

STUDIES ON SOME SPIDERS OF THE GENERA *GNAPHOSA* LATREILLE AND *CALLILEPIS* WEST- RING (FAMILY GNAPHOSIDAE) FROM INDIA

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(With 5 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, 1966 and 1973) has published a few papers on this group of spiders and he has reported only two species of spider of the genus *Gnaphosa* Latreille from India. The genus *Callilepis* is being recorded here for the first time from India.

While examining spider collections received from the Northern Regional Station, Dehra Dun, Desert Regional Station, Jodhpur and the Western Regional Station, Poona of the Zoological Survey of India, we came across two new species of *Gnaphosa* and three new species of *Callilepis*, which are described in this paper.

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

Genus 1. *Gnaphosa* Latreille

1804. *Gnaphosa* Latreille, *Nouv. Dict. Hist. Nat.*, 24 : 134.

1936. *Gnaphosa* : Tikader, *Rec. Indian Mus.*, 59 (4) : 439.

1975. *Gnaphosa* : Platnick & Shadab, *Bull. Amer. Mus. Nat. Hist.*, 155 : 1-66.

Characters : Cephalothorax nearly oval and broader in front, not attenuated. Pattern of widening streaks diverging from short fovea. Anterior row of eyes procurved (as seen from in front) occupying one-third to one-half width of head. Posterior row considerably longer than anterior and rather strongly recurved, medians irregular in out-

line, larger than laterals and farther from them than from each other. Sternum oval, pointed behind. Chelicerae not very strong, vertical, bearing numerous long bristles which form a scopula on inner part of apical surface. Inner margin with a prominent chitinous ridge, whose edge is concave and serrated. Outer margin with two teeth. Maxillae and labium shorter than that of *Drassodes*. Legs uniform in colour as carapace. Tibiae I and II with one to two ventral spines; metatarsi I and II with two to four ventral spines. Abdomen black or deep brown, generally six faint marks or impressions dorsally. Male palp with a strong single tibial apophysis.

Type-species : *Gnaphosa lucifuga* (Walckenaer)

Distribution : Europe, Asia, Africa and America.

1. *Gnaphosa pauriensis* n. sp.

General : Cephalothorax and legs deep brown; abdomen brownish black. Total length 7.00 mm. Carapace 3.00 mm. long, 2.10 mm. wide; abdomen 4.20 mm. long, 2.60 mm. wide.

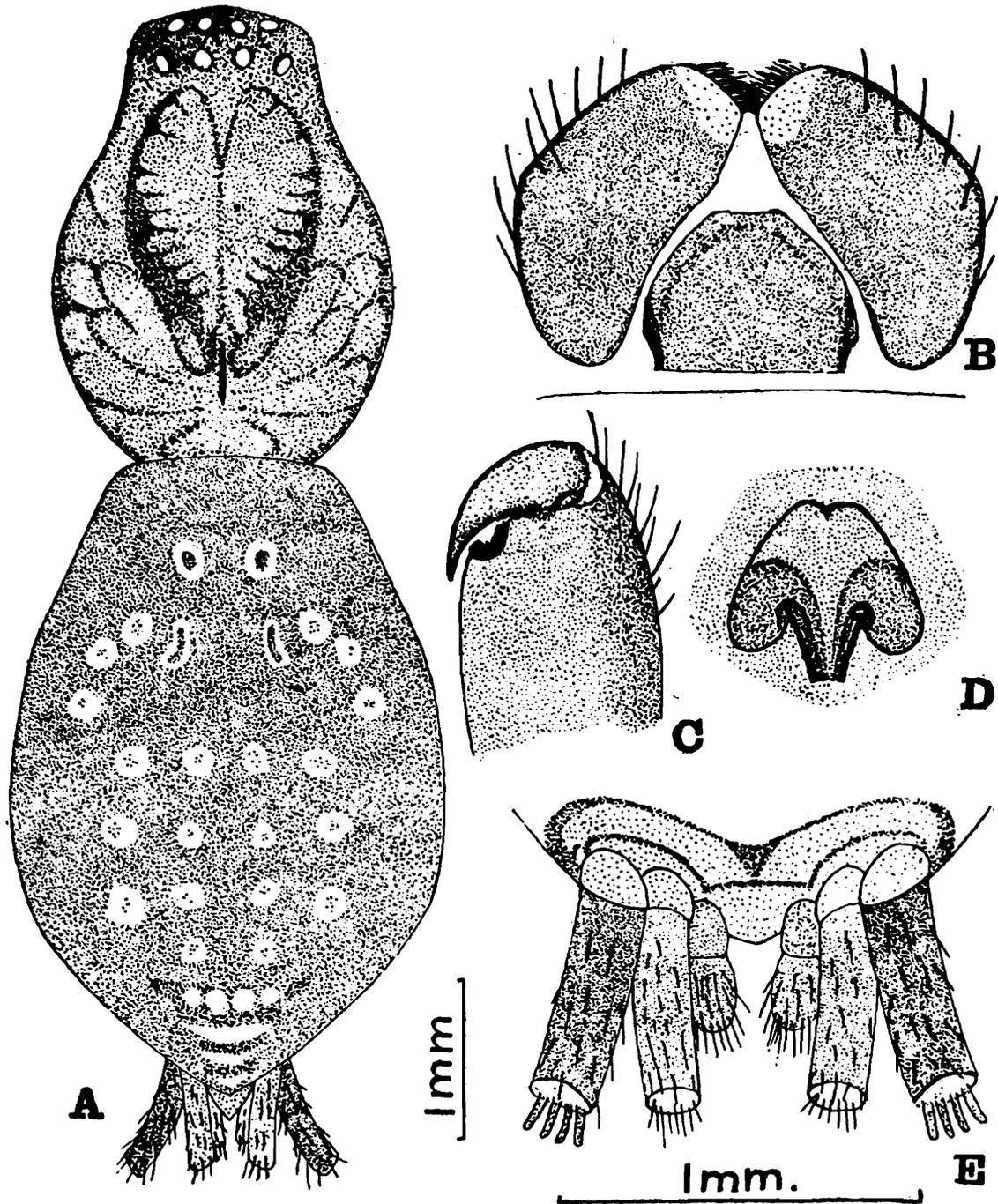
Cephalothorax : Longer than wide, narrowing in front, slightly convex, posterior middle provided with a conspicuous fovea with a V-shaped conspicuous brown marking starting from fovea, clothed with fine hairs. Anterior row of eyes slightly procurved (as seen from in front); medians more or less equal in size to laterals and slightly closer to laterals than to each other. Posterior row of eyes slightly recurved and longer than anterior row of eyes. Posterior median eyes conspicuously silvery white in colour, oval, larger than the laterals and slightly close to each other than to the adjacent laterals. Labium and maxillae as in text-fig. 1B. Chelicerae vertical, not strong, inner margin provided with chitinous ridge as in text-fig. 1C. Legs relatively long, stout, clothed with hairs and spines. Legs formula 4123.

Abdomen : Nearly elliptical, clothed with hairs and provided with some rounded chalk-white spots as in text-fig. 1A. Ventral side lighter than the dorsal. Epigyne as in text-fig. 1D. Spinnerets very prominent, anterior spinnerets cylindrical, slightly longer and darker in colour than others as in text-fig. 1D.

Holotype female, *paratype* five females in spirit.

Type-locality : Bhagwan Shrinagar, Dist. Pauri, U. P., India. Epil. J. C. Tripathi, 13-2-1972.

This species resembles *Gnaphosa poonaensis* Tikader but differs as follows. (i) Abdomen provided with small rounded chalk-white spots but in *G. poonaensis* abdomen provided with whitish chevrons. (ii) Epigyne also structurally different.



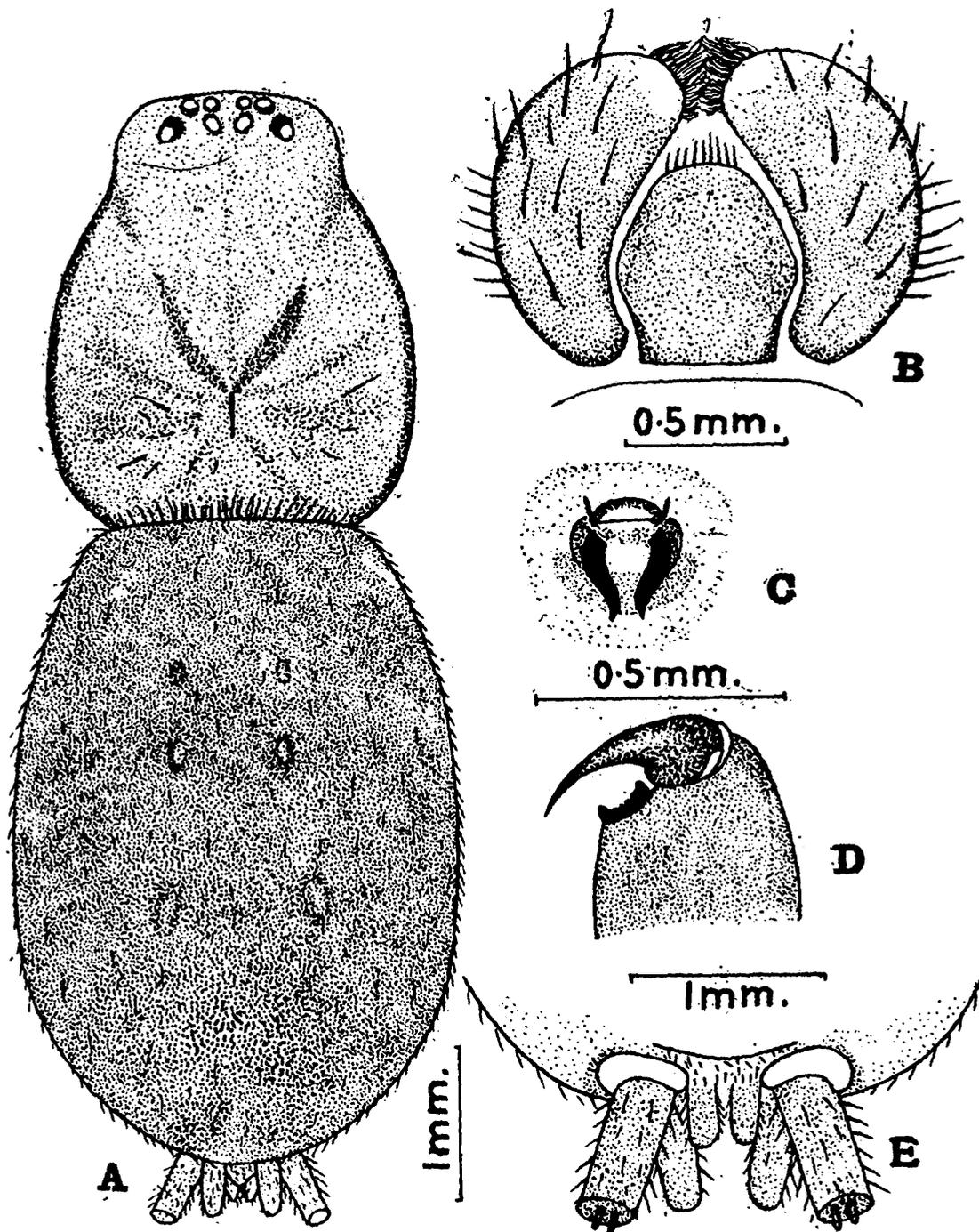
Text-fig. 1. *Gnaphosa pauriensis* n. sp. A. Dorsal view of female, legs omitted; B. Labium and maxillae; C. Chelicera; D. Epigyne; E. Spinnerets.

2. *Gnaphosa jodhpurensis* n. sp.

General : Cephalothorax and legs brownish green, abdomen brown. Total length 8.50 mm. Carapace 3.50 mm. long; 3.00 mm wide; abdomen 5.10 mm. long, 3.20 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 fine hairs as in text-fig. 2A. Anterior row of eyes slightly procurved (as seen from in front); medians smaller than laterals and little closer to laterals than

to each other. Posterior row of eyes slightly recurved and longer than the anterior row of eyes. Posterior median eyes conspicuously silvery white in colour, oval, larger than the laterals and close to each other than to the adjacent laterals. Sternum heart-shaped, pointed behind, clothed with fine hairs. Labium and maxillae as in text-fig. 2B. Chelicerae vertical, not strong, inner margin provided with a chitinous ridge as in text-fig. 2D. Legs relatively long, stout, clothed with hairs and spines. Legs formula 4123.



Text-fig. 2. *Guaphosa jodhpurensis* n. sp. A. Dorsal view of female, legs omitted; B. Labium and maxillae; C. Epigyne; D. Chelicera; E. Spinnerets.

Abdomen : Nearly elliptical, clothed with hairs. Ventral side lighter than the dorsal. Epigyne as in text-fig. 2C. Spinnerets very prominent,

anterior spinnerets cylindrical, slightly longer and darker in colour than others as in text-fig. 2E.

Holotype female, *paratype* one female in spirit.

Type-locality : Sardar samand, Dist. Jodhpur, Rajasthan, India.
Coll. R. C. Sharma, 26-11-1963.

This species resembles *Gnaphosa pauriensis* sp. nov. but differs as follows : (i) Abdomen uniform in colour but in *G. pauriensis* abdomen provided with small rounded chalk-white spots. (ii) Epigyne also structurally different.

Genus 2. *Callilepis* Westring

1874. *Callilepis* Westring, *Goteb. Kongl. Vet. Handl.*, 14 : 43.

1892. *Callilepis* : Simon, *Hist. Nat. Araign.*, 1 : 383-384.

1975. *Callilepis* : Platnick, *Amer. Mus. Novit.*, 2573 : 1-32.

Characters : The lower margin of the furrow of the chelicerae armed with a broad keel or a narrow lamina, without serrated edge. Posterior row of eyes a little longer than the anterior row and straight or only slightly recurved. The eyes nearly equidistant or the medians little farther from each other than from the laterals. The posterior lateral eyes fairly larger than the posterior median eyes. Sternum short, stout, much wider than length of endites.

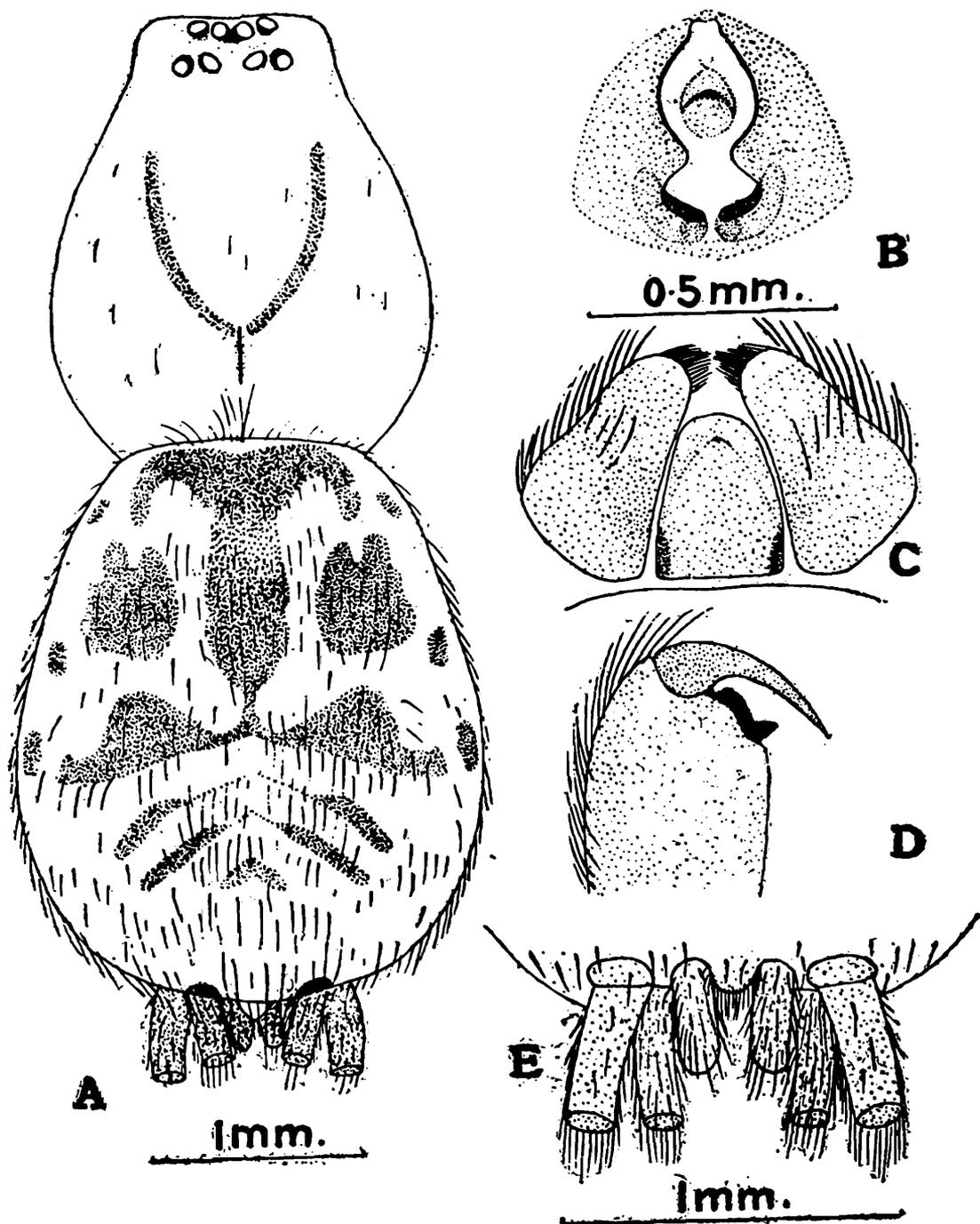
Type-species : *Callilepis nocturna* (Linnaeus)

Distribution : Europe, Arabia, Ethiopia, Africa, Australia, America.

3. *Callilepis rajasthanicus* n. sp.

General : Cephalothorax, abdomen and legs light brownish-green. Total length 4.80 mm. Carapace 2.20 mm. long, 1.80 mm. wide; abdomen 2.80 mm. long, 2.20 mm. wide.

Cephalothorax : Longer than wide, narrowing in front, slightly convex, posterior middle provided with an inconspicuous fovea with a U-shaped conspicuous brown marking starting from fovea, clothed with fine hairs. Anterior row of eyes slightly procurved (as seen from in front); medians slightly smaller than the laterals and little closer to laterals than to each other. Posterior row of eyes slightly recurved and slightly longer than anterior row of eyes. Posterior median eyes conspicuously silvery white in colour, oval, smaller than the laterals and closer to laterals than to each other. Sternum heart-shaped, pointed behind, clothed with fine hairs. Labium and maxillae as in text-fig. 3C. Chelicerae vertical, not strong, inner margin provided with a narrow lamina without serrated ridge as in text-fig. 3D. Legs relatively long, stout, clothed with hairs and spines. Legs formula 4123.



Text-fig. 3. *Callilepis rajasthanicus* n. sp. A. Dorsal view of female, legs omitted; B. Epigyne; C. Labium and maxillae; D. Chelicera; E. Spinnerets.

Abdomen : Nearly elliptical, clothed with hairs and provided with some deep brownish patches as in text-fig. 3A. Ventral side lighter than the dorsal. Epigyne as in text-fig. 3B. Spinnerets very prominent as in text-fig. 3E.

Holotype female in spirit.

Type-locality : Salawas village, Dist. Jodhpur, Rajasthan, India. Coll. K. C. Kausal, 13-6-1963.

This species resembles *Callilepis imbecilla* (Keyserling) but differs from it as follows : (i) Cephalothorax light brownish-green with a

U-shaped conspicuous brown marking starting from fovea but in *C. imbecilla* cephalothorax is orange without any markings. (ii) The abdomen is light brownish-green with deep brownish patches but in *C. imbecilla* abdomen is bluish black without patches. (iii) Epigyne also structurally different.

4. *Callilepis rukminiae* n. sp.

General : Cephalothorax and legs brownish, abdomen brownish-black. Total length 7.20 mm. Carapace 3.00 mm. long, 2.60 mm. wide; abdomen 4.40 mm. long, 3.00 mm. wide.

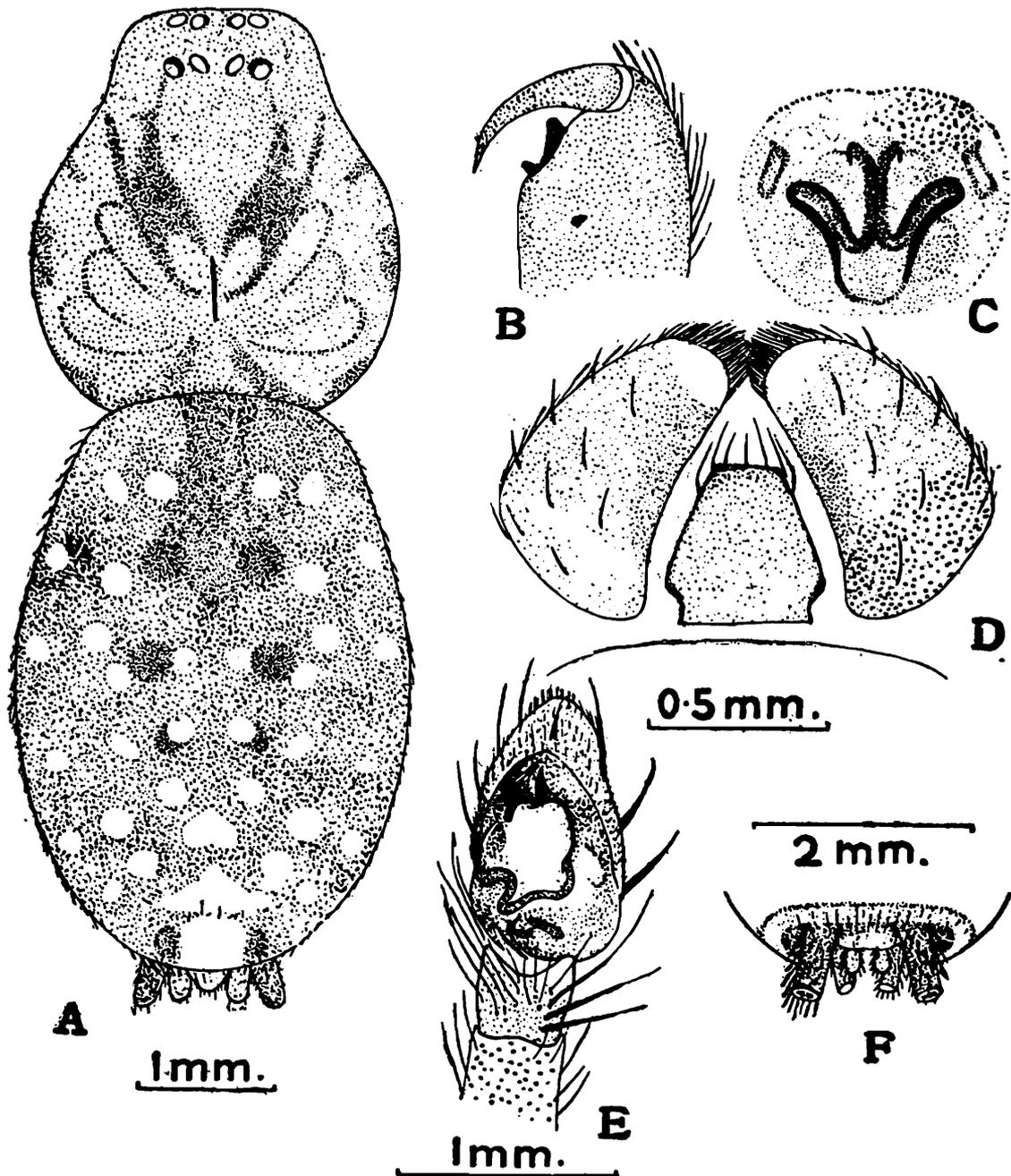
Cephalothorax : Longer than wide, narrowing in front, slightly convex, posterior middle provided with a conspicuous fovea and V-shaped brown patch starting from fovea; clothed with fine hairs. Anterior row of eyes procurved (as seen from in front); medians smaller than the laterals and little closer to laterals than to each other. Posterior row of eyes recurved and slightly longer than the anterior row of eyes. Posterior median eyes conspicuously silvery white in colour, oval, smaller than the laterals and little close to laterals than to each other. Sternum heart-shaped, pointed behind, clothed with fine hairs. Labium and maxillae as in text-fig. 4D. Chelicerae vertical, not strong, inner margin provided with a narrow lamina without serrated ridge as in text-fig. 4B. Legs relatively long, stout, clothed with hairs and spines. Legs formula 4123. Male same in colour as female but slightly larger than the female, male palp as in text-fig. 4E.

Abdomen : Nearly elliptical, clothed with hairs and some round whitish spots as in text-fig. 4A. Ventral side lighter than the dorsal. Epigyne as in text-fig. 4C. Spinnerets very prominent, anterior spinnerets cylindrical, slightly longer and darker in colour than others as in text-fig. 4F.

Holotype female, *Paratype* one immature female, *allotype* one male in spirit.

Type-locality : Katraj, near Poona, Maharashtra, India. Coll. K. R. Rao, 22-8-1968.

This species resembles *Callilepis rajasthanicus* sp. nov. but differs from it as follows : (i) Cephalothorax provided with a V-shaped brown patch starting from fovea but in *C. rajasthanicus* cephalothorax provided with U-shaped brown marking, starting from fovea. (ii) Abdomen provided with some round whitish spots but in *C. rajasthanicus* abdomen provided with deep brownish patches. (iii) Epigyne also structurally different.



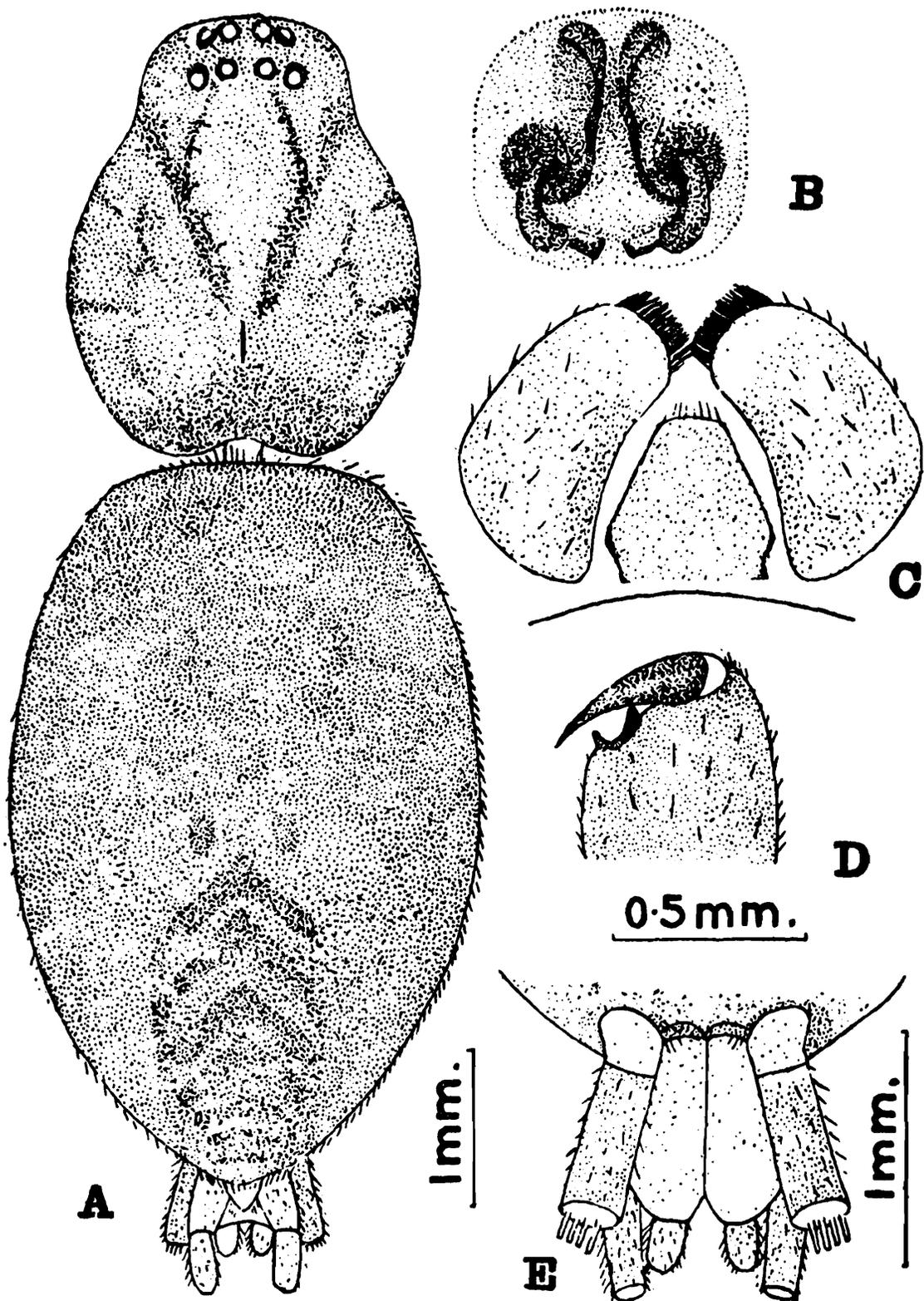
Text-fig. 4. *Callilepis rukminiae* n. sp. A. Dorsal view of female, legs omitted; B. Chelicera; C. Epigyne; D. Labium and maxillae; E. Right male palp, (Ventral view); F. Spinnerets.

5. *Callilepis lambai* n. sp.

General : Cephalothorax and legs brownish-green, abdomen brown. Total length 8.00 mm. Carapace 2.80 mm. long, 2.20 mm. wide; abdomen 5.00 mm. long, 3.20 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 fine hairs. Anterior row of eyes slightly procurved (as seen from in front); medians more or less equal in size to laterals and closer to laterals than to each other. Posterior row of eyes slightly recurved and slightly longer than

anterior row of eyes. Posterior median eyes conspicuously silvery white, oval, smaller than the laterals and little close to laterals than to each other. Sternum heart-shaped, pointed behind and clothed with hairs. Labium and maxillae as in text-fig. 5C. Chelicerae vertical, not strong, inner margin provided with a narrow lamina without serrated ridge as in text-fig. 5D. Legs relatively long, stout, clothed with hairs and spines. Legs formula 4123.



Text-fig. 5. *Callilepis lambai* n. sp. A. Dorsal view of female, legs omitted; B. Epigyne; C. Labium and maxillae; D. Chelicera; E. Spinnerets.

Abdomen : Nearly elliptical, clothed with hairs, dorsally posterior half provided with light chevrons as in text-fig. 5A. Ventral side lighter than the dorsal. Epigyne as in text-fig. 5B. Spinnerets very prominent, anterior spinnerets cylindrical and darker than others as in text-fig. 5E.

Holotype female in spirit.

Type-locality : Kudgeri, Dist. Shimoga, Mysore, India. Coll. Dr. B. S. Lamba, 31-1-1927.

This species resembles *Callilepis rukminiae* sp. nov. but differs from it as follows : (i) Abdomen provided with light chevrons but in *C. rukminiae* abdomen provided with some round whitish spots. (ii) Epigyne also structurally different.

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