

ZOOLOGICAL RESULTS OF THE INDIAN CHO-OYU
EXPEDITION (1958) IN NEPAL

PART 8.—ARACHNIDA

By

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(With 6 Text-figures)

CONTENTS

	PAGE
I—Introduction	257
II—Systematic Account	258
III—Summary	267
IV—References	267

I—INTRODUCTION

The present paper is based on a collection of spiders from the high altitude areas made by Dr. A. K. Datta of the Zoological Survey of India, during the Cho-Oyu Expedition of 1958. The collection contains nine species belonging to six genera distributed in five families. Of the nine species collected, six are new to science, as follows :—

Family 1. Agelenidae.

1. *Tegenaria lunakensis* sp. nov.

Family 2. Hahniidae.

2. *Hahnia alini* sp. nov.

Family 3. Gnaphosidae.

3. *Drassodes phagduaensis* sp. nov.

4. *Phaeocedus mosambaensis* sp. nov.

Family 4. Thomisidae.

5. *Xysticus roonwali* sp. nov.

Family 5. Lycosidae.

6. *Lycosa tatensis* sp. nov.

Though small, the collection is very interesting in so far as it throws considerable light on the distribution of spiders. The family Hahniidae is recorded here from the Indian region for the first time.

All holotypes and paratypes, etc., of the new species described here are deposited in the Zoological Survey of India, Calcutta, and carry the Registered Numbers of that collection.

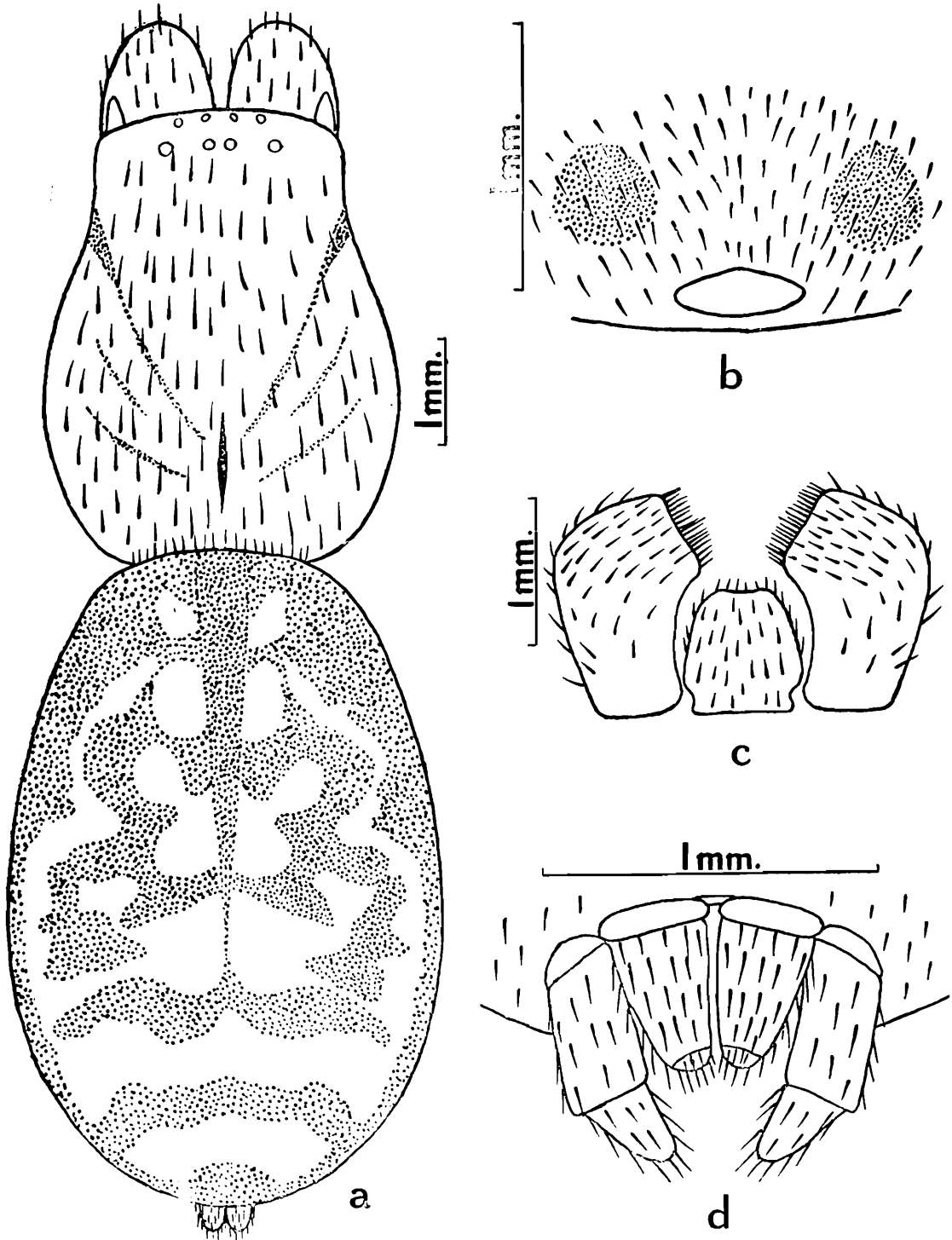
I gratefully acknowledge my thanks to Dr. M. L. Roonwal, Director, Zoological Survey of India, for providing me an opportunity to study this collection, for going through the manuscript and offering valuable suggestions.

II—SYSTEMATIC ACCOUNT

Family 1 AGELENIDAE

1. *Tegenaria lunakensis* Tikader, sp. nov.

Material.—5♀♀, 3♂♂. Sta. No. 32 B (Lunak, ca. 5, 181 m.) underneath rocks. 8.v.1958. Coll. A. K. Datta.



TEXT-FIG. 1.—*Tegenaria lunakensis* Tikader, sp. nov. Female. Holotype.
 (a). Dorsal view of whole body. (b). Epigynum. (c). Maxillae and labium.
 (d). Spinners.

Description.—*General* : Cephalothorax and legs yellowish brown ; abdomen dirty white. Total length 12.20 mm. ; carapace 5.30 mm. long, 3.60 mm. wide ; abdomen 7.20 mm. long, 4.50 mm. wide.

Cephalothorax : Relatively broad in front, convex, clothed with fine hairs ; cephalic region high, thoracic region with a dark fovea and radiating striae. Eyes anterior row viewed in front, very slightly procurved ; medians smaller than laterals. Posterior row longer, slightly procurved, median eyes much closer to each other than to adjacent laterals ; eyes white, but with the bases encircled by black. Clypeus narrow. Sternum oval, pointed behind, clothed with spine-like hairs. Maxillae and labium as seen in Text-fig. 1c. Chelicerae deep brown, strong and nearly vertical ; two teeth on inner margin and three on the outer and the middle tooth larger. Legs clothed with spiny hairs, tibiae I and II with three pairs of ventral spine.

Abdomen : More or less elliptical, strongly narrowing in front slightly overlapping the posterior region of cephalothorax in front ; clothed with fine pubescence, many irregular small dark-brown spots or patches on the dorsum, connected with each other and forming a median longitudinal band. Ventral surface more uniform pale colour than dorsal surface. Epigynum and spinners as seen in Text-fig. 1b, d.

Type-specimens.—*Holotype* : 1 female (ZSI Reg. No. 2481/18). *Paratypes* : 3 females (ZSI Reg. No. 2489/18).

Type-locality.—Lunak, ca. 5,181 m. altitude, Central Himalaya, Nepal.

Geographical distribution.—Nepal. Known only from the type-locality.

Comparisons.—This species is very near *Tegenaria domestica* (Clerck), but is separable from it as follows :—(i) Inner margin of chelicerae with 2 teeth (in *T. domestica* with 4 teeth). (ii) Sternum oval, pointed behind (in *T. domestica* sternum heart-shaped, pointed behind). (iii) Epigynum simple, with an elliptical genital pore (in *T. domestica* epigynum slightly complicated with a transverse line like genital pore).

Family 2. HAHNIIDAE

Genus *Hahnia* Koch

2. *Hahnia alini* Tikader, sp. nov.

Material.—3 ♂♂, 4 ♀♀, Sta. No. 32-B (Lunak, ca. 5,181 m.) underneath rocks. 8. v. 1958. Coll. A. K. Datta.

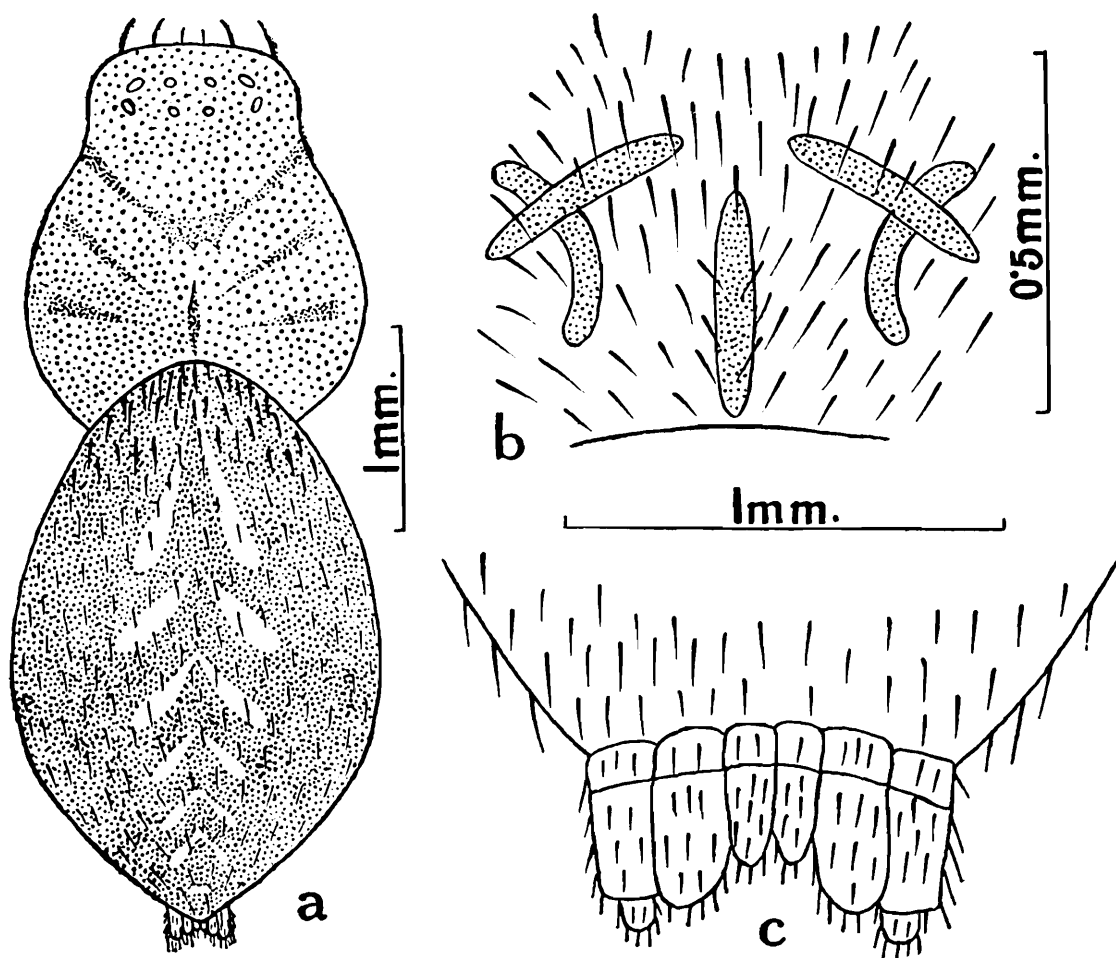
Description.—*General* : Cephalothorax dark reddish-brown ; abdomen dark-brown. Total length 4.40 mm. ; carapace 2.00 mm. long, 1.50 mm. wide ; abdomen 2.80 mm. long, 1.80 mm. wide.

Cephalothorax : Longer than wide, narrowing in front ; cephalic region high, thoracic region flat ; with a dark fovea and radiating striae. Clypeus moderate. Eyes white, anterior row procurved ; anterior

median eyes smaller than the others ; posterior row procurved and longer than the anterior row, eyes more or less equidistant from each other. Sternum heart-shaped, pointed behind. Labium wider than long. Legs stout, clothed with stiff hairs and a few spines.

Abdomen : Oval, clothed with fine hairs, slightly overlapping the posterior region of cephalothorax in front ; mid-dorsally a row of V-shaped white marking with apex of the "V" pointed forward ; remaining portion with white dots. Ventral surface uniform light colour. Epigynum and spinners as seen in Text-fig. 2*b, c*.

Type-specimens.—*Holotype* : 1 female (ZSI Reg. No. 2482/18). *Paratypes* : 3 females (ZSI Reg. No. 2488/18).



TEXT-FIG. 2.—*Hahnia alini* Tikader, sp. nov. Female. Holotype.

(a). Dorsal view of whole body. (b). Epigynum. (c). Spinners.

Type-locality.—Lunak, ca. ,181 m. Central Himalaya, Nepal.

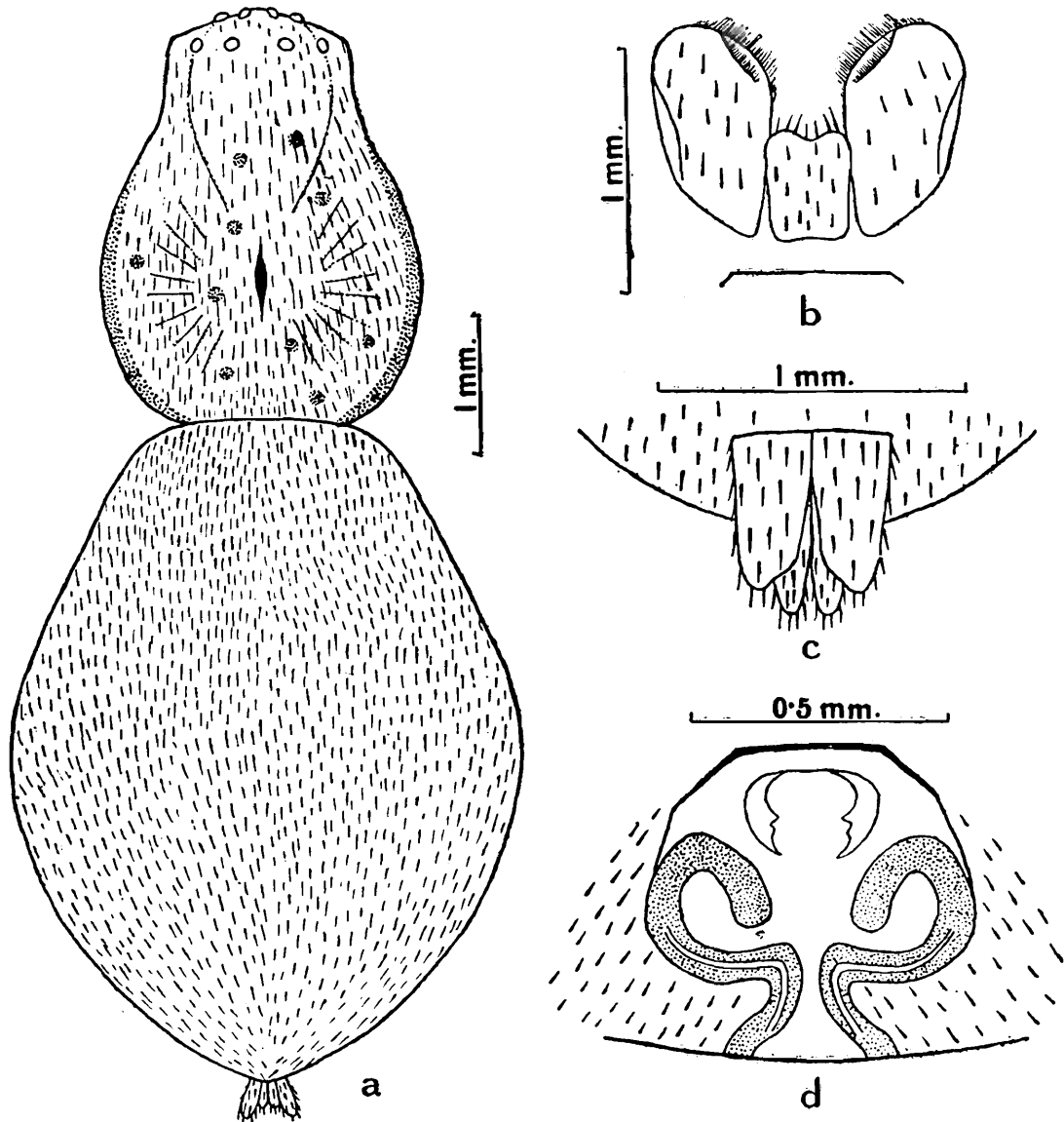
Geographical Distribution.—Nepal. Known only from the type-locality.

Comparisons.—This species resembles *Hahnia helveola* Simon, but is separated as follows :—(i) Cephalothorax dark reddish-brown (in *H. helveola* cephalothorax yellow-brown). (ii) Abdomen dark brown, with white chevrons (in *H. helveola* abdomen pale yellow with black chevrons).

Family 3. GNAPHOSIDAE
Genus *Drassodes* Westring

3. *Drassodes phagduaensis* Tikader, sp. nov.

Material.—1 ♀, Sta. No. 48-A (Phagdua, ca. 4,267 m.), underneath loose rocks. 30. v. 1958. Coll. A. K. Datta.



TEXT-FIG. 3.—*Drassodes phagduaensis* Tikader, sp. nov. Female. Holotype.

(a). Dorsal view of whole body. (b). Maxillae and labium. (c). Spinners
(d). Epigynum.

Description.—*General*: Cephalothorax deep yellowish-brown, legs, light yellowish-brown, abdomen reddish-brown. Total length 7.50 mm.; carapace 2.70 mm. long, 2.00 mm. wide; abdomen 5.10 mm. long, 3.90 mm. wide.

Cephalothorax: Heart-shaped, relatively broad in front, convex, with a fovea, clothed with fine hairs; a deep brown band encircles almost the entire margin of cephalothorax and irregular circular deep-brown dots on the cephalothorax. Eyes viewed from front, anterior row slightly procurved, medians smaller than the laterals. Posterior row longer, procurved, more or less equal and equidistant. Clypeus narrow.

Sternum heart-shaped pointed behind with circular deep-brown dots and with a narrow deep-brown margin. Maxillae and labium as seen in Text-fig. 3*b*. Chelicerae strong, nearly vertical, three small teeth on inner margin and four on the outer, but second, third and fourth jointed at the base. Legs long, stout, clothed with hairs and a few long spines, irregular deep-brown patches on the legs, tibiae I and II with two pairs of long ventral spines. Scopulae extend nearly up to the base of metatarsi I and II, and upto the base of tarsi III and IV

Abdomen: Oval, clothed with fine grey pubescence, slightly overlapping the posterior region of cephalothorax in front. Ventral surface uniform pale colour. Spinners and epigynum as seen in Text-fig. 3*c, d*.

Type-specimen.—*Holotype*: 1 female (ZSI Reg. No. 2483/18).

Type-locality.—Phagdua, ca. 4,267 m. Central Himalaya, Nepal.

Geographical distribution.—Nepal. Known only from the type-locality.

Comparisons.—This species resembles *Drassodes neglectus* (Keyserling) but is separated as follows:—(i) Abdomen reddish-brown with smooth dorsum (in *D. neglectus* abdomen light grey with 4 spots on the muscle-impression). (ii) Abdomen without chevrons (in *D. neglectus* the hind half of abdomen with faint chevrons).

Genus *Phaeocedus* Simon

4. *Phaeocedus mosambaensis* Tikader, sp. nov.

Material.—1 ♀, on way to Mosamba lake, ca. 4,600 m. 12. v. 1958. Coll. A. K. Datta.

Description.—*General*: Cephalothorax and legs light reddish brown, abdomen dark-brown. Total length 6.60 mm.; Carapace 3.00 mm. long, 2.30 mm. wide; abdomen 3.70 mm. long, 2.40 mm. wide.

Cephalothorax: Longer than wide, slightly narrowed in front; clothed with fine hairs, convex with a fovea. Eyes anterior row straight (as seen from in front) and equal. Posterior row straight, slightly longer than anterior, medians irregular in shape, slightly larger than laterals and further from them than from each other. Clypeus moderate, margin bearing spines, directed forward. Sternum oval and narrowed behind. Maxillae and labium as seen in Text-fig. 4*b*. Legs long, stout, clothed with hairs and a few long spines, metatarsi I and II with one pair of ventral spines. Scopulae extend upto the base of metatarsi I and II.

Abdomen: Nearly oval, clothed with fine hairs, posterior half with deep-brown chevrons. Ventral surface uniform deep-brown. Spinners and epigynum as seen in Text-fig. 4*c, d*.

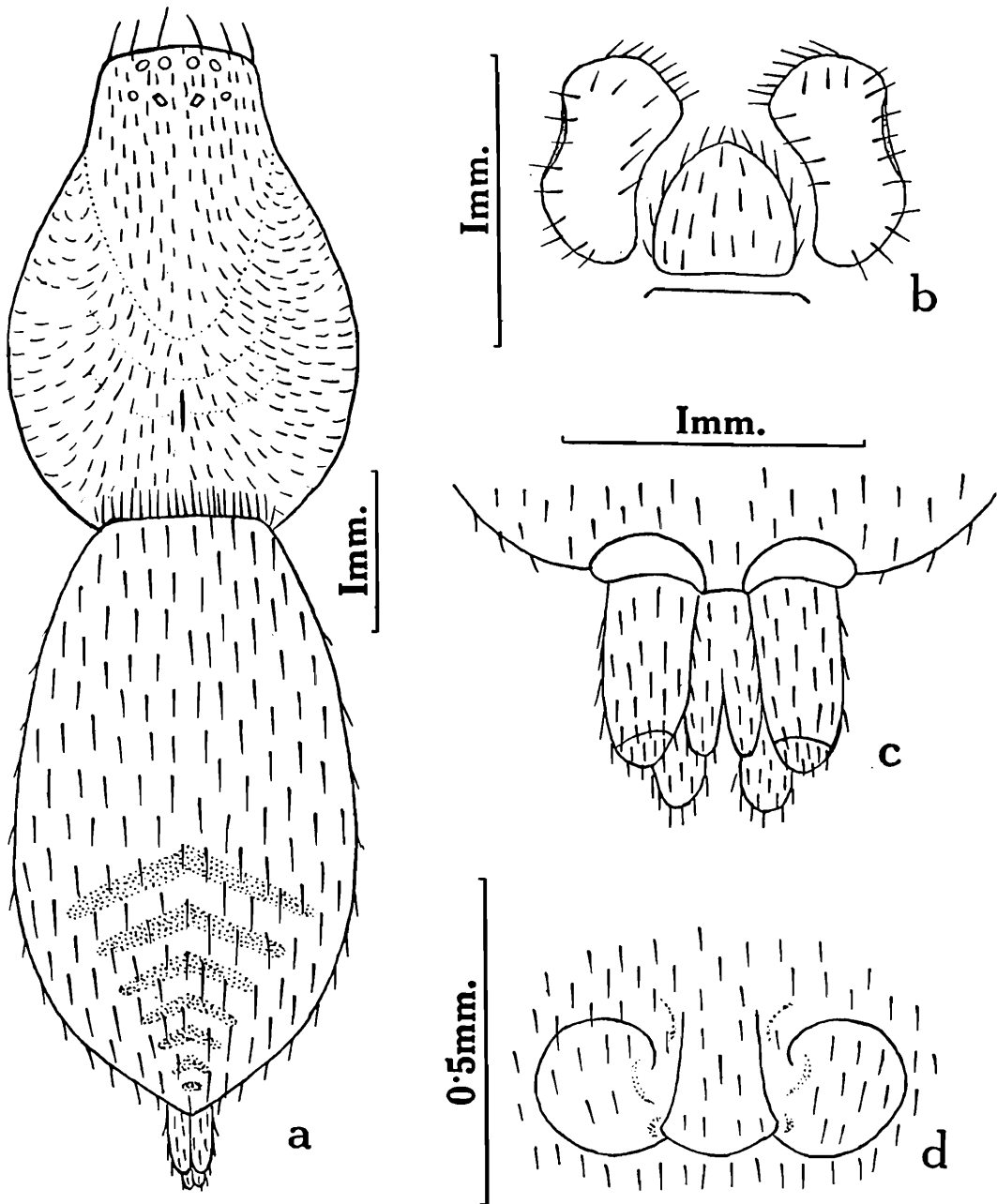
Type-specimen.—*Holotype*: 1 female (ZSI Reg. No. 2486/18).

Type-locality.—Near Mosamba lake, ca. 4,600 m. Central Himalaya, Nepal.

Geographical distribution.—Nepal. Known only from type-locality.

Comparisons.—This species resembles *Phaeocedus braccatus* (Koch) but it is separated as follows:—(i) Abdomen dark-brown, posterior half of dorsal surface with deep-brown chevrons (in *P. braccatus* abdomen gray to black without chevrons). (ii) Metatarsi I and II with one pair of

ventral spines (in *P. braccatus* metatarsi I and II without ventral spine).



TEXT-FIG. 4.—*Phaeocedus mosambaensis* Tikader, sp. nov. Female. Holotype. (a). Dorsal view of whole body. (b). Maxillae and labium. (c). Spinners. (d). Epigynum.

Family 4. THOMISIDAE

Genus *Xysticus* Koch

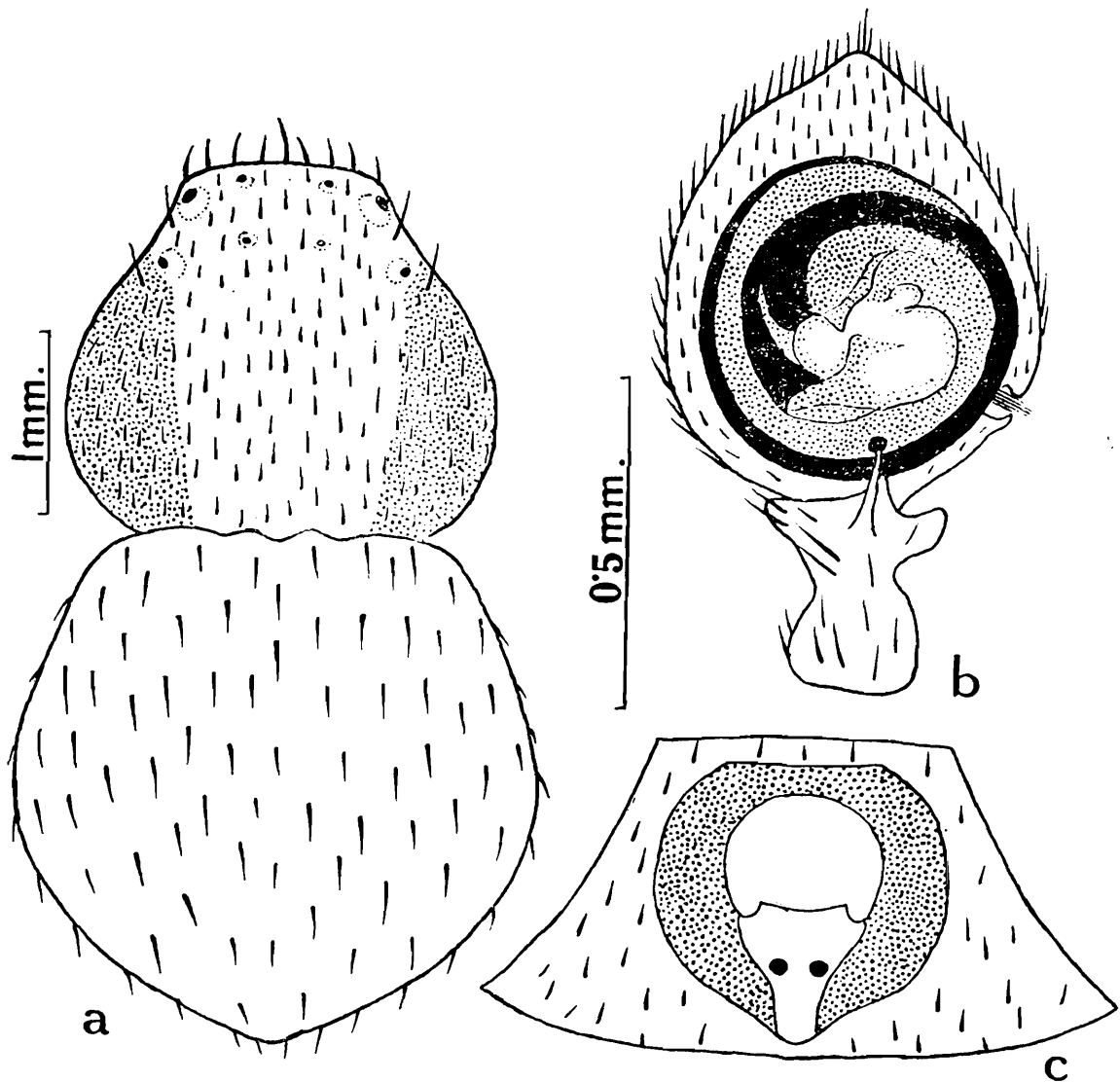
5. *Xysticus roonwali* Tikader, sp. nov.

Material.—1 ♀, Station Base Camp, ca. 5,151 m. on way to Everest Base Camp, underneath boulders. 24. v. 1958.

1 ♂, Station No. 32-B (Lunak, ca. 5,181 m.), underneath rocks, 8. v. 1958. Coll. A. K. Datta.

Description.—General: Cephalothorax, legs and clypeus pale brown ; eyes black, abdomen a little deeper-brown. Total length 4.70 mm. ; carapace 2.20 mm. long, 2.20 mm. wide, abdomen 2.60 mm. long, 2.60 mm. wide.

Cephalothorax: As long as wide, spined, the lateral margin with longitudinal dark brown broad patches ; clypeus moderate, margin with nine strong spines directed forward ; eyes round, ringed with dirty white tubercles ; ocular quad longer than wide, space of the anterior median eyes a little smaller than that of posterior ; lateral eyes larger, posterior median eyes smaller than anterior median eyes. Sternum heart-shaped, pointed behind, with black pigmented spots. Legs spined, strong and



TEXT-FIG. 5.—*Xysticus roonwali* Tikader, sp. nov. Female. Holotype.

(a). Dorsal view of the whole body. (b). Male padipalp. (c). Epigynum.

stout, spotted with black dots ; tibiae I and II with three pairs of ventral spines, three spines on the I femur in front.

Abdomen: Oval, as long as wide, dorsum spined, more conspicuously in front ; strongly overlapping the posterior region of cephalothorax in front. Ventral surface pigmented like sternum. Male palp and epigynum as seen in Text-fig. 5b, c.

Type-specimens.—Holotype: 1 female (ZSI Reg. No. 2484/18).

Allotype: 1 male (ZSI Reg. No. 2487/18.)

Type-locality.—Base Camp on way to Everest, ca. 5,151 m.

Geographical distribution.—Nepal. Known only from the type-locality.

Comparisons.—This species is closely related to *Xysticus ferox* (Hentz) but differs as follows :—(i) Lateral margin of cephalothorax with longitudinal dark-brown broad patches (in *X. ferox* the cephalothorax is yellowish in the middle and reddish brown on the sides). (ii) Abdomen uniform deep-brown (in *X. ferox*, abdomen brownish grey above and smoky-white on the sides and three pairs of transverse black bars on the dorsal side of the abdomen).

Family 5. LYCOSIDAE

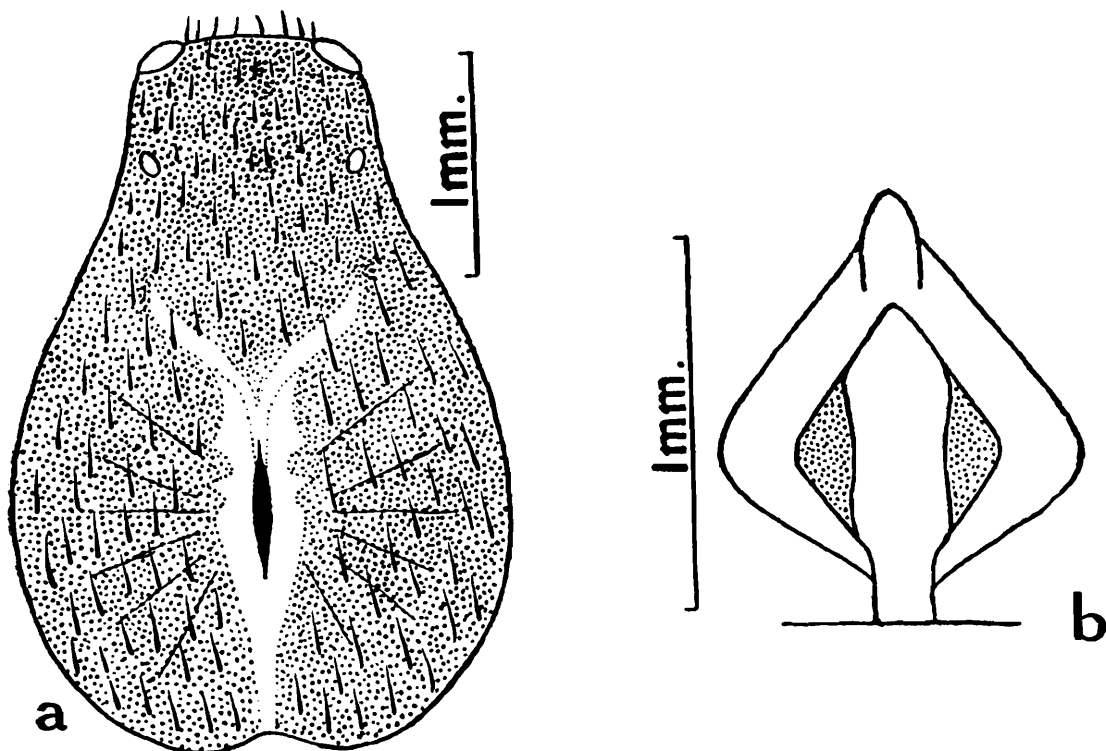
Genus *Lycosa* Latreille

6. *Lycosa tatensis* Tikader, sp. nov.

Material.—2 ♀♀, Sta. No. 45A. (Tate, ca. 4,419 m.). 27. v. 1958. Coll. A. K. Datta.

Description.—*General* : Cephalothorax, legs and abdomen very dark-brown or black. Total length 7·10 mm. ; carapace 3·40 mm. long, 2·50 mm. wide ; abdomen 3·60 mm. long, 2·50 mm. wide.

Cephalothorax : Longer than wide, relatively narrow in front, clothed with hairs and sparsely with spines ; thoracic region convex with dark fovea and radiating striae, a longitudinal more or less lance shaped light area surrounding the fovea. Eyes pale, posterior medians larger than



TEXT-FIG. 6.—*Lycosa tatensis* Tikader, sp. nov. Female. Holotype.

(a). Dorsal view of cephalothorax. (b). Epigynum.

the others. Anterior row of eyes straight and small. Clypeus moderate. Legs long, stout, clothed with hairs and long spines, irregular brownish patches on the legs.

Abdomen: Longer than wide, broader posteriorly, clothed with hairs, a light longitudinal lance-shaped area on the dorsum in front. Ventral surface uniform light colour. Epigynum as seen in Text-fig. 6b.

Type-specimen.—*Holotype*: 1 female, (ZSI Reg. No. 2485/18.)

Type-locality.—Tate, ca. 4,419 m. Central Himalaya, Nepal.

Geographical distribution.—Nepal. Known only from the type-locality.

Comparisons.—This species is closely related to *Lycosa himalayensis* Gravely, but differs as follows:—(i) A light longitudinal lance-shaped area on the dorsal side of abdomen (in *L. himalayensis* abdomen uniform dark colour). (ii) Epigynum spear-shaped with a narrow base (in *L. himalayensis* epigynum spatulated with a wider base).

7. *Lycosa nigrotibialis* Simon

1884 *Lycosa nigrotibialis* Simon, *Ann. Mus. Genova*, Geneva, 20, p. 330, Fig. 3-C. (*Type-locality* Minhla, Burma).

Material.—2 ♀♀, Sta. No. 23C (Khumbu Glacier, ca. 5,334 m. underneath pebbles, 24. iv. 195. Coll. A. K. Datta.

Distribution.—India, Burma and Nepal; Punjab, Bihar, Simla and Dharampur, ca. 5,000 ft. West Himalayas, Nepal Valley, 4,500—6,500 ft. Eastern Himalayas, Sukna, ca. 1,000 ft., Singla 1,500 ft., Kalimpong 2,000 ft., Darjeeling, Sibsagar and Garo Hills, Assam. Burma; Rangoon, Tharrawaddy, Minhla, Tenasserim.

8. *Lycosa annandalei* Gravely

1924. *Lycosa annandalei* Gravely, *Rec. Indian Mus.*, Delhi, 26, p. 606. Fig. 4I. (*Type-locality*: Madras city.)

Material.—1 ♀, on way to Lunak, ca. 5,181 m. underneath stone boulders. 8. v. 1958. Coll. A. K. Datta.

Distribution.—India: Trivandrum, Travancore, Bangalore, Mysore, Ootacamund, Nilgiris, Madras City, Red Hills, Chingleput District, Horsleykonda ca. 3,000 to 4,100 ft., Chittoor District, West Khandesh, Bombay Presidency, Multan, Punjab, Siripur, Saran, Bihar, Gamtia, Birbhum District, Calcutta Salt Lake and Dum Dum near Calcutta, Berhampur Court, Bengal, Shillong ca. 4,700 to 4,800 ft., Darjeeling, Chittagong, Siliguri, Cachar.

9. *Lycosa himalayensis* Gravely

1924. *Lycosa himalayensis* Gravely, *Rec. Indian Mus.*, Delhi, 26, p. 603, Fig. 4 I.

Material.—1 ♀, on way to Lunak, ca. 5,181 m. underneath of stone boulders. 8. v. 1958. Coll. A. K. Datta.

Distribution.—India : Singla, *ca.* 1,500 ft., Ghumti *ca.* 2,500 ft., Pashok *ca.* 3,500 ft., Soom, *ca.* 4,000 ft., Kalimpong, Sitong Ridge, *ca.* 4,700 ft., and Nam Ting Pokri, Sitong Ridge, Sureil, *ca.* 5,000 ft., Darjeeling District, Sonarpur, Assam.

III—SUMMARY

Six new species of spiders are described in this paper. All the species were collected from high altitude areas of Central Himalaya in Nepal, during the Indian Cho-Oyu Expedition 1958. The new species belong to six genera distributed in five families as follows : —Agelenidae Hahniidae, Gnaphosidae, Thomisidae and Lycosidae.

IV—REFERENCES

- COMSTOCK, J. H. 1940. *The Spiders Book*. pp. 1-708, New York.
- DAYAL, SUKH 1935. Spiders of Lahore.—*Bull. Dept. Zool. Punjab Uni.*, Lahore, **1**, pp. 119-252.
- GRAVELY, F. G. 1924. Some Indian spiders of the family Lycosidae.—*Rec. Indian Mus.*, Calcutta, **26**, pp. 587—613.
- LOCKET, G. H. and MILLADGE, A. F. 1951. *British Spiders*, Ray Society, London, **1**, pp. 95—202.
- LOCKET, G. H. AND MILLADGE, A. F. 1953. *British Spiders*, Ray Society, London, **2**, pp. 1—32.
- PETRUN KEVITICH, A. 1911. Index Catalogue of American Spiders.—*Bull. Amer. Mus. nat. Hist.*, New York, **29**, pp. 1—790.
- POCOCK, R. I. 1900. *Fauna of British India, Arachnida*, pp. 1—278, London.