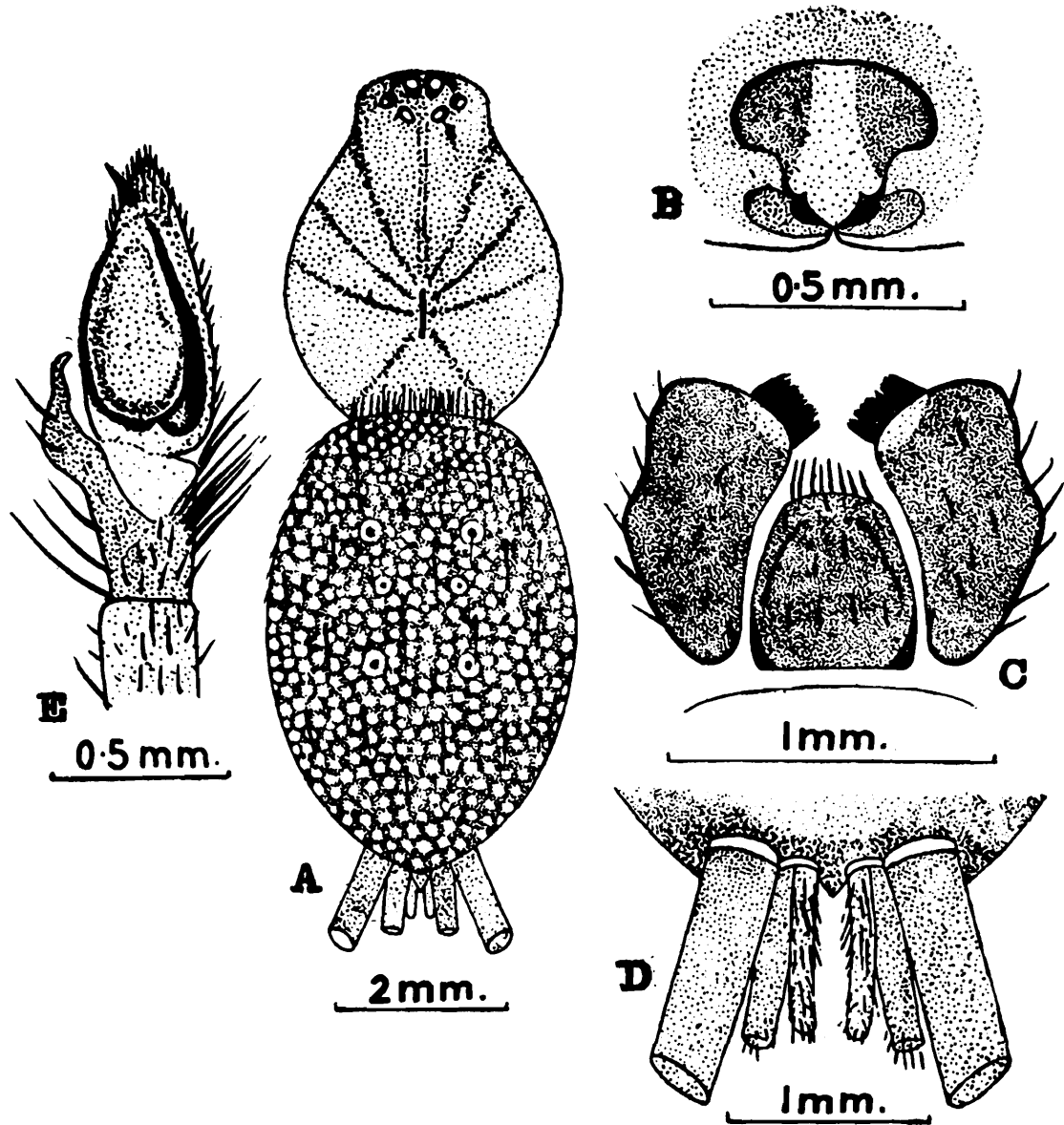
Type-species : *Scopodes catharius* Chamberlin.

Distribution : Claremont, America.

1. *Scopodes maitraiae* n. sp.

General : Cephalothorax and legs reddish green, abdomen brown. Total length 9.80 mm. Carapace 4.20 mm. long, 3.20 mm. wide; abdomen 5.80 mm. long, 3.80 mm. wide.

Cephalothorax : Longer than wide, convex, narrow in front, cephalic region slightly high, posterior middle provided with a conspicuous fovea and clothed with fine hairs. Eyes of anterior row slightly procurved, anterior medians circular, black and much larger than laterals. Posterior row of eyes slightly longer than the anterior row, procurved, more or less equal and equidistant from each other, posterior medians silvery white, elliptical in shape. Clypeus narrow. Sternum oval, pointed behind and clothed with hairs. Labium longer than wide, not contiguous with the maxillae. Anterior margin of maxillae provided with conspicuous scopulae as in text-fig. 1c. Chelicerae vertical, inner margin with one tooth and outer margin with three small teeth. Legs relatively long and strong, clothed with spines and hairs, legs IV longer than others, scopulae extend upto the base of metatarsi I and II. The colour and size of male almost like female, male palp as in text-fig. 1E.



Text-fig. 1 *Scopodes maitraiae* n. sp. A. Dorsal view of female, legs omitted; B. Epigyne; C. Maxillae and labium; D. Spinnerets; E. Right male palp, ventral view.

Abdomen : Longer than wide, slightly narrowed behind, clothed with fine and some long hairs and provided with small whitish spots as in text-fig. 1A. Ventral side lighter than the dorsal. Epigyne as in text-fig. 1B. Spinnerets very prominent, anterior spinnerets cylindrical and longer than others as in text-fig. 1D.

Holotype female, *paratype* seven females, *allotype* six males in spirit.

Type-locality : Kopergaon, Dist. Ahmødner, Maharashtra, India. Coll. Dr. M. Babu Rao, 9-10-73. *Paratype* : N.C.L. Colony, Dist. Poona, Maharashtra, India. Coll. D. B. Bastawde, 20-10-1973.

Allotype : Mukund Nagar, Poona, Maharashtra, India. Coll. U. A. Gajbe, 27-7-1975.

This species resembles *Scopodes catharius* Chamberlin but differs from it as follows : (i) Cephalothorax and legs reddish green, abdomen brown but in *S. catharius* cephalothorax and legs light brownish yellow, abdomen grey. (ii) Epigyne and male palp also structurally different.

Genus 2. *Megamyrmecon* Reuss

1834. *Megamyrmecon* Reuss, *Zool. Miscell. Mus. Ar.*, p. 217.
 1893. *Megamyrmecon* : Simon, *Hist. Nat. Araign.*, 1 : 369.
 1922. *Megamyrmecon* : Chamberlin, *Proc. Biol. Soc. Wash.*, 35 : 155.
 1940. *Megamyrmecon* : Comstock, *The Spider Book*, New York, 327.

Characters : The cephalothorax is ovate and much narrower in front. The anterior row of eyes close together in a strongly procurved line, the anterior medians larger than the anterior laterals. The posterior row of eyes very strongly procurved in a semicircular line which is more or less equal or slightly longer than the anterior line. The chelicerae are of moderate size, with the inner margin of the furrow unarmed, and with two minute teeth on the outer margin. The spinnerets are comparatively long. Bulb of palpus of male simple, with no true apophysis.

Type-species : *Megamyrmecon caudatum* Reuss

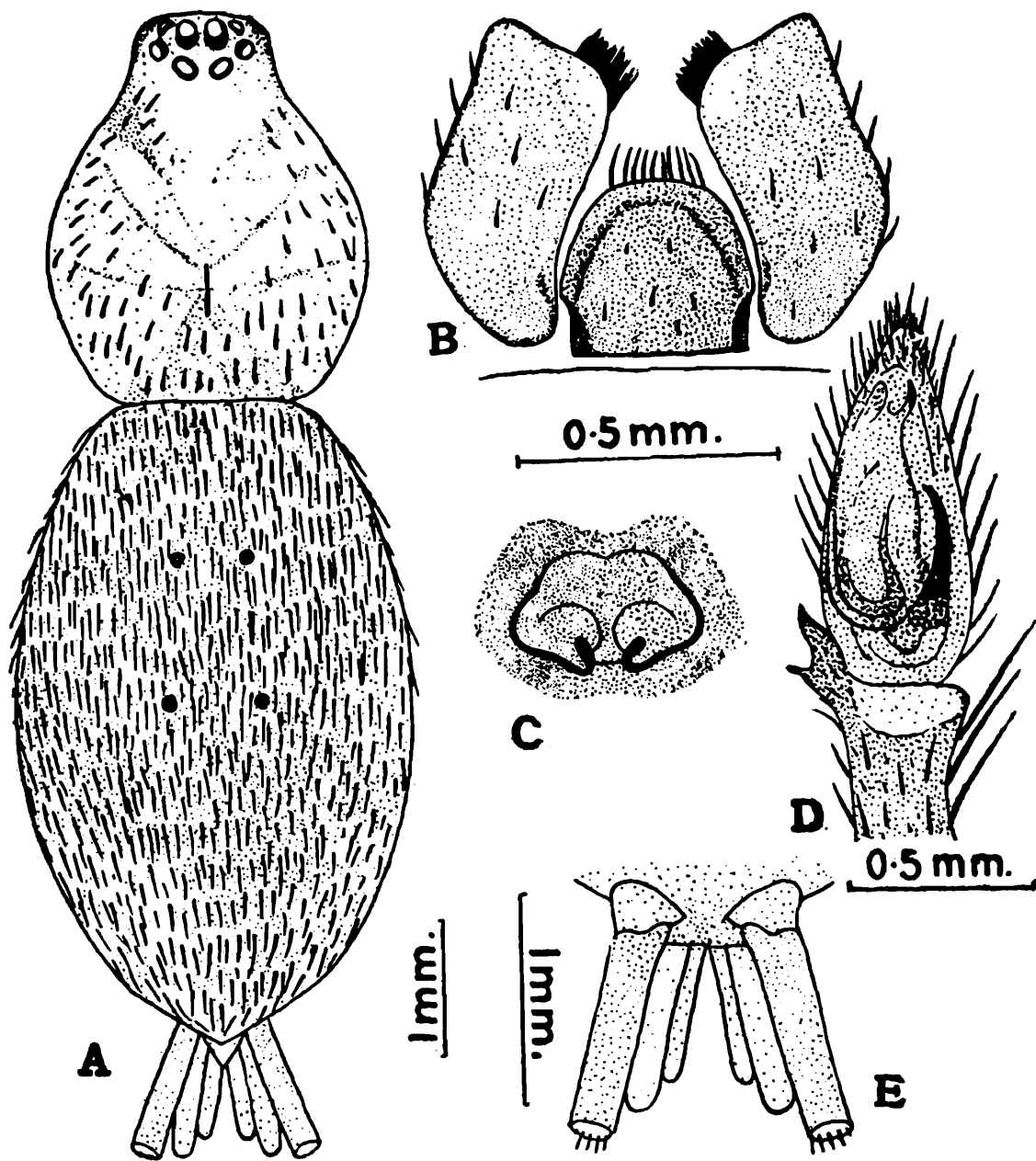
Distribution : Africa, America, India.

2. *Megamyrmecon ashae* n.sp.

General : Cephalothorax, abdomen and legs light brownish-green. Total length 7.80 mm. Carapace 3.00 mm. long, 2.40 mm. wide; abdomen 5.00 mm. long, 3.00 mm. wide.

Cephalothorax : Longer than wide, convex, narrow in front, cephalic region slightly high, posterior middle provided with a conspicuous fovea and clothed with fine hairs as in text-fig. 6. Eyes of anterior row procurved, anterior medians circular, black and larger than laterals, laterals elliptical in shape. Posterior row of eyes slightly longer than the anterior row, strongly procurved, more or less equal and equidistant from each other, posterior medians silvery white, elliptical in shape. Clypeus narrow. Sternum oval, pointed behind and clothed with fine hairs. Labium longer than wide and not contiguous with the maxillae. Anterior margin of maxillae provided with conspicuous scopulae as in text-fig. 2B. Chelicerae vertical, inner margin without tooth but outer margin with two small teeth. Legs relatively long and strong, clothed with spines and hairs, legs IV longer than others and scopulae

extend upto the base of metatarsi I and II. The colour and size of male almost like female, male palp as in text-fig. 2D.



Text-fig. 2 *Megamyrmecon ashae* n. sp. A. Dorsal view of female, legs omitted; B. Maxillae and labium; C. Epigyne; D. Right male palp, ventral view; E. Spinnerets.

Abdomen : More or less elliptical in shape, narrowed behind, clothed with pubescence. Ventral side lighter in colour than dorsal. Epigyne as in text-fig. 2C. Spinnerets very prominent, anterior spinnerets cylindrical and longer than others as in text-fig. 2E.

Holotype female, *paratype* two females, *allotype*, one male in spirit.

Type-locality : Range Hill, Poona, Maharashtra, India. Coll. U. A. Gajbe, 3-11-1974. *Allotype* : Range Hill, Poona, Maharashtra, India. Coll. U. A. Gajbe, 12-3-1975.

This species resembles *Megamyrmecon californicum* Simon but differs from it as follows : (i) Cephalothorax and legs light reddish green, abdomen deep brown but in *M. californicum* it is pale yellow or greyish in colour. (ii) Epigyne and male palp also structurally different.

Genus 3. *Scotophaeus* Simon

1893. *Scotophaeus* Simon, *Hist. Nat. Araign.*, 1 : 371.
 1951. *Scotophaeus* : Locket & Millidge, *British Spiders*, 1 : 104.
 1962. *Scotophaeus* : Tikader, *Proc. First All India Cong., Zoology*, 2 : 571.
 1966. *Scotophaeus* : Tikader, *Rec. Indian Mus.*, 59 (4) : 440.

Characters : General appearance very similar with *Drassodes* Westring. Carapace narrower in front than in *Drassodes*, with a fovea. Eyes of anterior medians larger than the laterals, the medians are circular and anterior lateral elliptical. Posterior row slightly longer than anterior, very slightly procurved, eyes equidistant and nearly equal, posterior medians elliptical in shape.

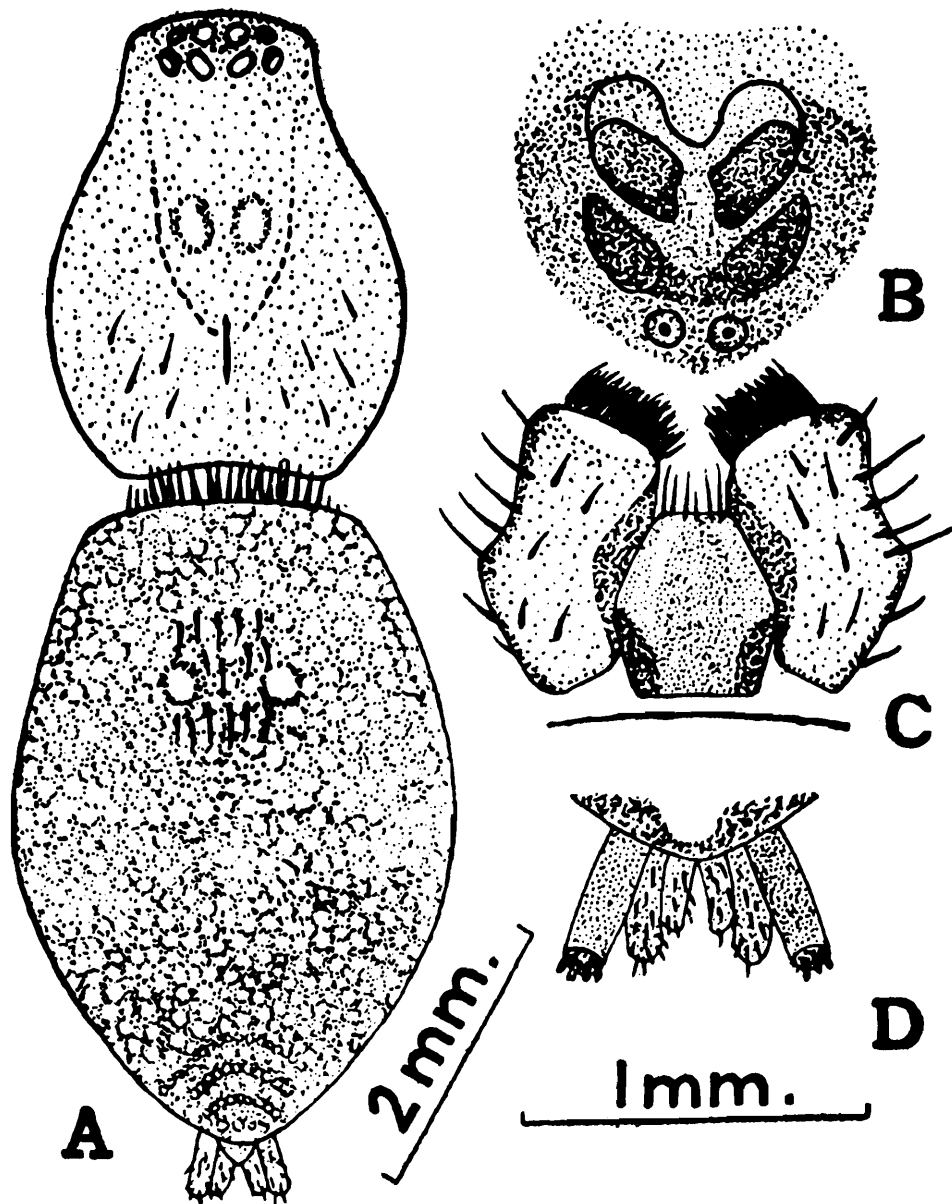
Type-species : *Scotophaeus quadripunctatus* Latreille.

Distribution : Oriental and Temperate regions of the world.

3. *Scotophaeus madalasa* n. sp.

General : Cephalothorax and legs reddish green, abdomen brown. Total length 8.00 mm. Carapace 3.10 mm. long, 2.50 mm. wide; abdomen 4.80 mm. long, 3.10 mm. wide.

Cephalothorax : Longer than wide, convex, narrow in front; cephalic region slightly high, centre provided with a conspicuous fovea and clothed with fine hairs. Eyes of anterior row slightly procurved (as seen from in front), anterior medians circular, black and slightly larger than laterals. Posterior row of eyes slightly longer than the anterior row procurved, more or less equal and equidistant from each other. Posterior medians silvery white; elliptical in shape. Clypeus narrow. Sternum oval slightly pointed behind, clothed with hairs. Labium nearly triangular and almost contiguous with the maxillae. Anterior margin of maxillae provided with conspicuous scopulae as in text-fig. 3C. Chelicerae vertical, inner and outer margin with three small teeth each. Legs strong, clothed with spines and hairs, legs IV longer than others, scopulae extend upto the base of metatarsi I and II.



Text-fig. 3. *Scotophaeus madalasae* n. sp. A. Dorsal view of female, legs omitted; B. Epigyne; C. Maxillae and labium; D. Spinnerets.

Abdomen : More or less elliptical, slightly narrowed behind, clothed with pubescence. Ventral side lighter than the dorsal. Epigyne as in text-fig. 3B. Spinnerets very prominent as in text-fig. 3.

Holotype female, *paratype* one female in spirit.

Type-locality : Harsil, Dist. Uttarkashi, U. P., India. Coll. *Asket Singh*, 7-11-1973. *Paratype* : Vill. Rajchalli Chamba, Dist. Tehri, U. P., India. Coll. *J. C. Tripathi*, 8-2-1972.

This species resembles *Scotophaeus domesticus* Tikader from West Bengal but differs as follows : (i) Eyes equidistant whereas in *S. domesticus* the eyes are not equidistant. (ii) Posterior median eyes elliptical in shape but in *S. domesticus* posterior median eyes irregular in shape. (iii) Labium contiguous with maxillae but in *S. domesticus* labium not contiguous with maxillae. (iv) Epigyne also structurally different.

Genus. 4. *Liodrassus* Chamberlin

1936. *Liodrassus* Chamberlin, *Amer. Mus. Novit.*, 841 : 4.

1940. *Liodrassus* : Comstock, *The spider Book*, New York, 333.

Characters : The cephalothorax is oval and much narrower in front. The anterior row of eyes slightly procurved, the anterior medians are larger than the laterals. The posterior row of eyes slightly procurved, close together, the medians are much larger than the laterals. The inner margin of the furrow of the chelicera is completely devoid of teeth.

Type-species : *Liodrassus arizonicus* Chamberlin

Distribution : America.

4. *Liodrassus mandae* n. sp.

General : Cephalothorax and legs light reddish green, abdomen deep brown. Total length 4.30 mm. Carapace 1.60 mm. long, 1.50 mm. wide; abdomen 2.60 mm. long, 1.50 mm. wide.

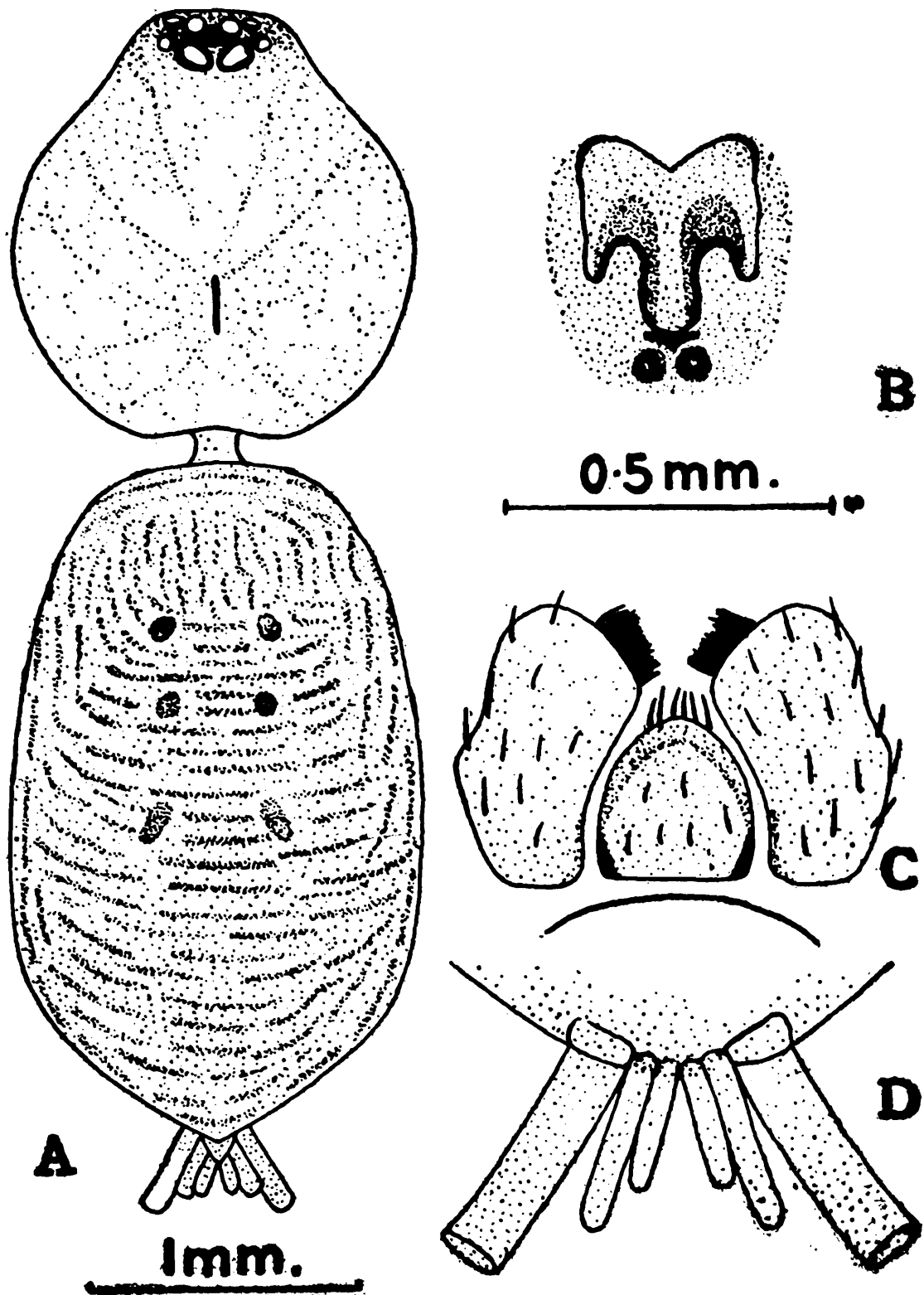
Cephalothorax: Slightly longer than wide, convex, narrow in front, cephalic region slightly high, posterior middle provided with an inconspicuous fovea and clothed with fine hairs. Eyes of anterior row slightly procurved, anterior medians circular, black and slightly larger than laterals, laterals elliptical in shape. Posterior row of eyes slightly longer than the anterior row and procurved. Posterior medians silvery white, elliptical in shape, much larger than the posterior laterals and closer to laterals than to each other. Clypeus narrow. Sternum oval, slightly narrowed behind and clothed with hairs. Labium triangular, not contiguous with maxillae. Anterior margin of maxillae provided with scopulae as in text-fig. 4C. Chelicerae vertical, inner margin without tooth but outer margin with four small teeth. Legs relatively long and strong, clothed with spines and hairs. Leg IV longer than the others, scopulae extend up to the base of metatarsi I and II.

Abdomen : More or less elliptical in shape, narrowed behind, with muscular corrugations and clothed with fine hairs as in text-fig. 4A. Ventral side lighter than the dorsal. Epigyne as in text-fig. 4B. Spinnerets very prominent, anterior spinnerets cylindrical and longer than others as in text-fig. 4D.

Holotype female in spirit.

Type-locality: Bherighat, Dist. Bilaspur, Himachal Pradesh, India. Coll. M. Chandra, 1-8-1972.

This species resembles *Liodrassus utus* Chamberlin but differs from it as follows: (i) Cephalothorax and legs light reddish green, abdomen



Text-fig. 4. *Liodrassus mandae* n. sp. A. Dorsal view of female, legs omitted; B. Epigyne; C. Maxillae and labium; D. Spinnerets.

deep brown but in *L. utus* it is pale in colour. (ii) Epigyne also structurally different.

ACKNOWLEDGEMENTS

The authors are thankful to Dr. B. S. Lamba, Deputy Director, Northern Regional Station, Dehra Dun and Dr. Arun Kumar, Zoologist, High Altitude Zoology Field Station, Solan, Zoological Survey of India,

for supplying the spider collections for our study. The authors are also thankful to Dr. Norman I. Platnick, Assistant Curator, Arachnida Division, American Museum of Natural History, New York for help of literature on Gnaphosidae spiders.

REFERENCES

- CHAMBERLIN, R. V. 1922. The North American Spiders of the family Gnaphosidae. *Proc. Biol. Soc. Washington*, 35 : 145-172.
- POCOCK, R. I. 1900. *Fauna of British India, Arachnida*, London.
- TIKADER, B. K. 1962. On two new species of spiders of the genera *Scotophaeus* and *Drassodes* (Family Gnaphosidae) from West Bengal, *Proc. First All India Congress of Zoology* : 570-573.
- TIKADER, B. K. 1964. Zoological results of the Indian Cho-Oyu Expedition (1958) in Nepal, Part-8. Arachnida. *Rec. Indian Mus.*, 59(3) : 257-267.
- TIKADER, B. K. 1966. On a collection of spiders (Araneae) from the desert area of Rajasthan (India). *Rec. Indian Mus.*, 59(4): 435-443.
- TIKADER, B. K. 1973. Studies on some spiders of the family Gnaphosidae, from India. *Proc. Indian Acad. Sci.*, 77 (5) : 186-189.
- UBICK, D. and ROTH, V. 1973. Nearctic Gnaphosidae including species from adjacent Mexican States. *Amer. Arachnology*, 9(2) : 1-12.