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STUDIES ON SOME SPIDERS OF THE FAMILIES OECOBIIDAE, ERESIDAE, HERSILIIDAE, UROCTEIDAE AND ULOBORIDAE (ARANEAE : ARACHNIDA) FROM MADHYA PRADESH, INDIA

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INTRODUCTION

The spiders of the families Oecobiidae, Eresidae, Hersiliidae, Urocteidae and Uloboriade are little known from Madhya Pradesh. Pocock (1900) in his Fauna of British India described some species. Gravely (1921) described many species of some families. Sinha (1950) described many species of the family Hersiliidae. Tikader (1962,63,69,70,77) and Tikader & Biswas (1981) described some species of all the families.

Family 1. OECOBIIDAE

Characters : The members of this small family have three claws, both the carapace and sternum wider than long. The spiders live under stones, but are often found in houses, especially in corner angles of walls.

There is a striking similarity between oecobiidae and the cribellate family Urocteidae of the old world. Some American workers prefer to consider both as sub-families within the same family, in this case, the name Oecobiidae having priority, should be used. Beside the presence or absence of calamistrum and cribellum only minor external differences can be found.

The most common genus is *Oecobius* with four species so far known from India.

Genus 1. *Oecobius* Lucas

1845. *Oecobius* Lucas, *Expt. Alg. Ar.*, : 101.

1981. *Characters* : This is the best known genus of the family. The cephalothorax is convex and moderately elevated. The legs are proportionately long, the metatarsus and tarsus together of

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each of the legs far exceeding the carapace in length. Median ocular quadrangle as long as, or longer than broad.

This spider makes small flat webs on window sills, and over cracks on the walls of buildings.

Type-species : *Oecobius domesticus* Lucas.

Distribution : America, Arabia, Japan and India.

1. *Oecobius putus* O.P. Cambridge

1876. *Oecobius putus* Cambridge, *Proc. zool. Soc.* : 544.

Specimens Examined : 5 ♀♀, office premises of Central Regional Station, Napier Town, Jabalpur, Madhya Pradesh, Coll. U. A. Gajbe, 6.IV.1985 (Reg. No. A/1793). 1 ♀, P.W.D. Rest House Piparia, Hoshangabad dist., Madhya Pradesh Coll. U. A. Gajbe, 7.1.1990 (Reg. No. A/1994). 5 ♀♀, Amanpur, Madan Mahal, Jabalpur, Madhya Pradesh, Coll. U. A. Gajbe, 28.VI.1982. (Reg. No. A/1795).

General : Cephalothorax and abdomen light deep to brown, legs pale green. Total length 2.60 mm. Carapace 0.90 mm long, 1.10 mm wide; abdomen 1.80 mm long, 1.10 mm wide.

Cephalothorax : Wider than long, depressed on the centre but cephalic region slightly high and eyes groups situated on the top, margin encircled by a deep brown line. Eyes unequal in size and dissimilar in form. The anterior medians and posterior lateral eyes dark in colour and others pearly white; posterior medians triangular in size, both rows procurved but anterior row more procurved than posterior. Legs long, clothed with five long hairs and all legs transversely banded with dark brown bands but in male no such bands.

Abdomen : Long, slightly pointed behind, clothed with long hairs, dorsum ornamented by dark and chalk-white irregular patches, middorsally with a spear-shaped black area extending from base to behind the middle. The hind spinnerets long and two joined; the second segment longer than the first and furnished with a comb of long spinning tubes on the inner side.

Distribution : INDIA : Madras, Tamil Nadu; Poona, Maharashtra; Kolkata, West Bengal; Jabalpur, Hoshangabad, Madhya Pradesh; Egypt, Tripoli, Yemen, Tanjanyika, Lahore.

Remarks : This species is being reported here for the first time from Madhya Pradesh.

Family II ERESIDAE

Characters : Cephalothorax very wide in front (resembling at first sight that of Salticidae); cephalic region high; the clypeus low; the four median eyes forming a small quadrangle narrower in front than behind; the posterior lateral far removed from the rest of the eyes and situated high up on the posterior portion of the head. Abdomen very heavy, over hanging, cephalothorax; cribellum thick, transversely divided.

Genus 2. *Stegodyphus* Simon

1873. *Stegodyphus* Simon, *Ann. Soc. Ent. Fr.*, 3(5) : 336.

Characters : Cephalic region large, rounded, high, posterior lateral eyes remote from other eyes; anterior lateral eyes situated at the edge of clypeus; clypeus low, mandibles flat in front, fang groove scarcely toothed; legs strong and stout, spiny. Abdomen oval; anterior spinnerets thick.

The species of the genus occur on bushes or branches of trees, where they spin either large sheet-like webs, accompanied by a tubular retreat, or a large saccular nest, in which many individuals live, gregariously habits among spiders.

Type-species : *Stegodyphus lineatus* Latreille.

Distribution : Asia, Arabia, Africa.

2. *Stegodyphus sarasinorum* Karsch

1892. *Stegodyphus sarasinorum* Karsch, *Ent. Z. Berlin*, 36 : 275.

Specimens examined : 5 ♀♀, 1 ♂, Dhaurai village, Narayanpur, Tahsil, Baster dist., Coll. U. A. Gajbe, 24.XII.1983. (Reg. No. A/1782). 43 ♀♀, Forest Rest House, Katwadi, Coll. H. S. Sharma, 22.III.1990. (Reg. No. 1783). 144 ♀♀, Barghat, Seoni dist. Coll. U. A. Gajbe, 7.III.1987. (Reg. 1784). 83 ♀♀, Dokrikhera, Hoshangabad dist., Coll. U. A. Gajbe, 4.I.1990. (Reg. No. A/1785). 29 ♀♀, on the bank of Ramdohu river on way to Chhindwara– Chand road, Chhindwara dist., Coll. H. S. Sharma, 3.IV.1990. (Reg. No. A/1786). 1 ♂, P.W. D. Rest House, Amanganj, Panna dist. Coll. R. K. Singh, 21.II.1987. (Reg. No. A/1787). 125 ♀♀, patch village on way to Katawadi Shahpur road, Betul dist. Coll. H. S. Sharma, 21.III.1990. (Reg. No. A/1788), Kairagad, Rajnandgaon dist., Coll. U. A. Gajbe, 20.XII.1983. (Reg. No. A/1789). 57 ♀♀, Bhesdehi, Betul dist., Coll. H. S. Sharma, 31.III.1990. (Reg. No. A/1790). 1 ♀, Tanhai Village, Panna dist., Coll. R. K. Singh, 17.II.1987. (Reg. No. 1791). 10 ♀♀, 2 ♂, Near Jaon, Ratlam dist., Coll. R. K. Singh, 24.VIII.1990. (Reg. No. A/1803). 78 ♀♀, 2 ♂♂, Near Gandhi Sagar, Mandsaur dist., Coll. R. K. Singh, 17.VIII.1990. (Reg. No. A/1805). 62 ♀♀, 4 ♂♂, Near Tal, Ratlam dist., Coll. R. K. Singh, 25.VIII.1990. (Reg. No. A/1806). 78 ♀♀, 17 ♂♂, Near Bharthari cave, Ujjain dist., Coll. R. K. Singh, 29.VIII.1990. (Reg. No. A/1807). 22 ♀♀, 7 ♂, Mangalnath, Ujjain dist., Coll. R. K. Singh, 11.IX.1990. (Reg. No. A/1808). 29 ♀♀, 4 ♂♂, Bherogarh, Ujjain dist., Coll. R. K. Singh, 1.IX.1990. (Reg. No. A/1808). 45 ♀♀, 2 ♂, Near Rampura, Manasa, Mandsaur dist., Coll. R. K. Singh, 17.VIII.1990. (Reg. No. A/1810). 28 ♀♀, 2 ♂, Near Jaora, Ratlam dist., Coll. R. K. Singh, 26.VIII.1990. (Reg. No. A/1811). 6 ♀♀, 1 ♂, Near Kalladeh, Ujjain dist., Coll. R. K. Singh, 30.VIII.1990. (Reg. No. A/1312). 33 ♀♀, 5 ♂♂, Khachrod, Ujjain dist., Coll. R. K. Singh, 31.VIII.1990. (Reg. No. A/1813). 16 ♀♀, Near Chintamani Ganesh, Ujjain dist., Coll. R. K. Singh, 3.IX.1990. (Reg. No. A/1814). 52 ♀♀, 11 ♂♂, Near Manasa, Mandsaur dist., Coll. R. K. Singh, 15.VIII.1990. (Reg. No. A/1815). 39 ♀♀, 4 ♂, Near Bhanpura, Mandsaur dist., Coll. R. K. Singh,

16.VIII.1990. (Reg. No. A/1816). 20 ♀♀, Near Jaju Dam, Nimach, Mandsaur dist., Coll. R. K. Singh, 13.VIII.1990. (Reg. No. A/1817). 121 ♀♀, 22 ♂, Near Hussain Tekri Jaora, Ratlam dist., Coll. R. K. Singh, 20.VIII.1990. (Reg. No. A/1818). 51 ♀♀, 6 ♂♂, Near Mudali Village, Malhargarh, Mandsaur dist., Coll. R. K. Singh, 20.VIII.1990. (Reg. No. A/1819). 63 ♀♀, 3 ♂♂, Near Nagda, Ujjain dist., Coll. R. K. Singh, 18.VIII.1990. (Reg. No. A/1820). 1 ♀, Near Garod, Mandsaur dist., Coll. R. K. Singh, 18.VIII.1990. (Reg. No. A/1821). 1 ♀, Near Alot, Ratlam dist., Coll. R. K. Singh, 22.VIII.1990. (Reg. No. A/1824). 1 ♀, Ratangarh, Nimach, Mandsaur dist., Coll. H. P. Agrawal, 1.XI.1990.

This spider is gregarious in its habits. It spins a labyrinthine tube, which ends blindly at one end and the other end expands into a broad sheet, which however is smaller than that spun by the genus *Hippasa*. This species does not sting the prey to death, but feeds on the captive alive. All members of the colony sharing the same victim. Spiderlings hatch in the month of October and November and feed on their parents, hibernating in the web tubes in winter.

Distribution : INDIA : Travancore, Bangalore, Chingleput, Bilaspur, Poona, Uran, Calcutta, Barkuda Islands, Punjab and Madhya Pradesh.

3. *Stegodyphus socialis* Pocock

1900. *Stegodyphus socialis* Pocock, *Fauna Brit Indis*, *Arach.* : 209.

Specimens examined : 1 ♀, Forest Rest House, Hoshangabad, Madhya Pradesh, Coll. U. A. Gajbe, 13.I.1990. (Reg. No. A/1792).

Distribution : INDIA : Bangalore, Karnataka; Ahmednagar, Maharashtra; Hoshangabad, Madhya Pradesh.

Remarks : This species is being reported here or the first time from Madhya Pradesh.

Family III HERSILIIDAE

Characters : The species of the family are very active spiders, living on tree trunks, old walls, or under stones and at most spinning a scanty web of irregular threads. Cephalothorax as wide as long, with cephalic region elevated, narrow and defined by a deep semicircular sulcus; eyes of anterior and posterior row strongly recurved, the anterior laterals standing high up half way between the anterior and posterior. Mandibles weak, at most weakly toothed below : maxillae inclined obliquely on the labium. Legs except III pair, very long and slender armed with three claws. Abdomen short, subpentagonal, posterior spinnerets very long usually longer than the abdomen.

Distribution : Africa, South Asia, Australia, South America.

Genus 3. *Hersilia* Audouin

1826. *Hersilia* Audouin, *Derocr. Egypte Arachn.*, : 114.

Characters : Ocular quadrangle parallel sided; head flat, angular laterally; clypeus usually very high, prominent, protarsi of Ist, IInd and IV legs bisegmented.

Type-species : *Hersilia caudata* Audouin.

Distribution : Africa, Madagascar, Oriental region.

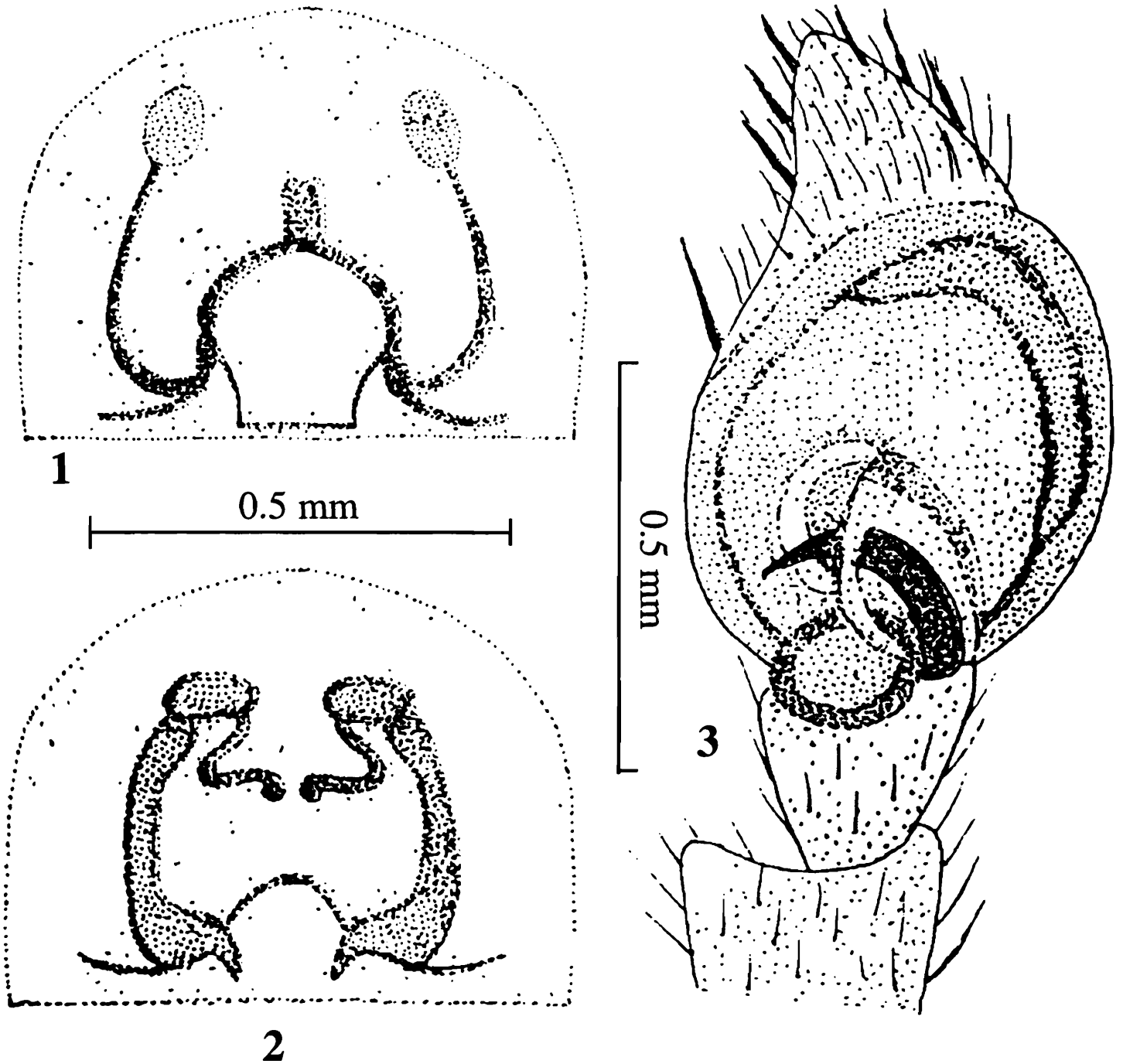
4. *Hersilia savignyi* Lucas

1836. *Hersilia savignyi* Lucas, *Mag. zool.*, 8 : 10.

Specimens examined : 2 ♀♀, 1 ♂, Around hot water tank on Jabalpur Mandla Road, dist. Mandla, Madhya Pradesh, Coll. U. A. Gajbe, 4.V.1982. (Reg. No. A/1665). 1 ♀, Narayanganj, dist. Mandla, Madhya Pradesh, Coll. U. A. Gajbe, 23.I.1985. (Reg. No. A/1666). 1 ♀, Borla, dist. Rajnandgaon, M.P., Coll. U. A. Gajbe, 1.I.1984. (Reg. 1667). 3 ♂♂, Dhaurai Village, Near Narayanpur, dist. Bastar, M.P., Coll. U. A. Gajbe, 24.XIII.1983. (Reg. No. A/1668). 1 ♀, Chotedonger, dist. Bastar, M.P., Coll. U. A. Gajbe, 28.XII.1983. (Reg. No. 2258). 2 ♀♀, Tondabeda Village Near Orccha, dist. Bastar, M.P., Coll. U. A. Gajbe, 29.XII.1983. (Reg. No. A/2253). 4 ♀♀, 1 ♂, Garhbengal village near Narayanpur, dist. Bastar, M.P., Coll. U. A. Gajbe, 30.XII.1983. (Reg. No. A/2255). 7 ♀♀, 1 ♂, Hatkachora village near Jagdalpur, dist. Bastar, M.P., Coll. U. A. Gajbe, 2.I.1984. (Reg. No. A/2254). 1 ♀, P.W.D. Rest House Compound, Jagdalpur, dist. Bastar, M.P., Coll. U. A. Gajbe, 2.I.1984. (Reg. No. A/1673). 1 ♀, Near Tal, Ratlam dist., M.P., Coll. R. K. Sharma, 25.VIII.1990. (Reg. No. A/1847). 1 ♂, Near Mainpura village, Mandsaur district, M.P., Coll. R. K. Singh, 11.VIII.1990. (Reg. No. A/1848). 7 ♀♀, 4 ♂, Banjar village, Baihar Tahsil, Balaghat district, M.P., Coll. R. K. Ghose, 25.I.1991. (Reg. No. A/1849). 11 ♀♀, 3 ♂, Around Forest Rest House Mukki, Balaghat district, M.P., Coll. R. K. Ghose, 24.I.1991. (Reg. No. A/1851). 1 ♀, Kanha Rest House, Kanha, Mandia district, M.P., Coll. R. K. Ghose, 24.I.1991. (Reg. No. 1852).

General : Cephaloghorax and legs brown, abdomen brownish-black. Total length 6.00 mm. Carapace 2.50 mm. long, 2.00 mm. wide; abdomen 3.50 mm. long, 3.00 mm. wide.

Cephaloghorax : Longer than wide, slightly narrowing in front, clothed with pubescence. Cephalic area very high, black. Both eye row recurved. Anterior median eyes are black, larger than the other eyes, lateral small and oval, equally spaced. Posterior row of eyes slightly recurved, equal in size and equidistant from each other. Median ocular quadrangle longer than wide, widest in front than behind. Clypeal height much greater than the diameter of the anterior median eyes. Chelicerae strong, vertical, narrowing in front, inner margin without tooth, outer margin with one tooth. Labium broad than long, triangular, maxillae oblique, longer than wide and provided with black setae. Sternum heart-shaped, pointed behind, clothed with long black setae. Legs long, clothed with hairs and some spines, protarsi I, II and IV bisegmented.



Figs. 1-3. : *Hersilia savignyi* Lucas. 1. Epigyne; 2. Internal genitalia; 3. Male palp, ventral view.

Abdomen : Longer than wide, subpentagonal, narrowing behind with black rim, transverse stripes, three pairs of sagilla, ventral side very lighter than the dorsal, midventrally provided with brown coloured dots extends upto the spinnerets. Epigyne bilobate, the lobes separated by deep emargination. Spinnerets widely separated, posterior spinnerets very long and longer than the abdomen. Males smaller in size, same in colour as female. The male palp as in fig. 3. Females larger in size, same in colour as male. Epigyne bilobate, the lobes separated by deep emargination as in fig. 1. Internal genitalia as in fig. 2.

This species is active hunting spiders, living on tree trunks and wall of old houses. The body colour varies according to the colour of the substratum and spinning a scanty web of irregular threads.

Distribution : INDIA : Nilgiri Hills, Madras, Tamil Nadu; Bangalore, Karnataka; Poona, Maharashtra; Allahabad, Dehradun, Uttar Pradesh; Kolkata, Serampur, Howrah, West Bengal; Assam; Ranchi, Chota Nagpur, Chakradharpur, Dinapur Siripur, Pusa, Bihar; Puri, Orissa; Mandla, Bastar, Rajnandgaon, Balaghat, Madhya Pradesh.

Remarks : This is a common species found every where in India.

Family IV UROCTEIDAE

Characters : These spiders live under stones where they spin a small saccular tent-like web of about five subradially arranged bands of silk attached to the underside of it. Carapace transversely reuniform widely rounded in front and laterally, posteriorly emarginate, ocular group compact. Legs short and strong, spiny, subequal in length, tarsi armed with three claws. Abdomen large and depressed. Posterior spinnerets much longer than the anterior and anterior spinnerets short, subcylindrical, separated by a colulus; and patella very large and furnished laterally with fringe of long hairs.

Distribution : Mediterranean Region, China, Japan, South Africa, India.

Genus 4. *Uroctea* Dufour

1820. *Uroctea* Dufour, *Ann. Sci. Phys.*, 5 : 198.

Characters : These spiders live under stones, where they spin a small saccular tent-like web attached to the under side of the stone by about five subradially arranged bands of silk.

Type-species : *Uroctea durandi* Latreille.

Distribution : Mediterranean region; China, Japan, South Africa, India.

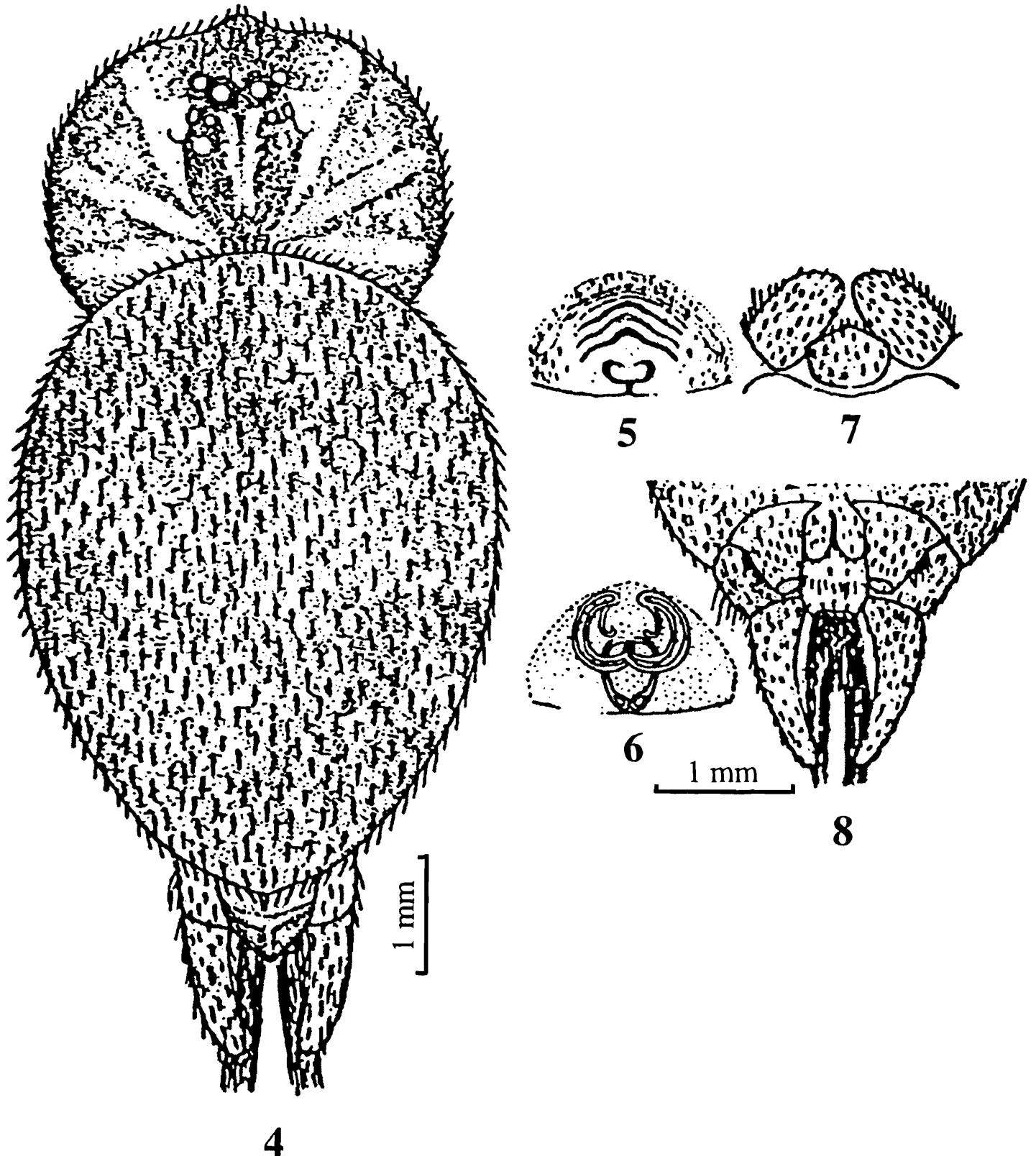
5. *Uroctea indica* Pocock

1900. *Uroctea indica* Pocock, *Fauna Brit. India, Arach.*, : 243.

Specimens examined : 1 ♀, Shelter caves, Hoshangabad dist., Madhya Pradesh, Coll. U. A. Gajbe, 10.I.1990. (Reg. No. A/1796).

General : Cephalothorax and legs reddish-brown, abdomen brownish-black. Total length 8.5 mm. Carapace 2.80 mm. long, 3.70 mm. wide; abdomen 6.30 mm. long, 4.30 mm. wide.

Cephalothorax : Transversely reuniform, strongly rebordered clothed with hairs. Radiating black strips diverges from foveal region to lateral sides of cephalothorax. Eyes compact, pearly white, arranged in two distinct rows. Anterior row of eyes slightly procurved; medians longer than the laterals and closer to laterals than to each other. Posterior row of eyes slightly procurved, medians slightly smaller than the laterals widely separated from each other, closer to the adjacent laterals. Median ocular quadrangle wider than long and wider behind than in front. Chelicerae weak vertical, dorsally clothed with hair, inner and outer margin without tooth. Labium wider than long, pentagonal



Figs. 4-8. : *Uroctea indica* Pocock. 4. Dorsal view of female, legs omitted; 5. Epigyne; 6. Internal genitalia; 7. Labium and maxillae; 8. Spinnerets.

in shape, maxillae convergent, clothed with hair and some spine like hair shape as in fig. 7. Sternum heart-shaped, pointed behind, clothed with long hairs. Legs long, stout, clothed with hairs and spines. Femur of all legs dorsally provided with black and pale patches.

Abdomen : Longer than wide, oval with spine like hair dorsally provided with three pairs of sagilla and some round white spots as in fig. 4. Ventral side slightly lighter than the dorsal, clothed with hairs and provided with four longitudinal white bands starting from epigastric furrow to the anal tubercle. Epigyne consisting of transversely elliptical plate and marked with nearly semi-circular grooves, as in fig. 5. Internal genitalia with oval spermathecae and three spermathecal ducts as in fig. 6. Spinnerets six, clothed with hair, posterior spinnerets longer than others, bisegmented, anterior spinnerets short and cylindrical as in fig. 8. The anal tubercle large thick, bisegmented and clothed with long hair. The apical segment provided with a lateral fringe of long flexible hair.

Distribution : INDIA : Poona, Maharashtra; Nagpur, Rajasthan; Hoshangabad, Madhya Pradesh.

Remarks : This species is reported here for the first time from Madhya Pradesh.

Family V ULOBORIDAE

Characteres : Eyes dark in colour, the lateral eyes on each side farther apart from the median eyes; and the posterior median eyes moderate in size. Chelicerae moderately robust, nearly parallel-sided. Anterior legs longest. Femora with dorsal thichobothria; tarsi with three foot claws. Metatarsus IV bearing the calamistrum, somewhat curved at least along the dorsal edge. Anal tubercle well developed and close to posterior spinners. These spiders spin geometrical orb webs or sectors of webs, similar to those of Araneidae. They are very unique and mostly common in the field, garden old houses and forests. They are a good predators of pest insects in the rice fields.

Genus 5. *Uloborus* Latreille

1806. *Uloborus* Latreille, *Gen. Crust. Ins. etc.*, 1 : 109.

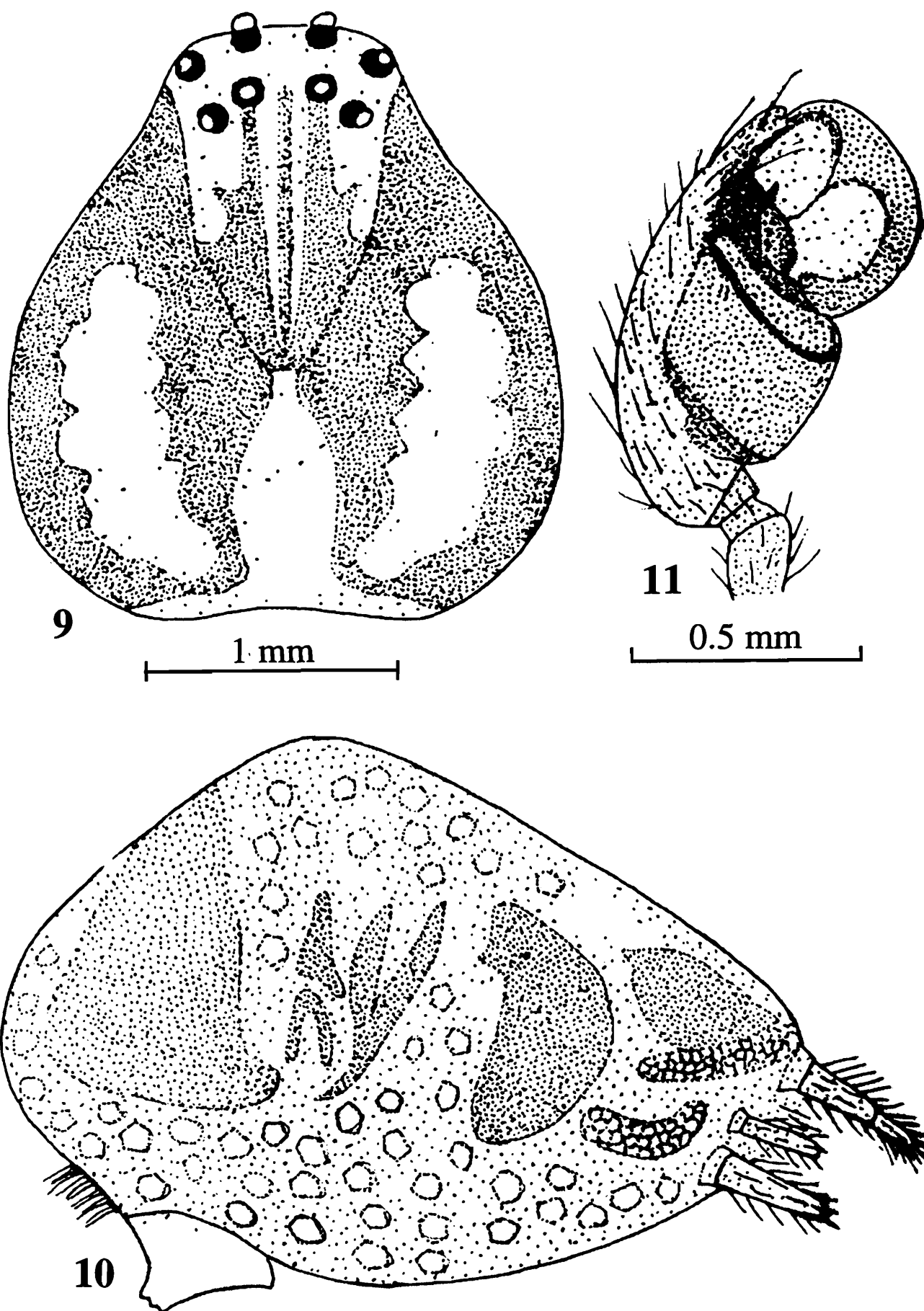
Characters : Anal tubercle prominent in the female, diminished in the male, legs I pair much longer and stronger than the rest. Male tibia of I with six to seven dorsal spines, almost in the form of teeth.

Type-species : *Uloborus walckenaerius* Latreille.

6. *Uloborus danolius* Tikader

1969. *Uloborus danolius* Tikader, *Proc. Indian Acad. Sci.*, 70(3) : 129.

Specimens examined : 1 ♀, 1 ♂, Vijay Nagar, Jabalpur dist., Madhya Pradesh, Coll. Pawan Gajbe, 30.IV.1995. (Reg. No. 2252).



Figs. 9-11. : *Uloborus danolius* Tikader. 9. Dorsal view of cephalothorax, legs omitted; 10. Lateral view of abdomen; 11. Male palp, ventral view.

General : Cephalothorax and legs light yellowish-green. Abdomen yellowish green. Total length 4.80 mm. Carapace 2.40 mm. long, 2.10 mm. wide; abdomen 3.60 mm. long, 2.30 mm. wide.

Cephalothorax : Slightly longer than wide, narrow in front, two conspicuous longitudinal deep brown broad patches on the cephalothorax as in fig. 9. Eyes black in two rows, anterior row slightly longer than the posterior row. Anterior row of eyes slightly recurved, anterior medians larger than the laterals and closer to each other than to adjacent laterals. Posterior row of eyes almost equal in size, posterior medians slightly closer to adjacent laterals than to each other. Median ocular quadrangle longer than wide and wider behind than in front. Clypeus narrow, length of clypeus is little smaller than the diameter of anterior median eyes. Sternum heart-shaped pointed behind and rebordered at coxae of all legs and deep brown in colour. Legs long and strong, clothed with hairs and conspicuously banded with transverse black patches. Legs I and IV longer than II and III. Male palp as in fig. 11.

Abdomen : Longer than wide, high and broad in front clothed with pubescence and decorated with brownish patches and fine net like structure as in fig. 10. Anterior dorsal side of abdomen provided with a hump, Mid ventral side provided with longitudinal deep brown band extending from epigastric fold to above the calamistrum.

Distribution : INDIA : Maharashtra; Danoli, Dist. Ratnagiri (Type-locality), Poona, Nagpur, West Bengal; Kolkata, Car-Nicobar.

SUMMARY

This paper deals with 6 species under 5 genera of the families, Oecobiidae, Eresidae, Hersiliidae, Urocteidae and Uloboridae.

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