

ON SOME NEW SPECIES OF SPIDERS OF THE GENERA *HIPPASA* SIMON, *LYCOSA* LATREILLE, *PARDOSA* KOCH AND *TROCHOSA* KOCH (FAMILY : LYCOSIDAE) FROM COASTAL ANDHRA PRADESH, INDIA

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INTRODUCTION

The first record of the lycosid spider was of *Lycosa indagatrix* by Walckenaer in 1837. Later this species was synonymised as *Hogna indagatrix* (Walck.) by Roewer in 1954. The earlier contributions of Blackwall (1867), Cambridge (1870, 76, 85), Simon (1884, 85, 86, 92, 97), Thorell (1890, 91, 94, 95), Pocock (1899, 1900, 1901), Gravely (1924), Reimoser (1934), Dyal (1935) and Sinha (1951) accounted 63 species belonging to 21 genera of this family Lycosidae.

Recently Tikader (1964, 70, 77), Tikader & Mukerjee (1971) and Tikader & Malhotra (1976) described 13 more species from India.

Tikader and Malhotra (1980) in their revisionary work, Fauna of India, spiders : in Araneae, Vol. I (1) compiled 81 species belonging to 9 genera only, as many species have been synonymised ; out of which 18 were described as new species and recorded the genus *Flanona* Simon for the first time from India. While studying the spider collections made by one of us (TSR) from Coastal Andhra Pradesh, we came across six new species of the genera *Hippasa*, *Lycosa*, *Pardosa* and *Trochosa* which are described and illustrated here.

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

1. ***Hippasa valiveruensis* sp. nov.**

(Fig. 1, a-d)

General : Cephalothorax and legs brown, abdomen brown with yellow spots. Total length 4.80 mm. Carapace 2.23 mm long, 1.76 mm wide ; abdomen 2.60 mm long, 1.50 mm wide.

Cephalothorax : Brown, longer than wide, convex, clothed with pubescence. Cephalic region slightly high, abruptly narrowing in front, centre of the thorax provided with sharp fovea. Anterior row of eyes slightly procurved, as long as the second row (posterior medians), anterior medians slightly larger than the anterior

laterals, bases of anterior laterals provided with conspicuous black patches. Eyes of the second row (posterior medians) larger than the others, bases of posterior eyes provided with conspicuous black patches. The eyes of posterior row forms a trapizum with a broad base and narrowing in front. Ocular quad wider than long, wider behind and narrowing in front as in Fig. 1 a. Sternum heart-shaped, pointed behind, pale, clothed with hairs, provided with a midlongitudinal conspicuous black band. Labium slightly wider than long. Distal end of maxillae broader and provided with seopulae. Sternum, labium and maxillae as in Fig. 1 b. Chelicerae yellowish brown, strong, inner and outer margins of fang furrow provided with three teeth each. Legs thin and long, clothed with spines and hairs and provided with conspicuous greenish brown transverse patches. Tibiae and metatarsi I and II

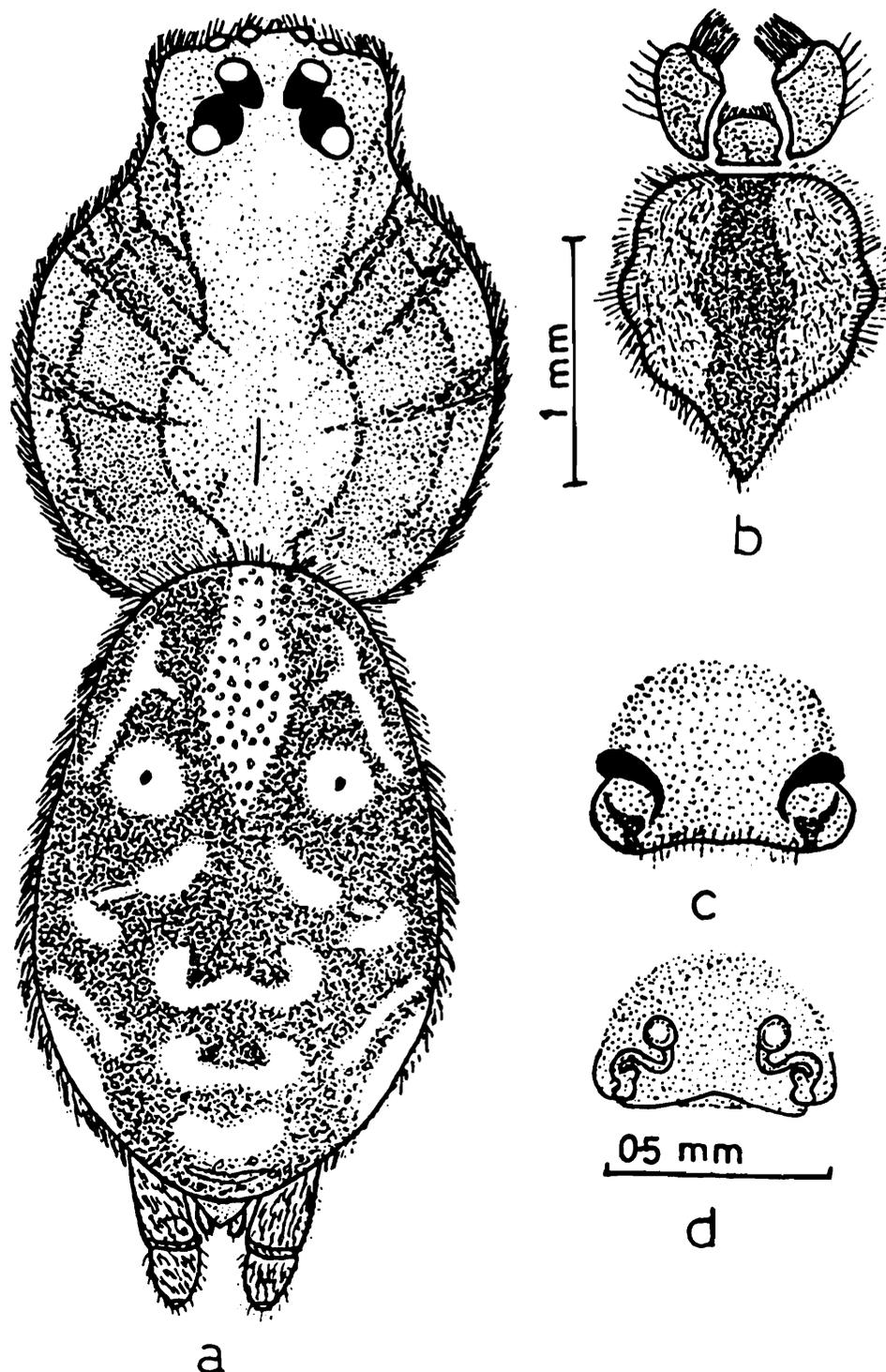


Fig. 1. *Hippasa valiveruensis* sp. nov. : a. Dorsal view of female (legs omitted) ; b. Sternum, labium and maxillae ; c. Epigyne ; d. Internal genitalia.

provided with three pairs of ventral spines. Tarsi of all legs provided with scopulae. Leg formula 4 2 1 3.

Male : Unknown.

Abdomen : Brown, longer than wide, narrowing behind, clothed with pubescence and hairs. Dorsum provided with yellowish brown patches and small black spots. Anteriorly provided with mid-dorsal lens-shaped brown marking as in Fig. 1 a. Ventral side pale in colour. Epigyne and internal genitalia as in Fig. 1 c and d.

Holotype 1 ♀ , *Paratype* : 5 ♀ in spirit.

Type-Locality : Valiveru, Dist. Guntur, 15.i.1985. Coll. T.S. Reddy.

Distribution : Known from the type-locality and Srikakulam District of Coastal Andhra Pradesh.

Diagnosis : This species resembles to *Hippasa agelenoides* (Simon) but it is separated as follows : (i) Dorsum of abdomen provided with yellowish brown patches, small black spots and mid-dorsal lens-shaped brown marking but in *H. agelenoides* with reddish brown patches and black spots present. (ii) Epigyne and internal genitalia are also structurally different.

2. *Lycosa balaramai* sp. nov.

(Fig. 2, a-d)

General : Cephalothorax and legs reddish brown, abdomen greyish brown. Total length 10.15 mm. Carapace 4.35 mm long, 3.20 mm wide ; abdomen 6.00 mm long, 4.00 mm wide,

Cephalothorax : Longer than wide, convex, clothed with pubescence. Middle of the cephalothorax provided with a light broad longitudinal band which extends from the base of second row (posterior medians) of eyes to the base of cephalothorax, centre with a conspicuous fovea and prominent brown bands radiate to the sublateral sides. Anterior row of eyes straight and almost as wide as the middle row, anterior medians larger than the anterior laterals. Eyes of the second row (posterior medians) larger than the others. Bases of posterior eyes provided with a conspicuous black patches. The square formed by the posterior eyes, longer than wide and slightly wider behind than in front. Ocular quad wider than long, wider behind and narrowing in front as in Fig. 2 a. Spine like hairs present in the ocular area. Sternum heart shaped, pointed behind and clothed with spine like hairs. Labium dark in colour and slightly longer than wide, basal excavation prominent. Distal ends of maxillae wider and provided with scopulae, lateral sides with prominent spine like hairs. Sternum, labium and maxillae as in Fig. 2 b. Chelicerae strong, inner and outer margins of fang furrow provided with three teeth each. Legs thin and long, reddish brown and provided with spines and hairs, femora of all legs provided with transverse inconspicuous brown patches. Tibiae of all the legs with three pairs of ventral spines. Leg formula 4 1 2 3.

Male : Unknown.

Abdomen : Longer than wide, pointed behind, clothed with pubescence and some spine like hairs. Dorsal side provided with pale and greenish brown patches as in Fig. 2 a. Ventral side uniformly pale in colour. Epigyne and internal genitalia as in

Fig. 2 c. and d.

Holotype : 1 ♀ in spirit.

Type-Locality : Borraguhalu, Dist. Visakhapatnam, 27.ix.1985. Coll. T S. Reddy.

Diagnosis : This species resembles to *Lycosa himalayensis* Gravelly but it differs as follows : (i) The anterior row of eyes straight and almost as wide as the middle

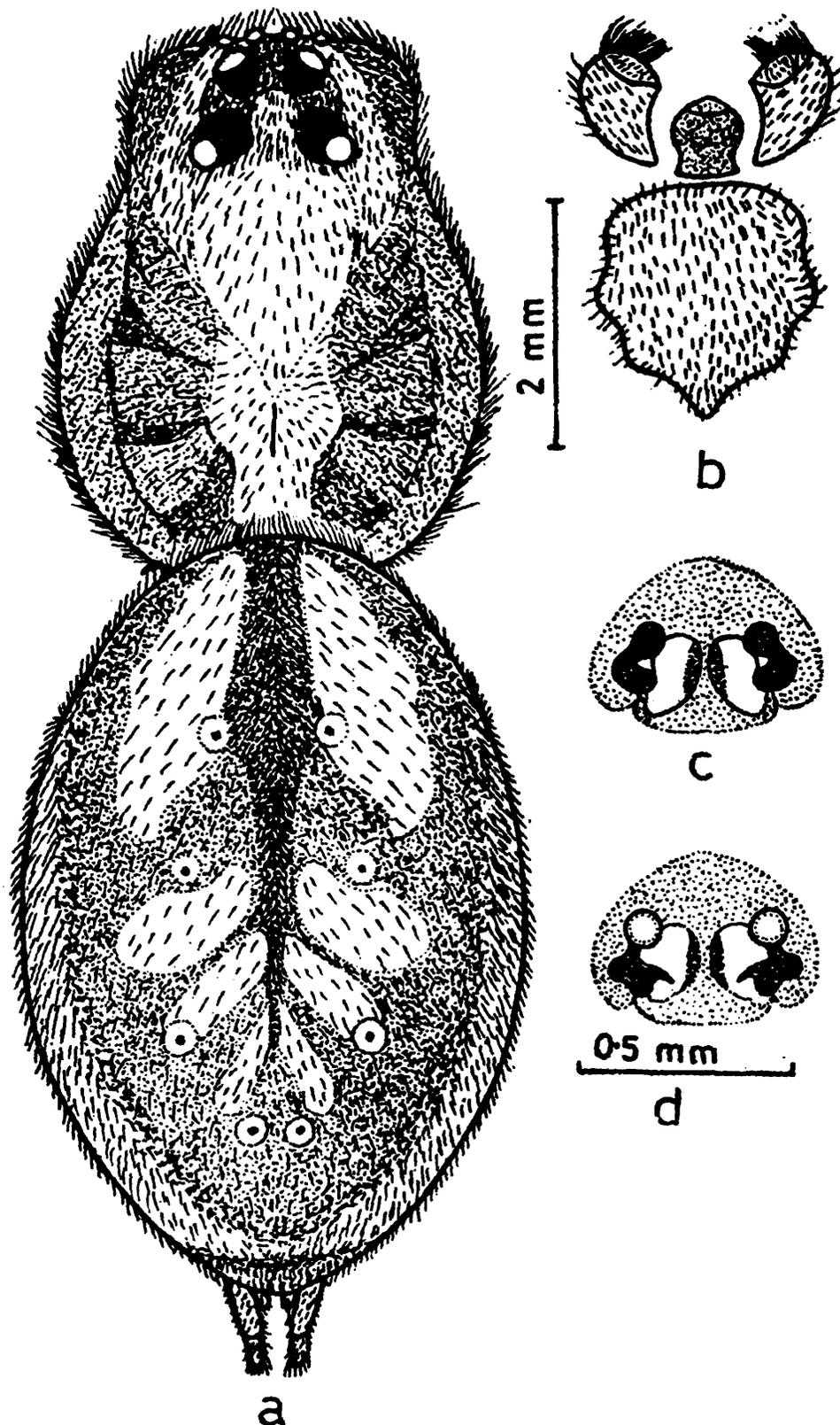


Fig. 2. *Lycosa balaramai* sp. nov. : a. Dorsal view of female (legs omitted) ; b. Sternum, labium and maxillae ; c. Epigyne ; d. Internal genitalia.

row but in *L. himalayensis* the anterior row of eyes straight and shorter than the middle row. (ii) Abdomen mid-dorsally pale and provided with greenish brown patches but in *L. himalayensis* posterior half of abdomen with black and deep brown patches. (iii) Epigyne and internal genitalia are also structurally different.

3. *Lycosa thoracica* sp. nov.

(Fig. 3, a-d)

General : Cephalothorax and legs brown, abdomen yellowish brown. Total

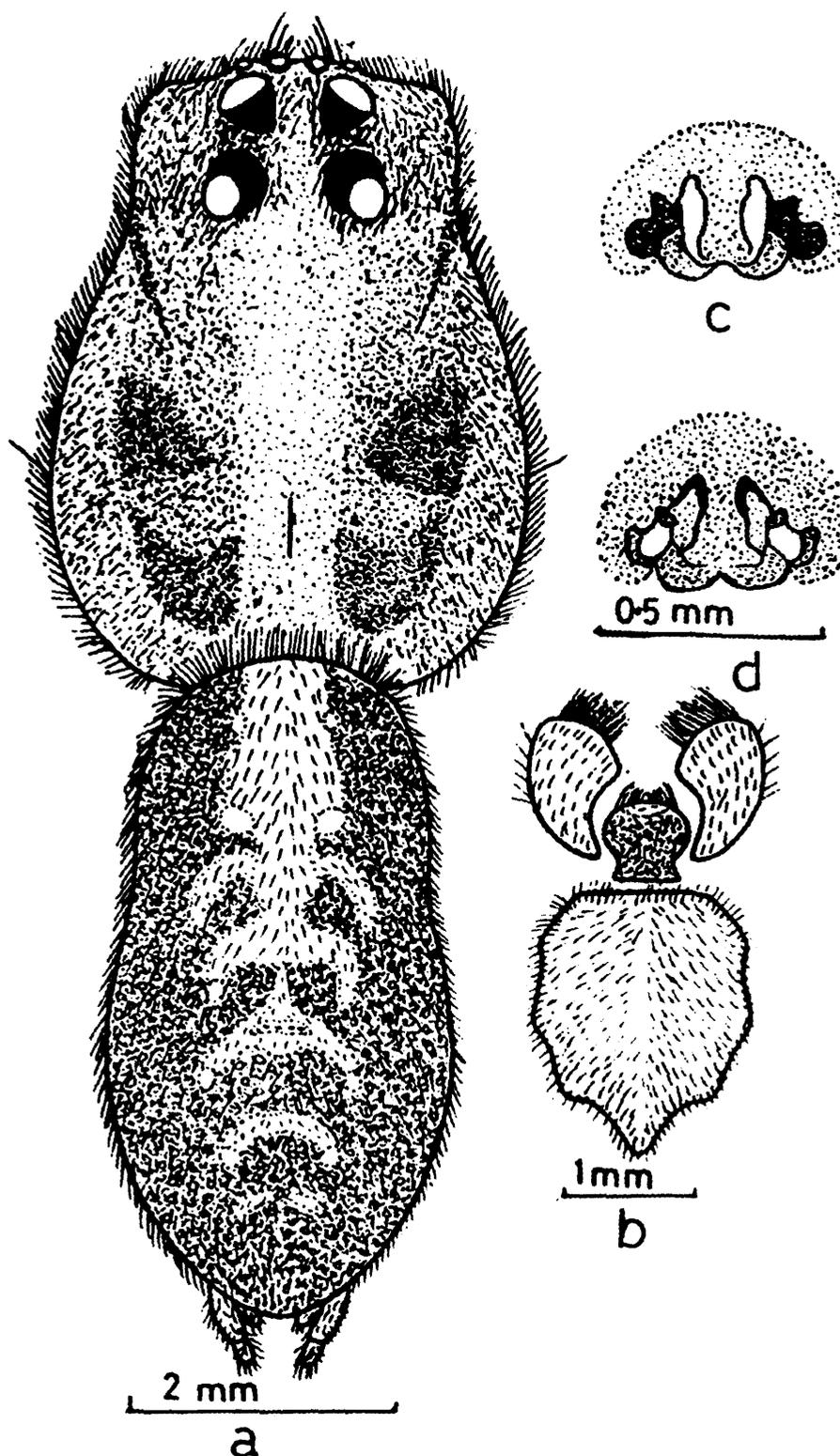


Fig. 3. *Lycosa thoracica* sp. nov. a. Dorsal view of female (legs omitted) ; b. Sternum, labium and maxillae ; c. Epigyne ; d. Internal genitalia.

length 9.40 mm. Carapace 4.70 mm long, 3.50 mm wide ; abdomen 5.00 mm long, 2.60 mm. wide.

Cephalothorax : Longer than wide, convex, clothed with pubescence, tapering anteriorly, centre of thorax provided with a sharp black fovea and brown bands extends from it to the lateral sides. Anterior row of eyes nearly straight, shorter than the second row (posterior medians), anterior medians larger than the anterior laterals. Eyes of the second row (posterior medians) larger than the others. Bases of posterior eyes provided with conspicuous black patches. The eyes of posterior row forms a rectangle which is longer than wide. Ocular quad wider than long, wider behind and narrowing in front as in Fig. 3 a. Sternum heart shaped, pointed behind, pale and clothed with hairs and spines. Labium longer than wide, brown with basal excavation. Distal end of maxillae broad, pale and provided with scopulae. Sternum, labium and maxillae as in Fig. 3 b. Chelicerae moderately strong, inner and outer margins of fang furrow provided with three and two teeth respectively. Legs stout, clothed with hairs and spines. Tibiae and metatarsi of all legs with three pairs of ventral spines. Leg formula 4 1 3 2.

Male : Unknown.

Abdomen : Longer than wide, oval, broad anteriorly, clothed with pubescence. Anteriorly, provided with a mid-dorsal brown lens-shaped marking followed posteriorly by greenish black patches alternating with pale colour and brown spots as in Fig. 3a. Ventral side pale. Epigyne and internal genitalia as in Fig. 3 c and d.

Holotype : 1 ♀ in spirit.

Type-Locality : Santhamagalur, Dist. Prakasam. 18.iii.1986. Coll. T S. Reddy.

Diagnosis : This species resembles to *Lycosa phipsoni* Pocock, but it is separated as follows : (i) The eyes of posterior row forms a rectangle which is longer than wide but in *L. phipsoni* the eyes of posterior row forms a rectangle which is longer than wide and wider behind than in front. (ii) Abdomen anteriorly with a mid-dorsal brown lens-shaped marking but in *L. phipsoni* abdomen anteriorly with a mid-dorsal pale few brown spots only. (iii) Epigyne and internal genitalia are also structurally different.

4. *Pardosa gopalai* sp. nov.

(Fig. 4, a-g)

General : Cephalothorax brown, legs greenish brown and abdomen pale in colour. Total length 6.90 mm. Carapace 3.00 mm long, 2.30 mm wide ; abdomen 4.00 mm long, 2.55 mm wide.

Cephalothorax : Longer than wide, convex, clothed with pubescence and some hairs anteriorly. Cephalic region narrowing in front and slightly high, centre of thoracic region light brown and middle provided with a sharp fovea. Lateral margins of thoracic region provided with white hairs. Anterior row of eyes straight, shorter than the second row (posterior medians), anterior medians slightly larger than the anterior laterals. Eyes of the second row (posterior medians) larger than the others. Bases of the posterior eyes are provided with conspicuous black patches and are equal in size. The eyes of posterior row forms a trapizum, with a wider base

and narrowing in front. Ocular quad wider than long, wider behind than in front as in Fig. 4 a. Sternum heart-shaped pointed behind, brown and clothed with hairs and pubescence. Labium nearly as long as wide. Distal end of maxillae broad and provided with scopulae. Sternum, labium and maxillae as in Fig. 4 b. Chelicerae moderately strong, inner and outer margins of fang furrow provided with three teeth each. Legs long, thin and provided with hairs and spines. Femora of all legs with very conspicuous black, transverse patches. Patellae and tibiae of all legs also provided with conspicuous transverse brown patches. Tibiae and metatarsi of legs with three pairs of stout ventral spines. Leg formula 4 1 3 2.

Male : It is similar to female but little smaller. Total length 5.50 mm. Male palp as in Fig. 4 e, f and g.

Abdomen : Oval, broadest just behind the middle, clothed with pubescence and few spine like hairs on dorsal side. Anterior mid-dorsal side of abdomen provided with a longitudinal brown lens-shaped marking followed by light brown irregular patches as in Fig. 4 a. Lateral sides with black patches. Ventral side pale in colour.

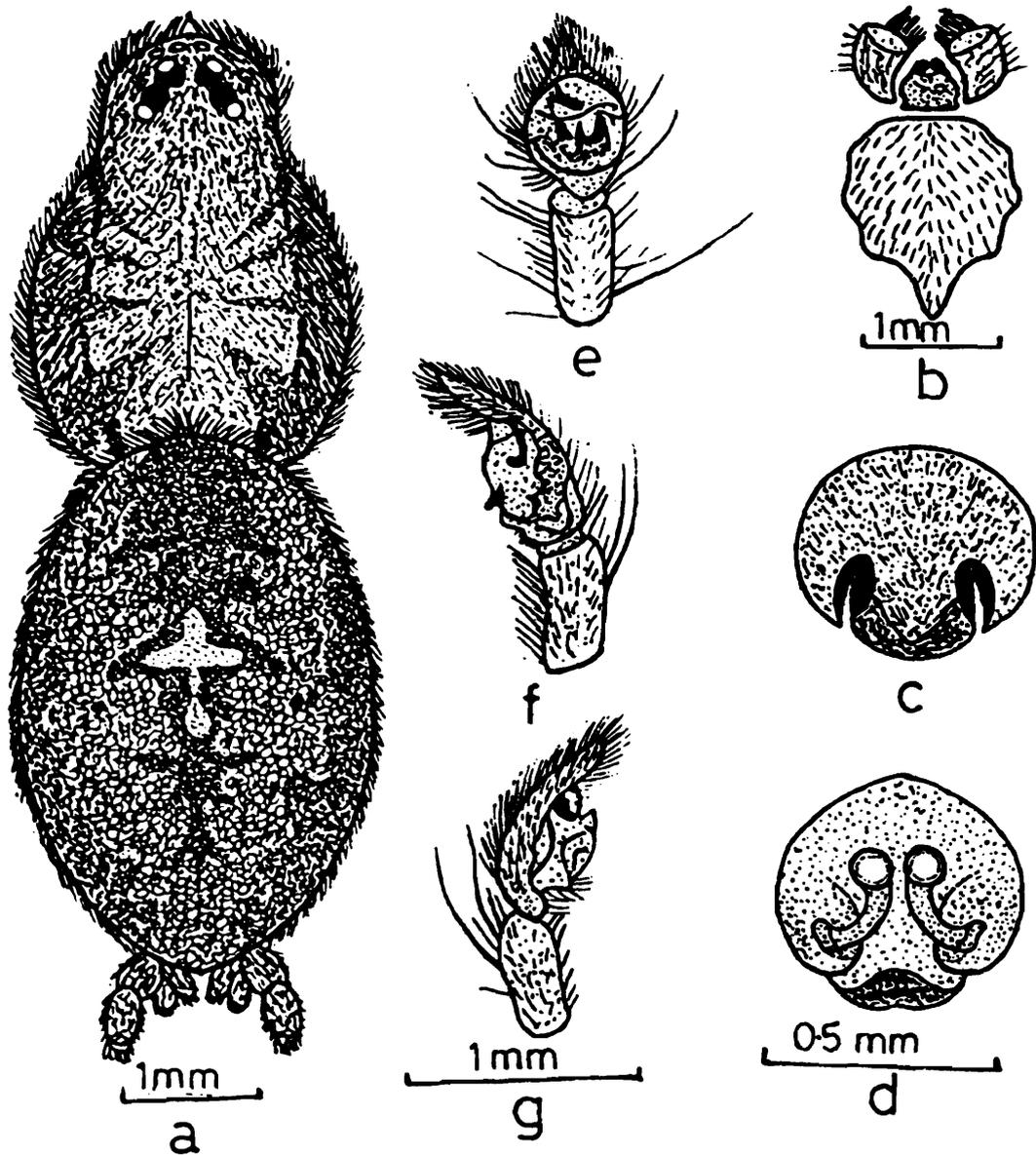


Fig. 4. *Pardosa gopalai* sp. nov. : a. Dorsal view of female (legs omitted) ; b. Sternum, labium and maxillae ; c. Epigyne ; d. Internal genitalia ; e. Right male palp - ventral view ; f. Right male palp - inner view ; g. right male palp - outer view.

Epigyne and internal genitalia as in Fig. 4 c and d.

Holotype : 1 ♀ , *paratype* : 44 ♀ , *allotype* : 12 ♂ in spirit.

Type-Locality : Draksharama, Dist. East Godavari, 7.ix.1985. Coll. T.S. Reddy.

Distribution : Known from the type-locality and all the Districts of Coastal Andhra Pradesh except Nellore District.

Diagnosis : This species resembles to *Pardosa mukundi* Tikader and Malhotra but it is separated as follows : (i) The eyes of posterior row forms a trapizum, with a wider base and narrowing in front but in *P. mukundi* the eyes of posterior row longer than wide and posterior eyes longitudinally parallel to each other. (ii) Anterior mid-dorsal side of abdomen provided with a longitudinal brown lens-shaped marking and light brown irregular patches but in *P. mukundi* anterior mid-dorsal side of abdomen provided with a broad longitudinal pale band and light brown irregular patches. (iii) Epigyne and internal genitalia are also structurally different.

5. *Pardosa subhadrae* sp. nov.

(Fig. 5, a-g)

General : Cephalothorax and legs yellowish brown, abdomen pale. Total length 7.45 mm. Carapace 2.70 mm long. 2.05 mm wide ; abdomen 4.35 mm long, 2.50 mm wide.

Cephalothorax : Longer than wide, clothed with fine hairs. Cephalic region high and almost entirely occupied by posterior two rows of eyes. Thoracic region provided with a sharp fovea. Anterior row of eyes almost straight and shorter than the second row (posterior medians), anterior medians slightly larger than the anterior laterals. Eyes of the second row (posterior medians) larger than the others. Bases of posterior eyes provided with conspicuous black patches. The eyes of posterior row forms a square shape slightly narrowed in front. Ocular quad wider than long and slightly wider behind than in front. Two broad longitudinal parallel brown patches extend from the base of posterior eyes to the base of cephalothorax on each side as in Fig. 5 a. Sternum heart-shaped, pointed behind, pale and clothed with hairs. Labium wider than long. Distal end of maxillae wider and provided with scopulae. Sternum, labium and maxillae as in Fig. 5 b. Chelicerae strong, inner and outer margins of fang furrow provided with three and two teeth respectively. Legs moderately strong, clothed with spines and hairs. Femora, tibiae and metatarsi of all the legs provided with conspicuous transverse brown patches. Tibiae and metatarsi of all legs provided with three pairs of ventral spines. Leg formula 4 1 3 2.

Male : It is similar to the female but smaller. Total length 5.90 mm. Male palp as in Fig. 5 e, f and g.

Abdomen : Longer than wide, pointed behind, pale, clothed with pubescence and some spine like hairs. Anterior half mid-dorsally provided with a conspicuous lens-shaped brown marking and posterior half and lateral sides with few small white dots as in Fig. 5 a. Ventral side pale in colour. Epigyne and internal genitalia as in Fig. 5 c and d.

Holotype : 1 ♀ , *paratype* : 7 ♀ , *allotype* : 3 ♂ in spirit.

Type-Locality : Chirala, Dist. Prakasam, 11.ix.1986, Coll. T S. Reddy.

Distribution : Known from the type-locality and Visakhapatnam District of Coastal Andhra Pradesh.

Diagnosis : This species resembles to *Pardosa leucopalpis* Gravely but it is separated as follows : (i) Legs moderately strong, clothed with spines and hairs and femora, tibiae and metatatri of all the legs provided with conspicuous transverse brown patches but in *P. leucopalpis* legs moderately strong, clothed with spines and hairs and without any patches on femora, tibiae and metatarsi. (ii) Abdomen antero-mid-dorsally provided with a conspicuous lens-shaped marking but in

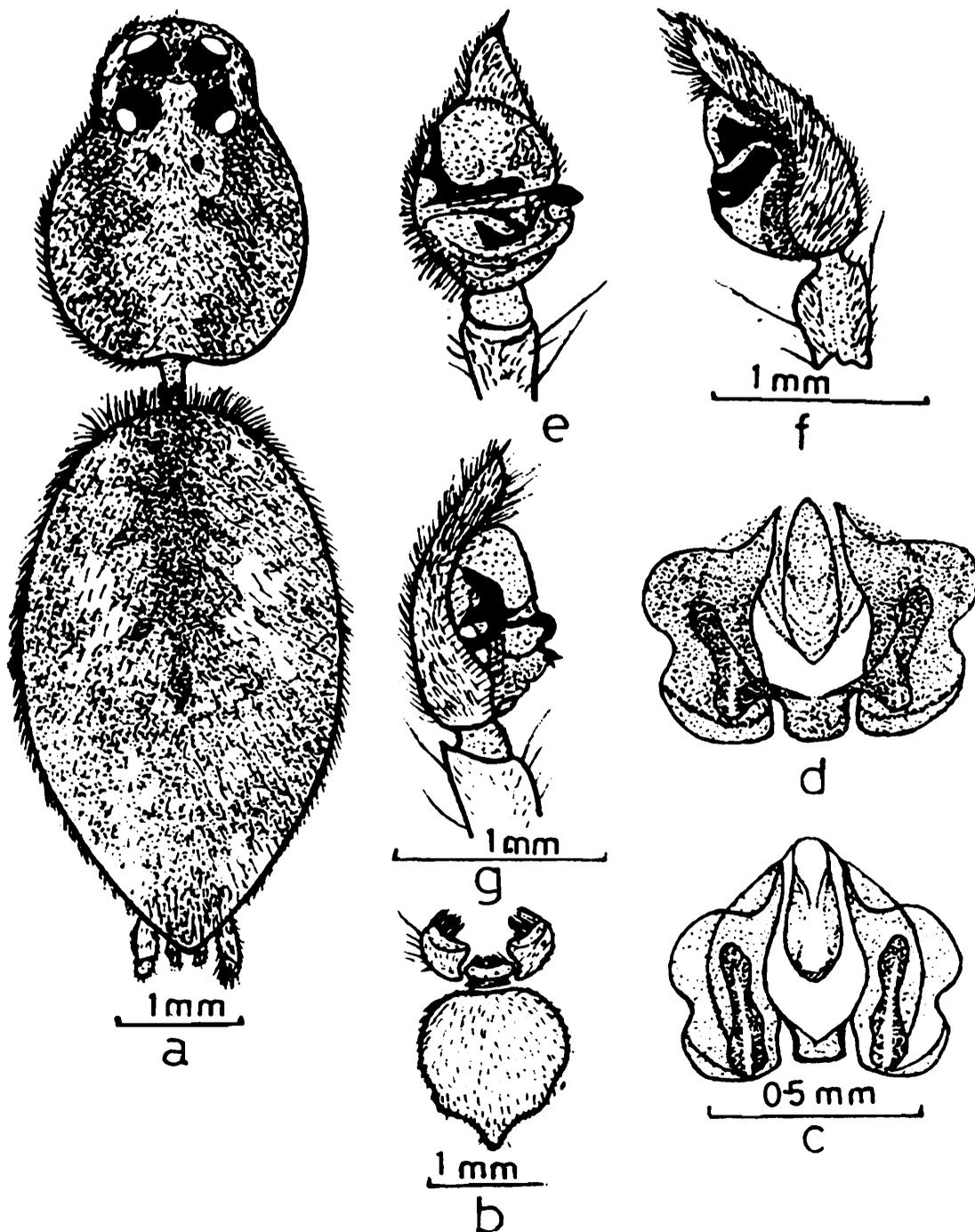


Fig. 5. *Pardosa subhadrae* sp. nov. : a. Dorsal view of female (legs omitted) ; b. Sternum, labium and maxillae ; c. Epigyne ; d. Internal genitalia ; e. Right male palp-ventral view ; f. Right male palp-inner view ; g. Right male palp-outer view.

P. leucopalpis antero-mid-dorsally provided with a inconspicuous light lens-shaped marking. (iii) Epigyne and internal genitalia are also structurally different.

6. ***Trochosa gunturensis* sp. nov.**
(Fig. 6, a-d)

General : Cephalothorax and legs yellowish brown, abdomen brown with pale patches. Total length 9.20 mm. Carapace 3.20 mm long, 2.60 mm wide ; abdomen 6.00 mm long, 2.30 mm wide.

Cephalothorax : Longer than wide, tapering anteriorly, clothed with pubescence and hairs. Centre of thoracic region with a conspicuous fovea. Anterior row of eyes slightly recurved, wider than the second row (posterior medians), anterior medians larger than the anterior laterals and bases of anterior laterals provided with black patches. Eyes of the second row (posterior medians) larger than the others. Bases of posterior eyes provided with conspicuous black patches. Posterior eyes form a rectangle, wider behind than in front. Ocular area much hairy, wider than long, wider behind and narrowing in front. A broad brown longitudinal patch extend from base of posterior eyes to the base of cephalothorax as in Fig. 6 a. Sternum pale, heart-shaped, pointed behind and clothed with spine like hairs. Labium brown, longer than wide, distal end pale in colour. Distal end of maxillae broad, pale and provided with scopulae. Sternum, labium and maxillae as in Fig. 6 b. Chelicerae moderately strong, dark in colour, inner and outer margins of fang furrow provided with two teeth each. Legs clothed with pubescence, hairs and spines and all segments provided with irregular light brownish green inconspicuous patches. The proximal spine on the dorsal side of tibiae IV thin and reduced to a bristle. Tibiae and metatarsi III and IV provided with three pairs of ventral spines. Leg formula 4 1 2 3.

Male : Unknown.

Abdomen : Dark brown, oval, longer than wide, clothed with pubescence and hairs. Dorsally provided with two rows of irregular yellow patches as in Fig. 6 a. Ventral side pale in colour. Epigyne and internal genitalia as in Fig. 6 c and d.

Holotype : 1 ♀ in spirit.

Type-Locality : Valiveru, Dist. Guntur, 20.ii.1986. Coll. T. S. Reddy.

Diagnosis : This species resembles to *Trochosa himalayensis* Tikader and Malhotra but it is separated as follows : (i) Anterior row of eyes slightly recurved and wider than the posterior medians but in *T himalayensis* anterior row straight and shorter than the posterior medians. (ii) Chelicerae moderately strong, inner margin of fang furrow provided with two teeth but in *T himalayensis* inner margin of fang furrow with three teeth. (iii) Epigyne and internal genitalia are also structurally different.

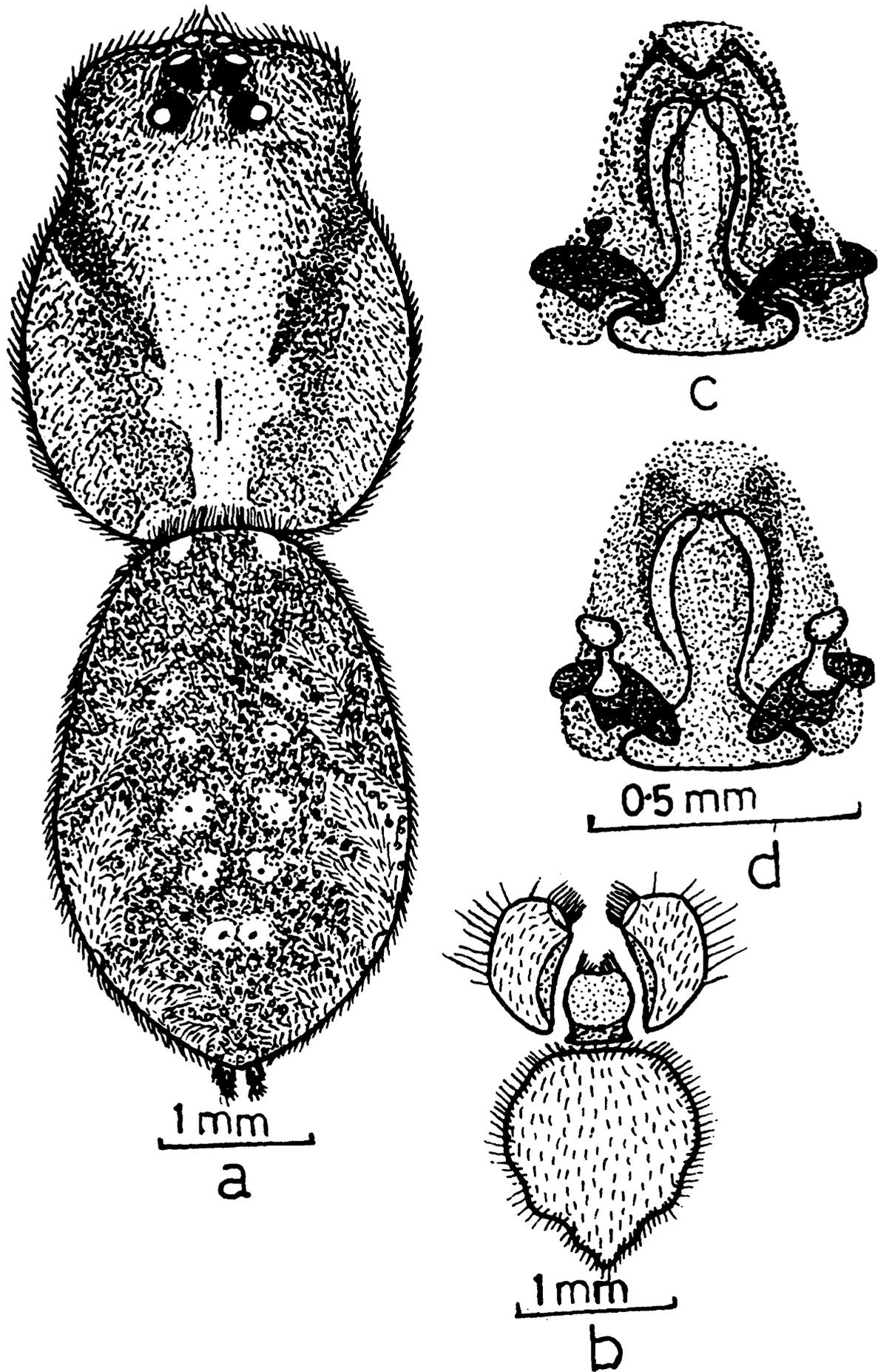


Fig. 6. *Trochosa gunturensis* sp. nov. : a. Dorsal view of female (legs omitted) ; b. Sternum, labium and maxillae ; c. Epigyne ; d. Internal genitalia.

SUMMARY

Six new species of spider genera *Hippasa*, *Lycosa*, *Pardosa* and *Trochosa* viz., *Hippasa valiveruensis*, *Lycosa balaramai*, *L. thoracica*, *Pardosa gopalai*, *P. subhadrae* and *Trochosa gunturensis* are described and illustrated here from Coastal Andhra Pradesh, India.

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