

TAXONOMIC STUDIES ON SOME SPIDERS OF
THE GENERA *DRASSODES* WESTRING,
HAPLODRASSUS CHAMBERLIN, *GEODRASSUS*
CHAMBERLIN AND *NODOCION* CHAMBERLIN
(FAMILY : GNAPHOSIDAE) FROM INDIA

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(With 6 Text-figures)

INTRODUCTION

The spiders of the family Gnaphosidae are very little known from the Indian fauna. Even the representative work by Pocock (1900) on Indian spiders contains no reference to this family. Recently Tikader (1962-1973) has reported four species of the genus *Drassodes* from India, and Tikader and Gajbe (1975) have described five more species of this genus from India. 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 Eastern Regional Station, Shillong, the High Altitude Zoology Field Station, Solan and the Western Regional Station, Poona, of the Zoological Survey of India, we came across two new species of the genus *Drassodes*, two new species of the genus *Haplodrassus* and a new species each of the genera *Geodrassus* and *Nodocion* 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 Collection, Zoological Survey of India, Calcutta.

Key to the Genera

1. Anterior median eyes slightly larger than the anterior laterals. 2
- 2
- Anterior median eyes slightly smaller than the anterior laterals.3

2. Inner and outer margin of furrow of chelicera with two teeth each. Epigyne without prominent chitinous ridge on each side.
 *Drassodes* Westring,
 Inner and outer margin of furrow of chelicera with two and three teeth with a prominent chitinous ridge on each side.
 *Haplodrassus* Chamberlin
3. Inner margin of furrow of chelicera with a single tooth, outer margin with three teeth. *Geodrassus* Chamberlin
 Inner margin of furrow of chelicera without tooth, outer margin with two teeth. *Nodocion* Chamberlin

Genus 1. *Drassodes* Westring

1861. *Drassodes* Westring, *Göteborg. Kongl. Vet. Handl.*, 2 : 25-62.

1962. *Drassodes* : Tikader, *Proc. First Cong. Zool.*, 2 : 570.

1964. *Drassodes* : Tikader, *Rec. Indian Mus.*, 59(3) : 257.

1975. *Drassodes* : Tikader & Gajbe, *Oriental Insects*, 9(3) : 273-281.

Characters : Cephalothorax flat, broad in front with a fovea and covered with pubescence. Eyes anterior row slightly procurved (as seen from in front); medians slightly larger than laterals and a little closer to the laterals than to each other. Posterior row longer, procurved; medians oval, slightly larger than laterals and much closer to each other than to adjacent laterals. Chelicerae strong, inner margin normally with two teeth and two on the outer margin. Sternum oval and pointed behind. Maxillae and labium longer than wide. Legs long and strong, tibiae I and II sometimes bear one ventral spine on the apical half. Scopulae consist of closely set, short blunt, little spines. Abdomen longer than wide, narrowing behind, covered with pubescence and with a 'mousy' appearance.

Type-species : *Drassodes lapidosus* (Walck).

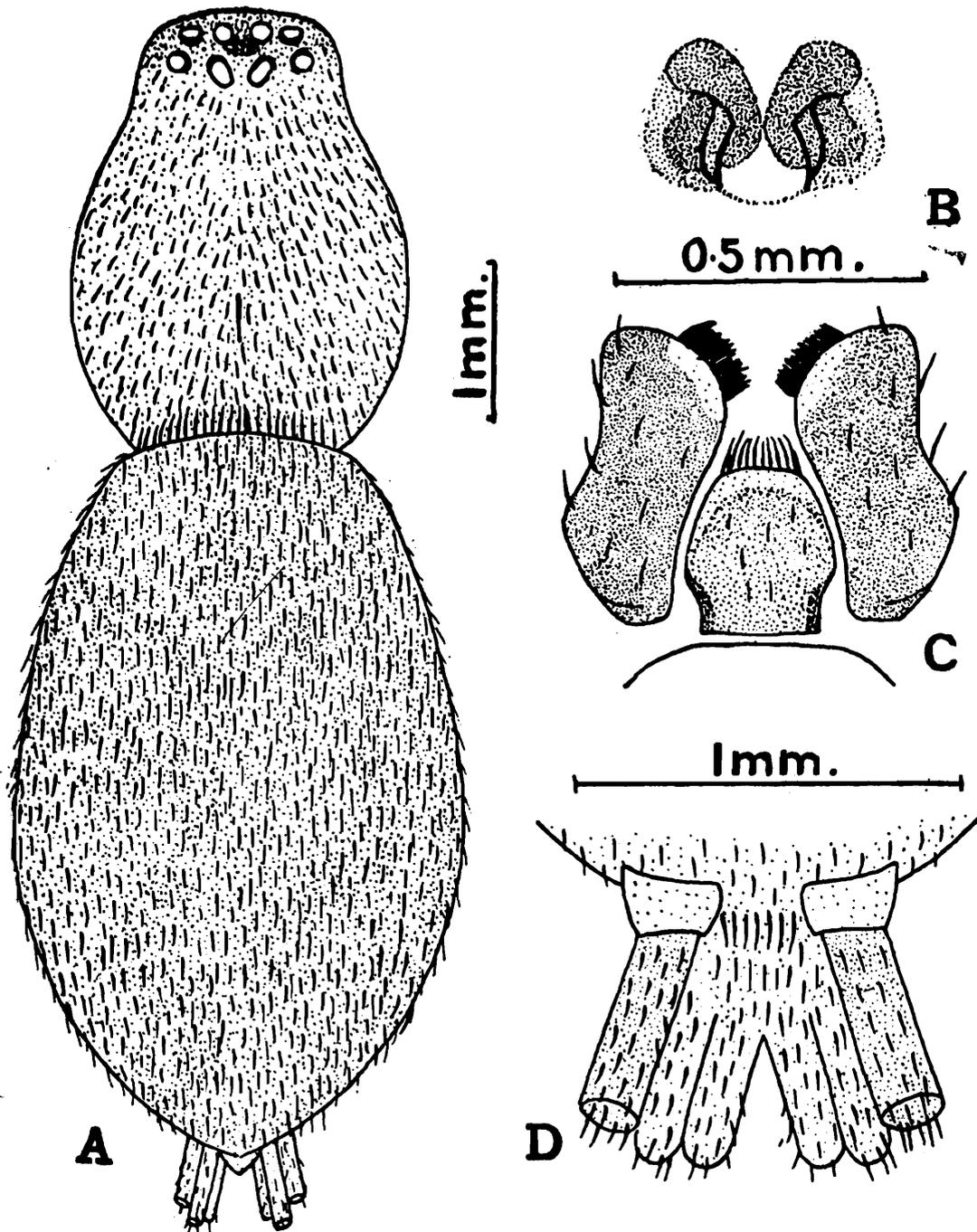
Distribution : Oriental, sub-tropical and temperate regions of the world.

1. *Drassodes pashanensis* n. sp.

General : Cephalothorax and legs light reddish-green. Abdomen brownish-green. Total length 7.60 mm. Carapace 2.90 mm. long, 2.20 mm. wide; abdomen 4.90 mm. long, 3.00 mm. wide.

Cephalothorax : Longer than wide, not very broad in front, thickly clothed with fine hairs, posterior middle provided with a conspicuous fovea. Cephalic region slightly high. Eyes pearly white except anterior medians, posterior row of eyes slightly longer than the anterior row. Anterior row of eyes slightly procurved (as seen from in front), medians slightly larger than the laterals and closer to laterals than to each other. Posterior row of eyes procurved, medians oval, larger than the laterals

and much closer to each other than to the adjacent laterals. Chelicerae moderately strong, inner and outer margin provided with two small teeth and two slightly bigger teeth respectively. Sternum heart-shaped, pointed behind, clothed with fine hairs. Maxillae and labium reddish-green, shape as in text-fig. 1C. Legs relatively long and strong, clothed with hairs and spines. Metatarsi and tarsi I and II provided ventrally with conspicuous scopulae and tarsi with prominent claw tufts. Legs formula 4123.



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

Abdomen : Longer than wide, narrowing behind, clothed with thick hairs as in text-fig. 1A. Ventral side slightly lighter than the
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dorsal. Epigyne as in text-fig. 1B. Spinnerets prominent as in text-fig. 1D.

Holotype female, *paratype* two females in spirit.

Type-locality : Pashan, Poona, Maharashtra, India. Coll. U. A. Gajbe, 23-3-1975.

This species closely resembles *Drassodes indraprastha* Tikader & Gajbe but differs as follows : (i) Anterior median eyes slightly larger than the laterals but in *D. indraprastha* they are of the same size. (ii) Maxillae and labium reddish-green but in *D. indraprastha* maxillae and labium light brownish green. (iii) Epigyne also structurally different.

2. *Drassodes meghalayaensis* n. sp.

General : Cephalothorax and legs reddish brown, abdomen brown. Total length 8.00 mm. Carapace 2.80 mm. long, 2.10 mm. wide; abdomen 5.00 mm. long, 2.40 mm. wide.

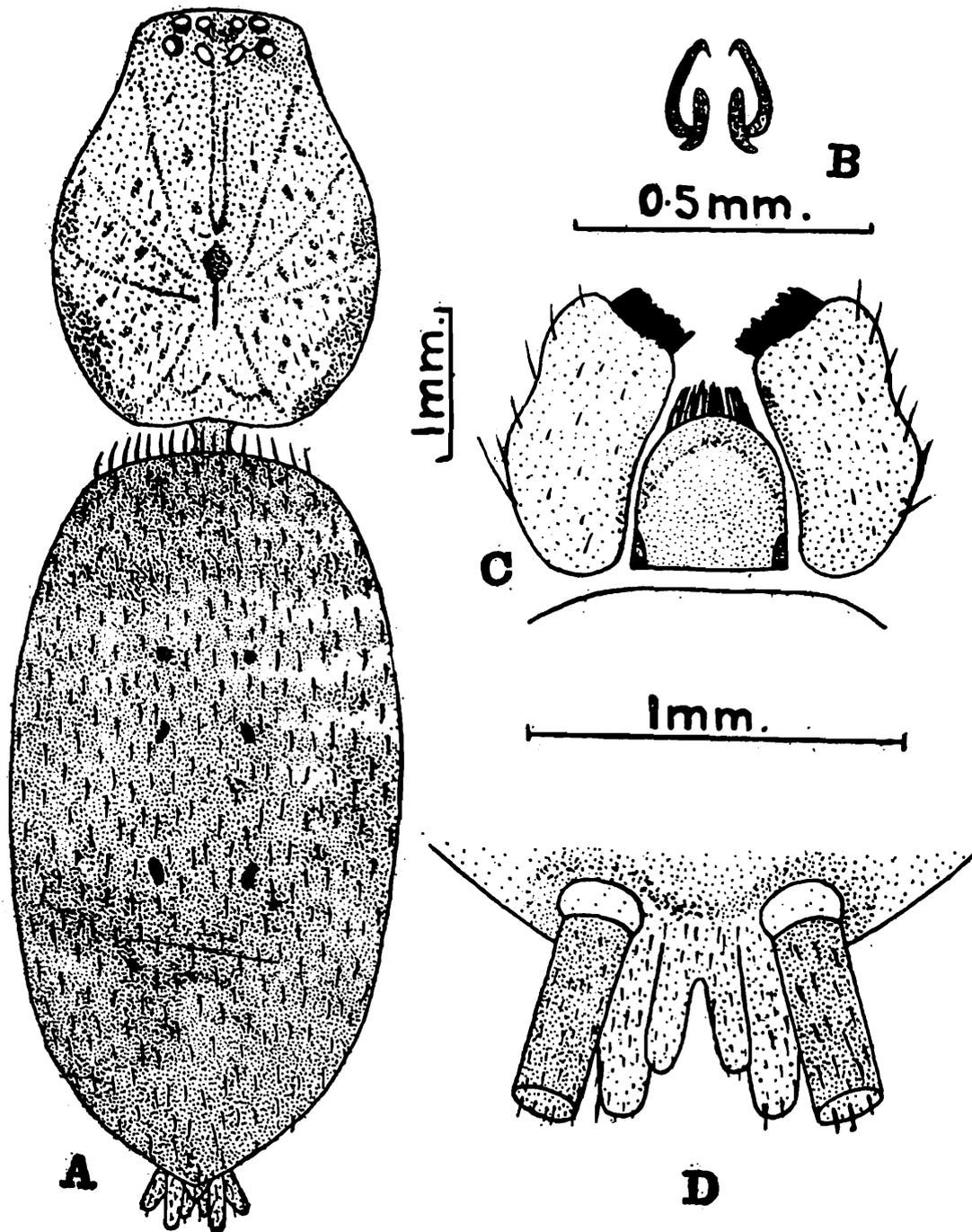
Cephalothorax : Longer than wide, not very broad in front, clothed with pubescence, posterior middle provided with a conspicuous fovea. A pattern of radiating streaks diverges from a short fovea to the sides. Eyes pearly white except anterior medians, posterior row of eyes slightly longer than the anterior row. Anterior row of eyes procurved (as seen from in front), medians slightly larger than the laterals and closer to laterals than to each other. Posterior row of eyes procurved, medians elliptical, slightly smaller than laterals and closer to each other than to adjacent laterals. Chelicerae moderately strong, inner and outer margin provided with two small teeth each. Sternum heart-shaped, pointed behind, clothed with short, black fine hairs. Maxillae and labium light-reddish-green, shape as in text-fig. 2C. Legs relatively long and strong, clothed with hairs and spines. Metatarsi and tarsi of I and II provided ventrally with conspicuous scopulae and tarsi with prominent claw tufts. Legs formula 4123.

Abdomen : Longer than wide, nearly elliptical, clothed with hairs and provided with three pairs of sigilla as in text-fig. 2A. Ventral side lighter than the dorsal. Epigyne as in text-fig. 2B. Spinnerets prominent, anterior spinnerets longer than others as in text-fig. 2D.

Holotype female in spirit.

Type-locality : Degrangiri, Garo Hills, Meghalaya, India. Coll. S. Biswas, 10-11-1973.

This species resembles *Drassodes pashanensis* sp. nov. but differs as follows : (i) Posterior median eyes nearly elliptical but in *D. pashanensis* median eyes oval. (ii) Inner and outer margin of chelicerae provided with two similar teeth each but in *D. pashanensis* inner and outer



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

margin with two dis-similar teeth each. (iii) Epigyne also structurally different.

Genus 2. *Haplodrassus* Chamberlin

1922. *Haplodrassus* Chamberlin, *Proc. Biol. Soc., Wash.*, 35 : 161.

1940. *Haplodrassus* : Comstock, *The spider Book*, New York, 326.

1975. *Haplodrassus* : Platnick & Shadab, *Amer. Mus. Novit*, 2583 : 5.

Characters : Carapace flat, ocular area narrowed, thoracic region with thin erect black setae, cephalic area not elevated. Anterior row of eyes slightly procurved (as seen from in front) and posterior row of

eyes procurved. Eyes of the anterior row round. Posterior medians larger than others and oblique, and close together, well away from the posterior laterals. Median ocular area as wide behind as in front. Height of the clypeus greater than the diameter of anterior medians. Inner margin of cheliceral furrow bears two teeth and outer margin with two or three teeth. Leg formula 4123. Fourth tibia without spines on dorsal side. Anterior spinnerets widely separated than median or posterior spinnerets. Epigyne with large paired chitinous processes separated by median septum.

Type-species : *Haplodrassus hiemalis* (Emerton).

Distribution : New York, America.

3. *Haplodrassus tehriensis* n. sp.

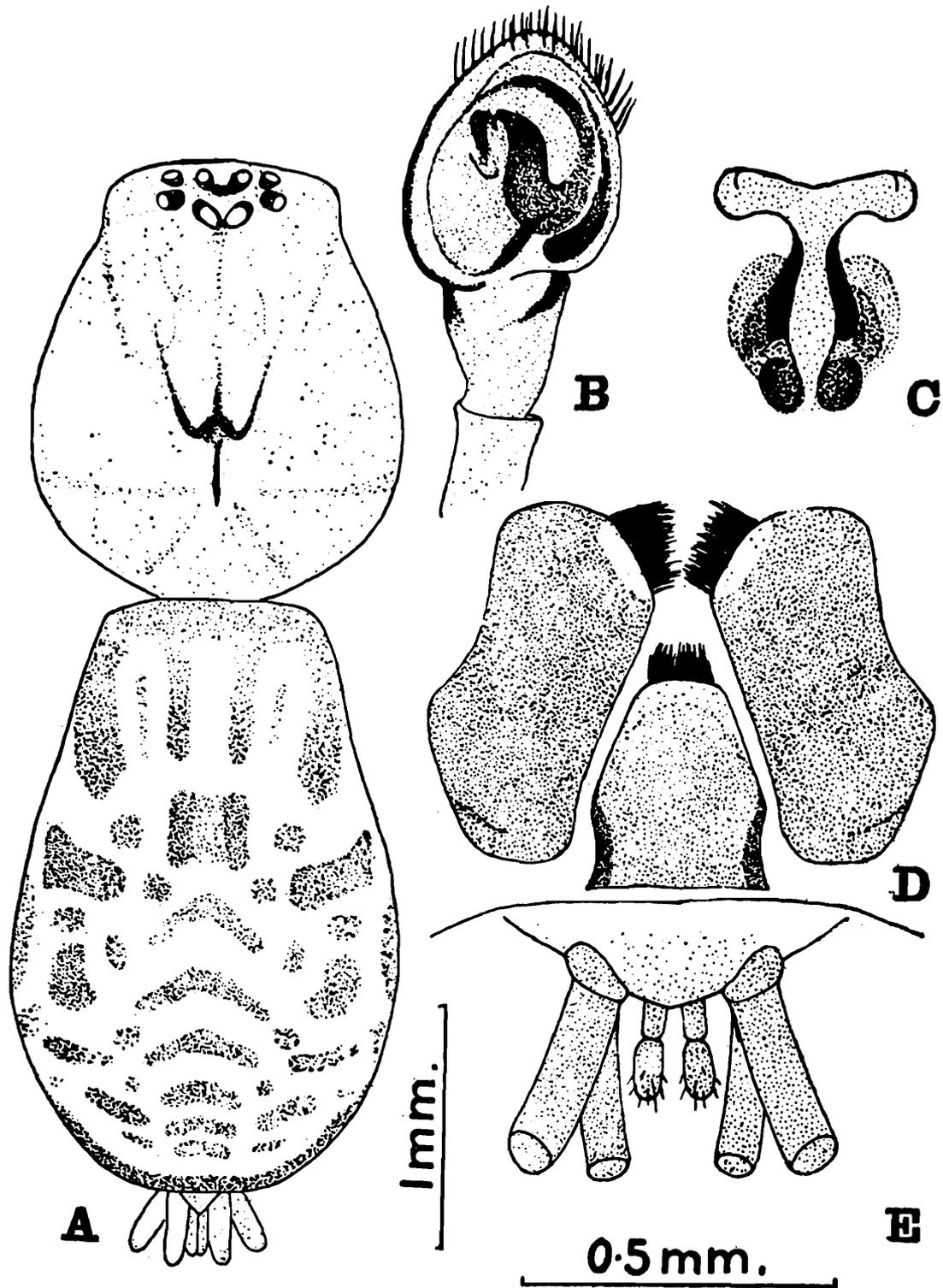
General : Cephalothorax and legs light brownish green. Abdomen light green. Total length 4.40 mm. Carapace 1.90 mm. long, 1.50 mm. wide; abdomen 2.50 mm. long, 1.60 mm. wide.

Cephalothorax : Longer than wide, broad in front, clothed with pubescence, posterior middle provided with a conspicuous fovea, just above the fovea there is a W-shaped conspicuous deep brown marking. Cephalic region slightly high. Eyes pearly white except anterior medians, posterior row of eyes slightly longer than the anterior row. Anterior row of eyes slightly procurved (as seen from in front), medians slightly larger than the laterals and closer to laterals than to each other. Posterior row of eyes procurved, medians oblique, larger than the laterals and closer to each other than to the adjacent laterals. Chelicerae moderately strong, inner and outer margin provided with two and three small teeth respectively. Sternum heart-shaped, pointed behind, clothed with fine hairs. Maxillae and labium light reddish-green, shape as in text-fig. 3D. Legs relatively long and strong, clothed with hairs and spines. Metatarsi and tarsi of I and II provided ventrally with conspicuous scopulae and tarsi with prominent claw tufts. Legs formula 4123. The colour and size of male almost like female, male palp as in text-fig. 10.

Abdomen : Longer than wide, narrowing anteriorly, covered with pubescence and provided with brownish patches as in text-fig. 3A. Ventral side same in colour as dorsal. Epigyne with prominent chitinous ridge as in text-fig. 3C. Spinnerets prominent, anterior spinnerets cylindrical and longer than others as in text-fig. 3E.

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

Type-locality : Rajchalli Chamba, Dist. Tehri, U. P., India. Coll. J. C. Tripathi, 8-2-1972.

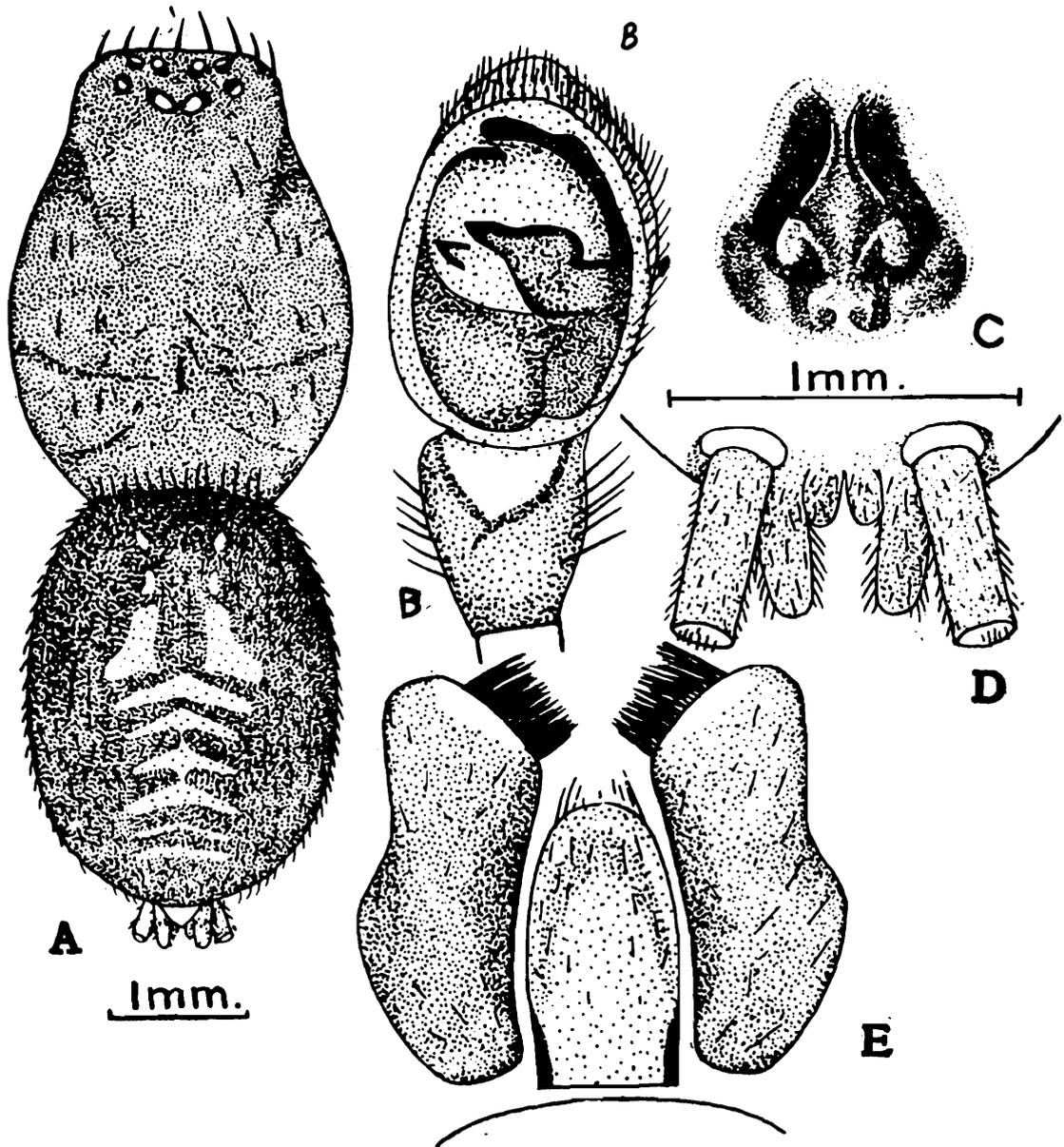


Text-fig. 3. *Haplodrassus tehriensis* n. sp. A. Dorsal view of female, legs omitted, B. Right male palp, ventral view, C. Epigyne, D. Labium and maxillae, E. Spinnerets.

This species resembles *Haplodrassus signifer* (Koch) but differs from it as follows : (i) On the cephalothorax just above the fovea there is a W-shaped deep brown marking but in *H. signifer* there is no such marking. (ii) Abdomen light-green, provided with brownish patches but in *H. signifer* abdomen is gray without brownish patches. (iii) Epigyne also structurally different.

4. *Haplodrassus sataraensis* n. sp.

General : Cephalothorax reddish-green, legs light reddish-green, abdomen dark brown. Total length 6.30 mm. Carapace 3.30 mm long, 2.40 mm. wide; abdomen 3.10 mm. long, 2.20 mm. wide.



Text-fig. 4. *Haplodrassus sataraensis* n. sp. A. Dorsal view of female, legs omitted; B. Right male palp, ventral view; C. Epigyne; D. Spinnerets; E. Labium and maxillae.

Cephalothorax : Longer than wide, broad in front, clothed with fine hairs, posterior middle provided with a conspicuous fovea. Eyes pearly white except anterior medians, posterior row of eyes slightly longer than the anterior row. Anterior row of eyes slightly procurved (as seen from in front), medians slightly larger than the laterals and closer to laterals than to each other. Posterior row of eyes procurved, medians oblique, larger than the laterals and much closer to each other than to the adjacent laterals. Chelicerae moderately strong, inner margin provided with two small similar teeth and outer margin with three

dissimilar minute teeth. Sternum heart-shaped, pointed behind, clothed with fine thick hairs. Maxillae and labium reddish-green, shape as in text-fig. 4 E. Legs relatively long and strong, clothed with hairs and spines. Metatarsi and tarsi I and II provided ventrally with conspicuous scopulae and tarsi with prominent claw tufts. Legs formula 4123. The colour and size of male almost like female, male palp as in text-fig. 4B.

Abdomen : Longer than wide, nearly elliptical, clothed with thick hairs and provided with chalk-white chevrons as in text-fig. 4A. Ventral side same as dorsal. Epigyne with prominent chitinous ridge as in text-fig. 4C. Spinnerets prominent, anterior spinnerets cylindrical and longer than others as in text-fig. 4D.

Holotype female, *allotype* two males in spirit.

Type-locality : Ambanali village near Mahabaleswar, Dist. Satara, Maharashtra, India. Coll. M. Babu Rao, 9-2-1973.

This species resembles *Haplodrassus tehriensis* sp. nov. but differs as follows : (i) Cephalothorax without markings but in *H. tehriensis* just above the fovea there is a W-shaped deep brown marking. (ii) Abdomen provided with chalk-white chevrons but in *H. tehriensis* abdomen provided with brownish patches. (iii) Epigyne and male palp also structurally different.

Genus 3. *Geodrassus* Chamberlin

1922. *Geodrassus* Chamberlin, *Proc. Biol. Soc. Wash.* 35 : 159.

1940. *Geodrassus* : Comstock, *The Spider Book*, New York, p. 325.

Characters : This genus is closely allied to *Drassodes*. The lower margin of the furrow of the chelicera is armed with a single small tooth. The eyes of the anterior row are subequal in size. The palpus of the male is very short, and the tibia completely lacks an apophysis.

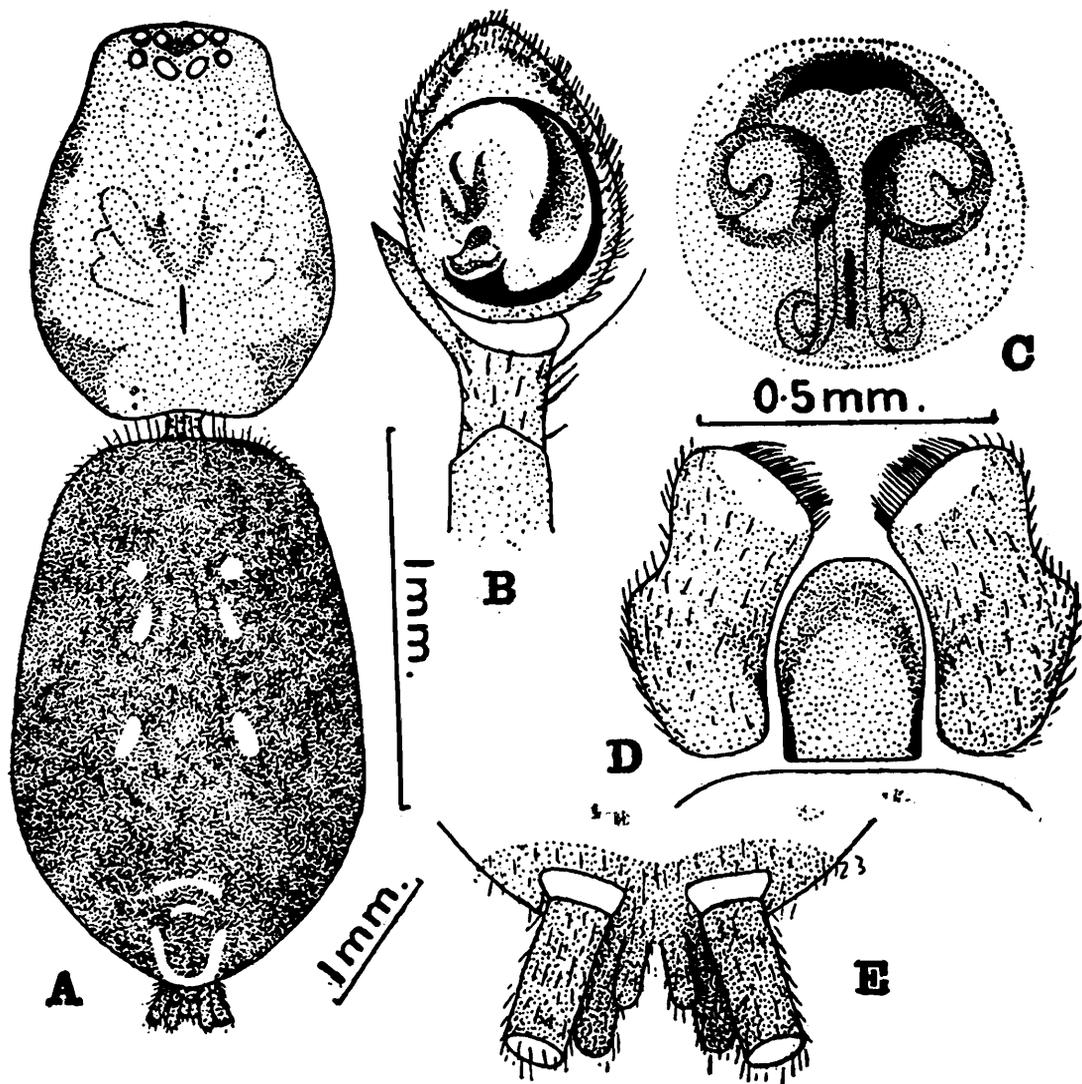
Type-species : *Geodrassus gosiutus* (Chamberlin)

Distribution : Utah, America.

5. *Geodrassus sirmourensis* sp. nov.

General : Cephalothorax and legs reddish-green, abdomen brown. Total length 6.50 mm. Carapace 2.50 mm. long, 2.00 mm. wide; abdomen 3.80 mm. long, 2.30 mm. wide.

Cephalothorax : Longer than wide, broad in front, clothed with fine thick black hairs, posterior middle provided with a conspicuous fovea. Pattern of radiating streaks diverges from a fovea to the sides. Eyes pearly white except anterior medians, posterior row of eyes slightly longer than the anterior row. Anterior row of eyes procurved



Text-fig. 5. *Geodrassus sirmourensis* n. sp. A. Dorsal view of female, legs omitted; B. Right male palp, ventral view; C. Epigyne; D. Labium and maxillae; E. Spinnerets.

(as seen from in front), medians smaller than the laterals and closer to laterals than to each other. Posterior row of eyes procurved, medians oval, larger than laterals and much closer to each other than to the adjacent laterals. Chelicerae moderately strong, inner and outer margin provided with one and three teeth respectively. Sternum heart-shaped, pointed behind, clothed with fine thick hairs. Maxillae and labium reddish-green, shape as in text-fig. 5D. Legs relatively long and strong, clothed with hairs and spines. Metatarsi and tarsi of I and II provided ventrally with conspicuous scopulae and tarsi with prominent claw tufts. Legs formula 4123. Male smaller than female but colouring pattern is the same, male palp as in text-fig. 5B.

Abdomen : Longer than wide, nearly elliptical, clothed with thick hairs, provided with three pairs of sigilla and U-shaped white marking at the posterior end as in text-fig. 5A. Ventral side lighter than the dorsal. Epigyne as in text-fig. 5C. Spinnerets prominent, anterior spinnerets cylindrical and longer than others as in text-fig. 5E.

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

Type-locality : Renuka lake, Dist. Sirmour, Himachal Pradesh, India. Coll. Arun Kumar, 5-4-1974.

This species resembles *Geodrassus phanus* Chamberlin but differs from it as follows : (i) Carapace and legs reddish-green but in *G. phanus* carapace and legs light brown. (ii) Posterior median eyes oval but in *G. phanus* posterior median eyes angular and oblique. (iii) Epigyne also structurally different.

Genus 4. *Nodocion* Chamberlin

1922. *Nodocion* Chamberlin, *Proc. Biol. Soc. Wash.*, 35 : 154.

1940. *Nodocion* : Comstock, *The Spider Book*, New York, p. 328.

Characters : The lower margin of the furrow of the chelicera is completely unarmed as in *Liodrassus*. The anterior median eyes are considerably smaller than the lateral eyes. The median ocular quadrangle is narrowed in front, the anterior median eyes smaller than the posterior median. The chelicerae are armed in front with a thick covering of stiff bristles.

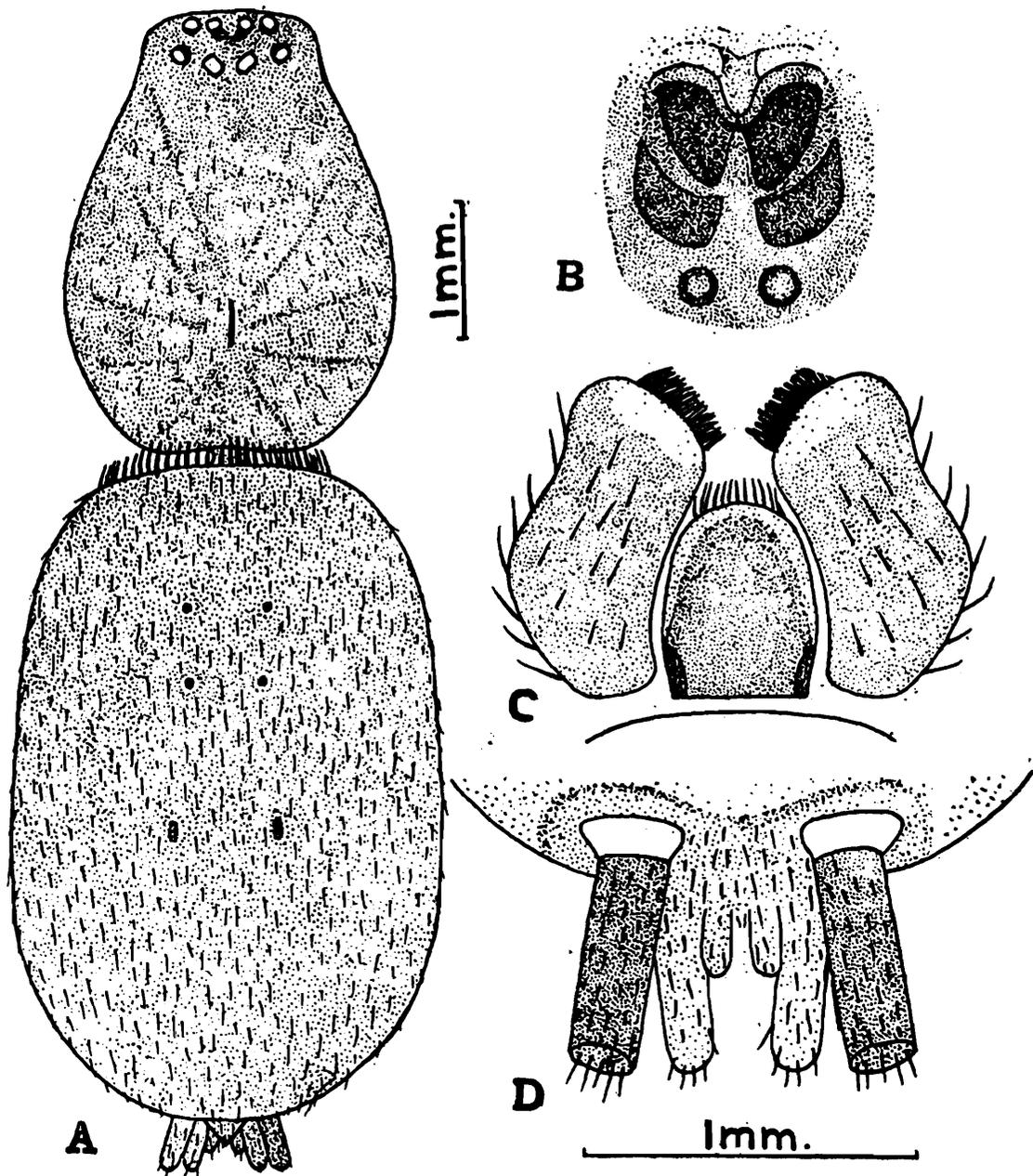
Type-species : *Nodocion mateonus* Chamberlin.

Distribution : California, America.

6. *Nodocion solanensis* sp. nov.

General : Cephalothorax and legs reddish-green, abdomen light brownish-green. Total length 8.80 mm. Carapace 3.50 mm. long, 2.40 mm. wide; abdomen 5.20 mm. long, 3.30 mm. wide.

Cephalothorax : Longer than wide, broad in front, clothed with pubescence, posterior middle provided with a conspicuous short fovea. Pattern of radiating streaks diverge from a short fovea to the sides. Eyes pearly white except anterior medians, posterior row of eyes slightly longer than the anterior row. Anterior row of eyes procurved (as seen from in front), medians smaller than the laterals and closer to laterals than to each other. Posterior row of eyes procurved, medians elliptical, slightly larger than the laterals and closer to each other, than to the adjacent laterals. Chelicerae moderately strong, inner margin without tooth and outer margin provided with teeth. Sternum heart-shaped, pointed behind, clothed with fine hairs. Maxillae and labium reddish-green, shape as in text-fig. 6C. Legs relatively long and strong, clothed with hairs and spines. Metatarsi and tarsi of I and II provided ventrally with conspicuous scopulae and tarsi with prominent claw tufts. Legs formula 4123.



Text-fig. 6. *Nodocion solanensis* n. sp. A. Dorsal view of female, legs omitted; B. Epigyne; C. Labium and maxillae; D. Spinnerets.

Abdomen : Longer than wide, nearly elliptical, clothed with hairs and provided with three pairs of sigilla as in text-fig. 6A. Ventral side lighter than the dorsal. Epigyne as in text-fig. 6B. Spinnerets prominent, anterior spinnerets cylindrical and longer than others as in text-fig. 6D.

Holotype female in spirit.

Type-locality : Kasoli, Dist. Solan, Himachal Pradesh, India. Coll. H. P. Agarwal 22-12-1972.

This species resembles *Nodocion mateonus* Chamberlin but differs from it as follows : (i) Carapace and legs reddish-green but in *N. mateonus* carapace and legs yellow. (ii) Abdomen light-brownish-green without a median longitudinal darker stripe but in *N. mateonus* abdomen yellowish with a median longitudinal darker stripe. (iii) Posterior median eyes elliptical but in *N. mateonus* posterior median eyes oblique and angular. (iv) Epigyne also structurally different.

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