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## STUDIES ON SOME SPIDERS OF THE FAMILY THOMISIDAE (ARANEAE : ARACHNIDA) FROM MADHYA PRADESH, INDIA

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### INTRODUCTION

The interesting family of hunting crab spiders is Thomisidae. These spiders look like small crabs in their appearance due to the arrangement of their legs. Most of the legs of these spiders move side-wise like those of a crab and so that the common name for these spiders is crab-spiders. Crab spiders are one of the most handsome forms of spiders, possessing bright and beautiful colours. A large variety of crab-spiders live on plants, especially on the flowering shrubs and bushes and still other forms prefer green leaves. Generally these spiders have short, wide, considerably flattened bodies and some of the legs are extended laterally almost at right angles to the body. The crab-spiders wander on the ground and on plants. Their flattened body helps them to live in narrow crevices, under bark or in debris. Rarely the crab-spiders come out at night but most seem to be dependent on day flying insects. The crab-spiders are fortified with extremely venom, in compensation for weak chelicerae. Their legs are very unequal in size, the first two pairs are very long and robust and the posterior two pairs considerably shorter and weaker. These spiders are very sluggish. They are usually found on flower heads, where they wait at leisure for the insects which come to the flowers for pollen or nectar. Some spiders of the genera *Misumena*, *Misumenops*, *Misumenoides*, *Thomisus* and *Xysticus* can also change their colour according to the colour of the flower. They can change their colour from white to yellow and from yellow to white. These spiders sit motionless in the flower and pounce on the insect as soon as it alights.

Some crab-spiders are not good climbers and live under stones. The spiders of the genera *Oxyptila* and *Xysticus* mainly live on the ground. Their dull brown grey colours mingle with the dried leaves and the debris of the soil and they feed on ants and other small insects and conceal themselves in the crevices of bark and other cracks.

Some delicate green spiders of the genus *Synaema* essentially live on green foliage.

## SYSTEMATICS

### Family THOMISIDAE Sundevall

1833. *Thomisidae* Sundevall, *Conspectus arachnidum* London : 27.

1869. *Thomisidae* : Stoliczka, *J. Asiat. Soc. Bengal*, **38** : 225.

The typical members have a peculiar crab-like appearance. Cephalothorax and abdomen are usually short and broad, but somewhat elongated. Homogenously coloured eyes, free rather than fused chelicerae, the lower margin of which is indistinct and unarmed; presence of two toothed tarsal claws on each laterigrade leg, one pair of book lungs, a single median tracheal opening near the spinnerets, the absence of cribellum and clavamistrum characterise the family, first two pairs of legs are long, stout and frequently move sideway as in a crab; the legs are less obviously laterigrade. The member of the genus *Oxyptila* have the integument furnished with some characteristic clavate setae, but in the other genera the hairs and spines are normal.

Pocock (1900) in his "Fauna of British India, Arachnida," has dealt with spiders which are common and conspicuous apart from scorpions, Uropygi, Amblypygi, Solifugae, he recorded two hundred species of spiders from India, Burma, and Sri Lanka. Many common and well known families like Thomisidae were not reported from India. Basu (1963 a, b, 64 a, b, 65); Biswas (1977); Sen (1963); Sen and Basu (1963); Sen and Basu (1972); Tikader (1960 a, b, 63 a, b, 64, 65, 66 a, b, 71, 80) described many species of the Thomisid spiders from India.

All the type specimens are deposited in National Zoological Collection, Zoological Survey of India, Kolkata.

*Type-genus* : *Thomisus* Walckenaer

*Distribution* : All over the world.

### Key to the Genera of the Family THOMISIDAE

1. Lateral eyes on strong conical protuberence ..... 2
- Lateral eyes are not on conical protuberence ..... 3
2. Abdomen widened and truncated behind ..... *Thomisus* Walckenaer
- Abdomen long, lateral sides with longitudinal muscular corrugation ..... *Runcinia* Simon
3. Anterior median eyes closer to the lateral eyes than to each other ..... *Xysticus* Koch
- Anterior median eyes not closer to lateral eyes ..... *Synaema* Simon

### Genus 1. *Thomisus* Walckenaer

1805. *Thomisus* Walckenaer, *Tabl. Aron.* : 28.

1869. *Thomisus* : Stoliczka, *J. Asiat. Soc. Bengal*, **38** : 225.

1980. *Thomisus* : Tikader, *Fauna of India, Spiders*, **1(1)** : 30.

**Characters :** Cephalothorax truncated in front, with the upper fore corners strongly and conically protuberant and divergent bearing the lateral eyes. Eyes very small. Abdomen narrow and truncated in front, enlarging to a considerable width behind, where at either corner of the dorsal side is a short blunt conical protruberance. Legs long. I and II much longer than III and IV Typical crab-like appearance.

**Type-species :** *Thomisus albus* (Gmelin)

**Distribution :** Europe, Africa, Asia, Australia and America.

### Key to the species of the Genus *Thomisus* Walckenaer

1. Abdomen wider than long. Metatarsi I and II provided with five pairs of ventral spines. Abdomen with a pairs of shoulder tubercles each with a black spot, situated inwardly in the middle ..... *pugilis* Stoliczka
- Abdomen longer than wide. Metatarsi I and II provided with variable-pairs of ventral spines ..... 2
2. Metatarsi I and II provided with six pairs of ventral spines ..... 3
- Metatarsi I and II with variable number of ventral spines ..... 4
3. Carapace longer than wide. Abdomen provided with light brownish spots and light yellowish transverse bands ..... *meenae* sp. nov.
- Carapace broader than long. Abdomen provided with four pairs of roundish black spots and one roundish black spot posteriorly with conspicuous transverse muscular corrugations ..... *dhananjayi* sp. nov.
4. Metatarsi I and II provided with five pairs of ventral spines ..... 5
- Metatarsi I and II provided with four or eight pairs of ventral spines ..... 7
5. Carapace middorsally provided with U-shaped white patch. Abdomen dorsally provided with light brownish reticulations ..... *pritiiae* sp. nov.
- Carapace middorsally without U shaped patch. Abdomen dorsally not provided with light brownish reticulations ..... 6
6. Legs uniform in colour without any spots. Abdomen middorsally provided with seven black spots, posteriorly with four transeverse deep bands ..... *manjuae* sp. nov.
- Legs provided with light brown patches. Abdomen dorsally provided with light brown spots ..... *manishae* sp. nov.
7. Cephalothorax provided with chalk white band on ocular area. Abdomen dorsally provided with brownish spots and some reticulations ..... *ashishi* sp. nov.
- Cephalothorax with lateral longitudinal deep brown bands. Abdomen dorsally not provided with brownish spots ..... 8

8. Cephalothorax with lateral longitudinal deep brown bands ..... *cherapunjeus* Tikader  
 — Cephalothorax without lateral longitudinal bands ..... 9
9. Antero-lateral part of abdomen with some black spots ..... *lobosus* Tikader  
 — Antero-lateral part of abdomen without black spots ..... 10
10. Broadest portion of abdomen tuberculated laterally and black spots on the tubercle .....  
 ..... *projectus* Tikader  
 — Broadest portion of abdomen not tuberculated laterally. Cephalothorax without lateral  
 longitudinal bands ..... *elongatus* Tikader

### 1. *Thomisus pugilis* Stoliczka

1869. *Thomisus (Xysticus) (Sic) pugilis* Stoliczka, *J. Asia Soc. Bengal*, 38 : 225.

1929. *Thomisus pugilis* : Sherriffs, *Ann. mag. nat. Hist.*, 4(1) : 243.

*Specimen examined* : 1 ♀, on the bank of Hiran river near Patan Jabalpur, Madhya Pradesh, Coll. U. A. Gajbe, 29.IX.1981, (Reg. No. A/1756). 1 ♀, P.W.D. Rest House, Amanganj, Panna district, Coll. R. K. Singh, 19.II.1987.

*Distribution* : India : West Bengal, Kolkata. *Type-locality* : Tamil Nadu, Punjab, Madhya Pradesh. Pakistan : Lahore.

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

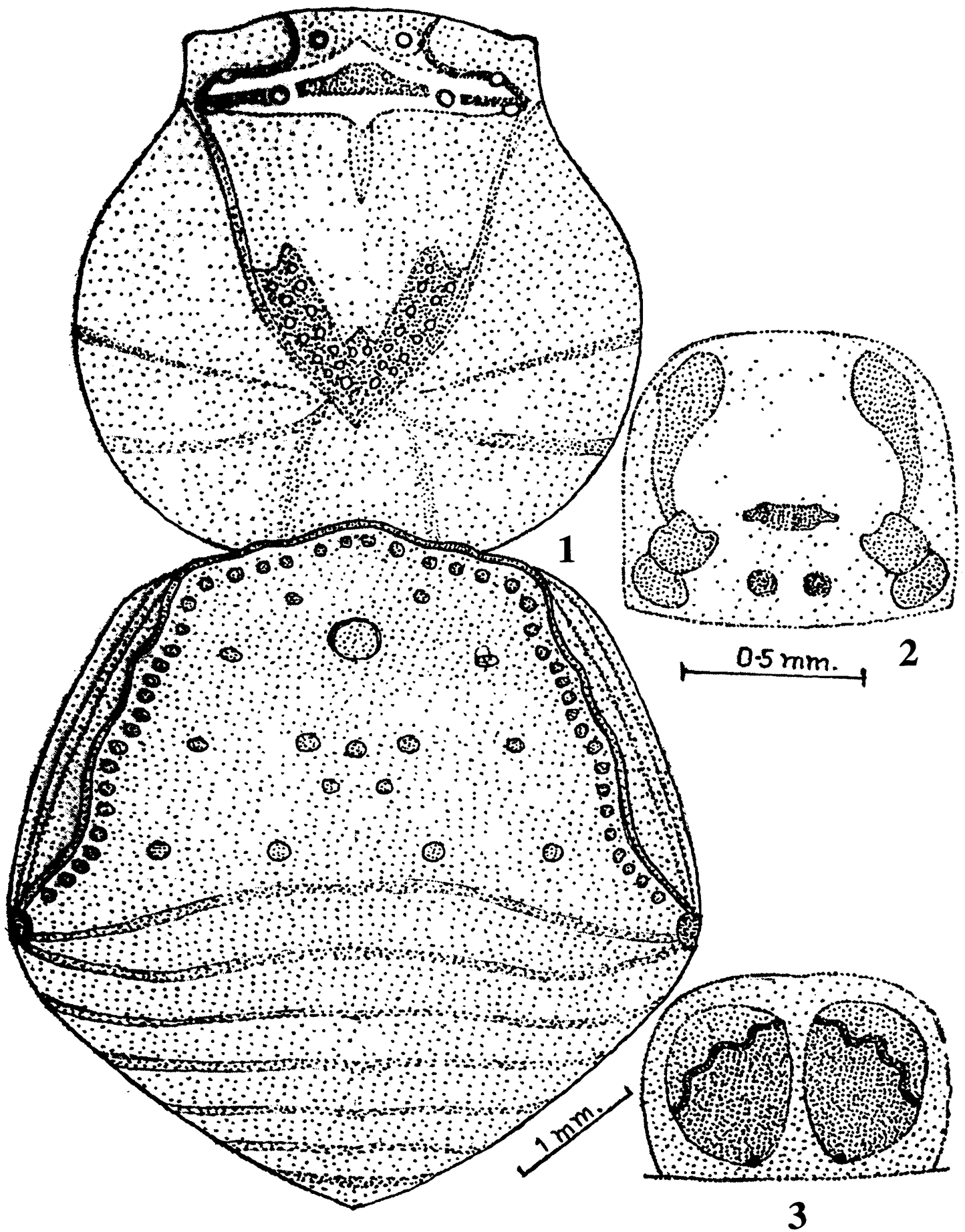
### 2. *Thomisus meenae* sp. nov.

(Figs. 1-3)

*General* : Cephalothorax and legs light brownish-green, abdomen yellowish-green. Total length 8.90 mm. Carapace 4.20 mm. long, 4.00 mm. wide; abdomen 5.00 mm. long, 4.90 mm. wide.

*Cephalothorax* : Longer than wide, narrowing slightly in front with transverse black band on ocular area. Eyes black, anterior row of eyes more recurved than the posterior row (as seen from in front), anterior medians slightly smaller than the anterior laterals and closer to each other than to adjacent laterals. Posterior row of eyes slightly recurved, posterior medians slightly larger than the posterior laterals and closer to adjacent laterals than to each other. Clypeus long, subrectangular. Median ocular quadrangle broader than long and wider behind than in front. Legs long and stout, I and II longer than III and IV. I and II legs provided with three and one black roundish spots respectively. Metatarsi I and II provided with six pairs of ventral spines. Legs III and IV without black spots and ventral spines.

*Abdomen* : Nearly pentagonal, slightly overlapping the posterior region of cephalothorax in front, broadest at the middle, this portion tuberculating laterally and a black conspicuous spot laterally on the top of the tubercle, provided with light brownish spots and posteriorly light yellowish



Figs. 1-3. *Thomisus meenae* sp. nov.;  
1. Dorsal view of female, legs omitted; 2. Epigyne; 3. Internal genitalia.

transverse bands as in fig. 1. Ventral side slightly lighter than the dorsal. Epigyne as in fig. 2. Internal genitalia as in fig. 3.

*Type-specimen* : *Holotype* : ♀ in spirit, other details as above. Registration No. 5436/18.

*Type-locality* : India : Madhya Pradesh, Nunsar village, Patan Tehsil, Jabalpur district, Coll. U.A. Gajbe, 29.IX.1981.

*Remarks* : This species closely resembles *Thomisus andamanensis* Tikader but differs from it as follows : (i) Ocular area provided with a transverse black band but in *T. andamanensis* ocular area provided with a transverse yellowish band. (ii) Metatarsi I and II provided with six pairs of ventral spines but in *T. andamanensis* metatarsi provided with four pairs of ventral spines. (iii) Epigyne and internal genitalia also structurally different.

### 3. *Thomisus dhananjayi* sp. nov.

(Figs. 4-6)

*General* : Cephalothorax and legs brownish-green, abdomen yellowish-green. Total length 9.20 mm. Carapace 4.10 mm. long, 4.30 mm. wide; abdomen 5.40 mm. long, 5.00 mm. wide.

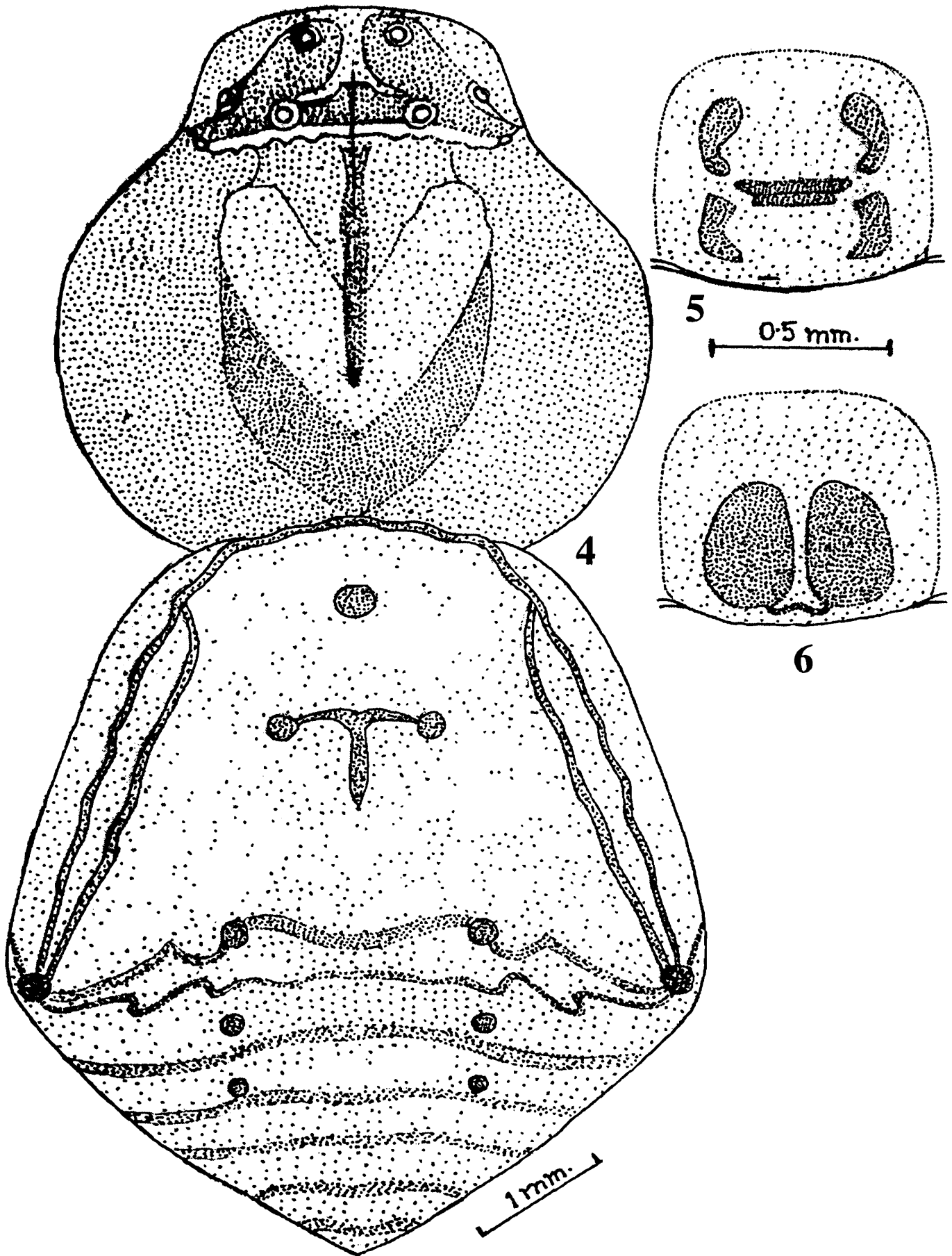
*Cephalothorax* : Broader than long, narrowing slightly in front, maximum width slightly more than length. Eyes black in two rows. Anterior row of eyes more recurved (as seen from in front), medians same in size as laterals, anterior medians slightly closer to each other than to adjacent laterals. Posterior row of eyes slightly recurved. Posterior medians slightly larger than the lateral and closer to adjacent laterals than to each other. Ocular area yellowish-brown with yellow transverse patch. Clypeus long, subrectangular. Legs long and stout. I and II legs longer than III and IV. Femur, tibia and metatarsi of legs I and II provided with single dorsal roundish patches. Metatarsi I and II legs provided with six pairs of ventral spines, III and IV without spots and spines.

*Abdomen* : Pentagonal, slightly longer than wide, overlapping the posterior region of cephalothorax in front, broadest just behind the middle, middorsally provided with four pairs of roundish black spot as in fig. 4. Posterior end provided with conspicuous transverse muscular corrugations. Ventral side slightly lighter than the dorsal and midventrally provided with four pairs of brown spots. Epigyne as in fig. 5. Internal genitalia as in fig. 6.

*Type-specimen* : *Holotype* : ♀, in spirit, other details as above. Registration No. 5437/18.

*Type-locality* : India : Madhya Pradesh, Barela village, Jabalpur district, Coll. U. A. Gajbe, 22.XII.1981.

*Remarks* : This species closely resembles *Thomisus dhakurensis* Tikader but differs from it as follows : (i) Cephalothorax deep brownish-green but in *T. dhakurensis* cephalothorax brownish-green. (ii) Abdomen yellowish-green, but in *T. dhakurensis* abdomen chalk white. (iii) Metatarsi



Figs. 4-6. *Thomisus dhananjay* sp. nov.;  
4. Dorsal view of female, legs omitted; 5. Epigyne; 6. Internal genitalia.

of first and second legs provided with six pairs of ventral spines but in *T. dhakurensis* metatarsi of I and II legs provided with five pairs of ventral spines. (iv) Abdomen middorsally provided with nine black spots but in *T. dhakuriensis* abdomen dorsolaterally provided with seven black spots. (v) Epigyne and internal genitalia also structurally different.

#### 4. *Thomisus pritiaie* sp. nov.

(Figs. 7-9)

*General* : Cephalothorax and legs light brownish-green abdomen light yellowish-green. Total length 8.00 mm., Carapace 3.20 mm. long, 2.80 mm. wide; abdomen 4.90 mm. long, 4.30 mm. wide.

*Cephalothorax* : Longer than wide, narrow in front, middorsally with U-shaped white patch upto ocular area light yellow with light brownish transverse band. Eyes black in two rows. Anterior row of eyes strongly recurved (as seen from in front), medians larger than laterals and closer to each other than to adjacent laterals, posterior row of eyes slightly recurved, medians larger than laterals and nearly equidistant from each other. Clypeus very high, rectangular and provided with yellow transverse patch anteriorly. Legs long and stout, I and II longer than III and IV Tibiae and metatarsi of legs provided with four small and a big roundish black spots dorsally. Metatarsi I and II provided with five pairs of ventral spines. Legs I and II without spines.

*Abdomen* : Nearly pentagonal, longer than wide, slightly overlapping the posterior region of cephalothorax in front, broadest behind the middle. Abdomen dorsally provided with light brownish reticulations as in fig. 7. Ventral side slightly lighter than the dorsal. Epigyne as in fig. 8. Internal genitalia as in fig. 9.

*Type-specimen* : *Holotype* : ♀, in spirit, other details as above. Registration No. 5438/18.

*Type-locality* : India : Madhya Pradesh, Nunsar village, Patan Tahsil, Jabalpur district, Coll. U.A. Gajbe, 29.IX.1981.

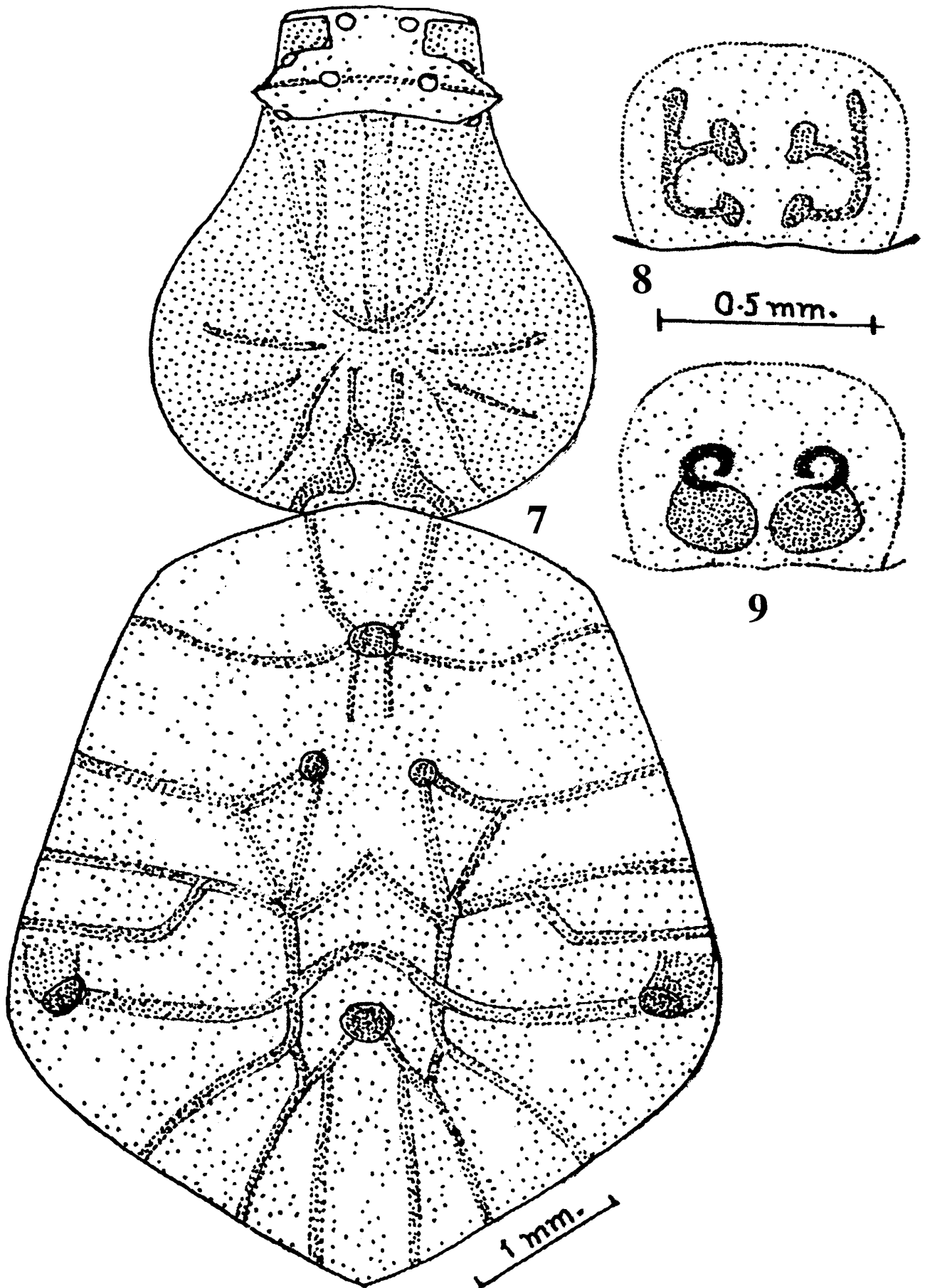
*Remarks* : This species closely resembles *Thomisus pugilis* Stliczka but differs from it as follows : (i) Carapace with U-shaped white patch extending upto ocular area but in *T. pugilis* no U-shaped white patch. (ii) Abdomen provided with light brownish reticulations but in *T. pugilis* abdomen provided with transverse grooves. (iii) Epigyne and internal genitalia also structurally different.

#### 5. *Thomisus manjuae* sp. nov.

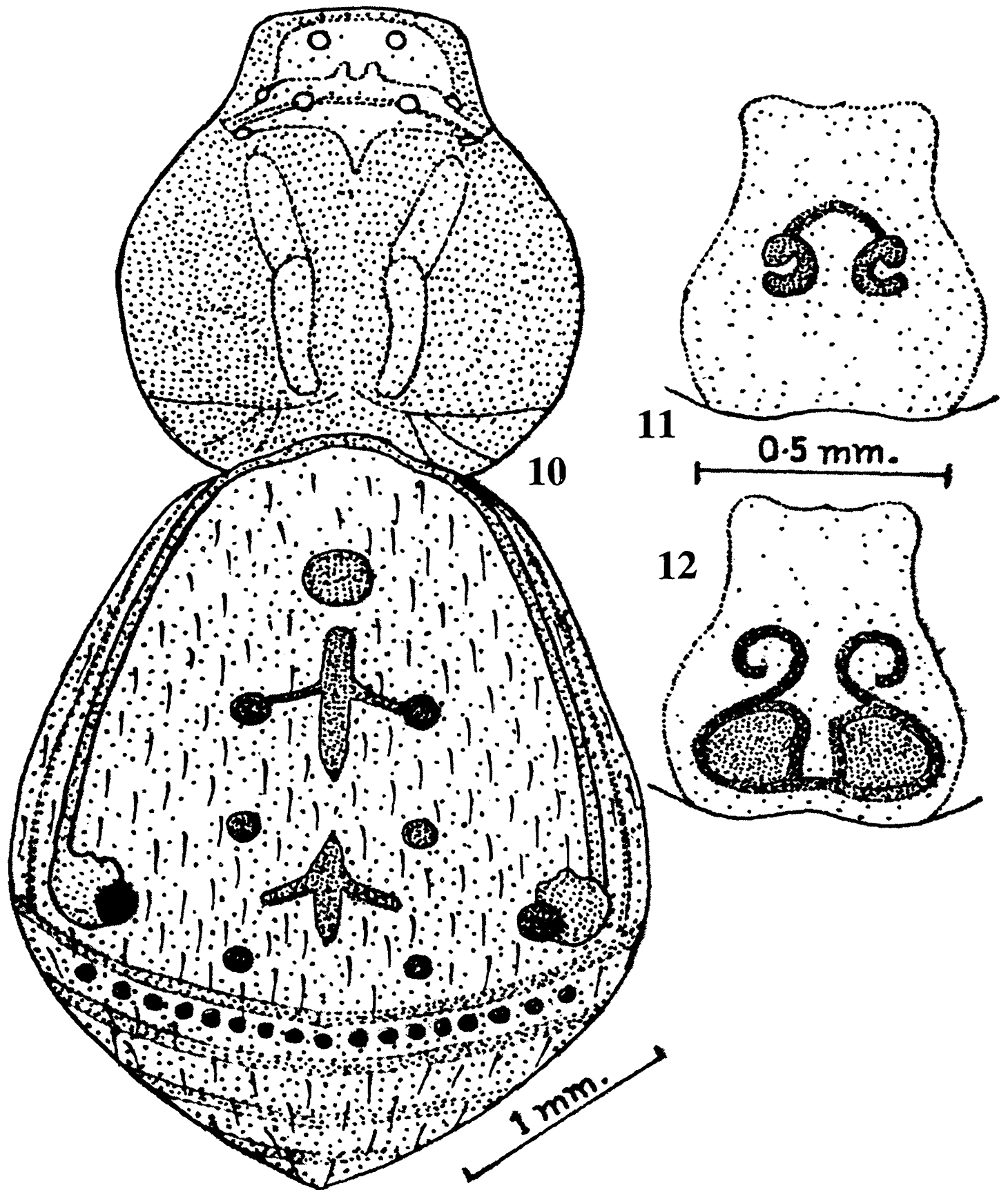
(Figs. 10-12)

*General* : Cephalothorax and legs deep brownish-green, abdomen yellowish-green. Total length 5.20 mm. Carapace 2.10 mm. long, 2.00 mm. wide; abdomen 3.40 mm. long, 2.80 mm. wide.





Figs. 7-9. *Thomisus prittiae* sp. nov.;  
7. Dorsal view of female, legs omitted; 8. Epigyne; 9. Internal genitalia.



Figs. 10-12. *Thomisus manjuae* sp. nov.;  
 10. Dorsal view of female, legs omitted; 11. Epigyne; 12. Internal genitalia.

**Cephalothorax** : Longer than wide, narrowing in front with a transverse yellowish band on ocular area, maximum width slightly less than length. Anterior row of eyes recurved (as seen from in front) medians slightly larger than laterals and closer to each other than to adjacent laterals and nearly equidistant to each other. Clypeus long, subrectangular. Median ocular quadrangle slightly longer than wide and wider behind than in front. Legs long and stout, I and II longer than III and IV. Legs uniform in colour without any spots. Tibiae and metatarsi I and II provided with three and five pairs of ventral spines respectively.

**Abdomen** : Longer than wide nearly pentagonal, slightly overlapping the posterior region of cephalothorax in front, broadest behind the middle, this portion tuberculating laterally with a black spot on the top of tubercle clothed with hairs. Abdomen middorsally provided with seven spots as in fig. 10. Posterior end of abdomen provided with four transverse deep yellow bands. Ventral side slightly lighter than the dorsal and midventrally provided with five pairs of brown spots. Epigyne as in fig. 11. Internal genitalia as in fig. 12.

**Type-specimen** : *Holotype* : ♀, in spirit, other details as above. Registration No. 5439/18.

**Type-locality** : India : Madhya Pradesh, Bargi village, Jabalpur district, Coll. U.A. Gajbe, 20.VI.1979.

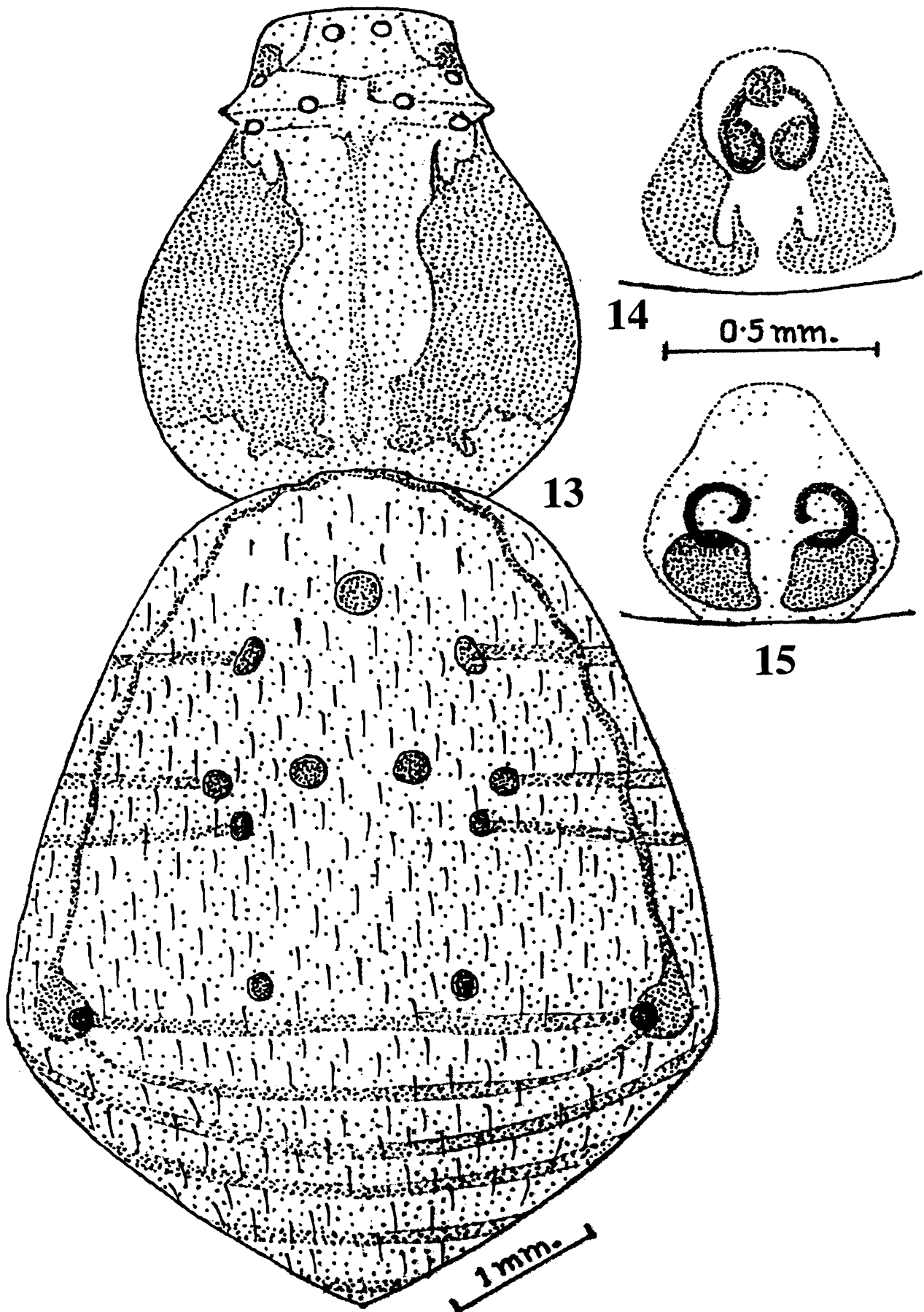
**Remarks** : This species closely resembles *Thomisus projectus* Tikader but differs from it as follows : (i) Cephalothorax and legs deep brownish-green but *T. projectus*, cephalothorax and legs greenish. (ii) Anterior median eyes slightly larger than the anterior lateral eyes. (iii) Metatarsi I and II provided with five pairs of ventral spines, but in *T. projectus* metatarsi I and II provided with six pairs of ventral spines. (iv) Abdomen dorsally provided with seven black spots but in *T. projectus* abdomen dorsally provided with five spots. (v) Epigyne and internal genitalia also structurally different.

## 6. *Thomisus manishae* sp. nov.

(Figs. 13-15)

**General** : Cephalothorax and legs deep yellowish-green, abdomen light yellowish-green. Total length 8.40 mm. Carapace 3.30 mm. long, 2.90 mm. wide; abdomen 5.40 mm. long, 4.40 mm wide.

**Cephalothorax** : Longer than wide, narrowing in front, antero-lateral sides with longitudinal deep brown patches and middorsally with white longitudinal patch as in fig. 13. Eyes black in two rows. Anterior row of eyes recurved (as seen from in front), anterior medians slightly larger than the anterior laterals and closer to each other than the adjacent laterals. Posterior row of eyes slightly recurved, posterior medians slightly smaller than the posterior laterals and slightly closer to posterior laterals than to each other. Clypeus long, subrectangular, provided with white patch. Median ocular quadrangle longer than broad and wider behind than in front. Sternum heart-shaped and posteriorly



Figs. 13-15. *Thomisus manishae* sp. nov.;  
 13. Dorsal view of female, legs omitted; 14. Epigyne; 15. Internal genitalia.

provided with black patch. Legs long and stout, I and II longer than III and IV. Femur, patella, tibiae of I and II legs provided dorsally with light brown to deep brown patches, III and IV legs without patches. Tibiae and metatarsi of I and II legs provided with two and five pairs of ventral spines respectively. II and IV legs without patches and spines.

*Abdomen* : Nearly pentagonal, clothed with spine like hairs, longer than wide, slightly overlapping the posterior region of cephalothorax in front, broadest just behind the posterior region of cephalothorax in front, broadest just behind the middle, laterally on the broadest portion with muscular elevation and this portion with a roundish black spots and between two spots there is a transverse light brown line. Abdomen dorsally provided with light brown spots. Ventral side slightly lighter than the dorsal and in between the epigastric furrow and spinnerets there is black longitudinal patch. Epigyne as in fig. 14. Internal genitalia as in fig. 15.

*Type-specimen* : *Holotype* : ♀, in spirit, other details as above. Registration No. 5440/18.

*Type-locality* : India : Madhya Pradesh, Shantinagar Colony, Rajnandgaon district, Coll. U.A. Gajbe, 22.XII.1983.

*Remarks* : This species closely resembles *Thomisus lobosus* Tikader but differs from it as follows : (i) Cephalothorax and legs deep yellowish-green but in *T. lobosus* cephalothorax brown and legs light green. (ii) Legs I and II provided with black patches but *T. lobosus* legs without black patches. (iii) Metatarsi of I and II legs provided with five pairs of ventral spines but in *T. lobosus* metatarsi with four pairs of ventral spines. (iv) Epigyne and internal genitalia also structurally different.

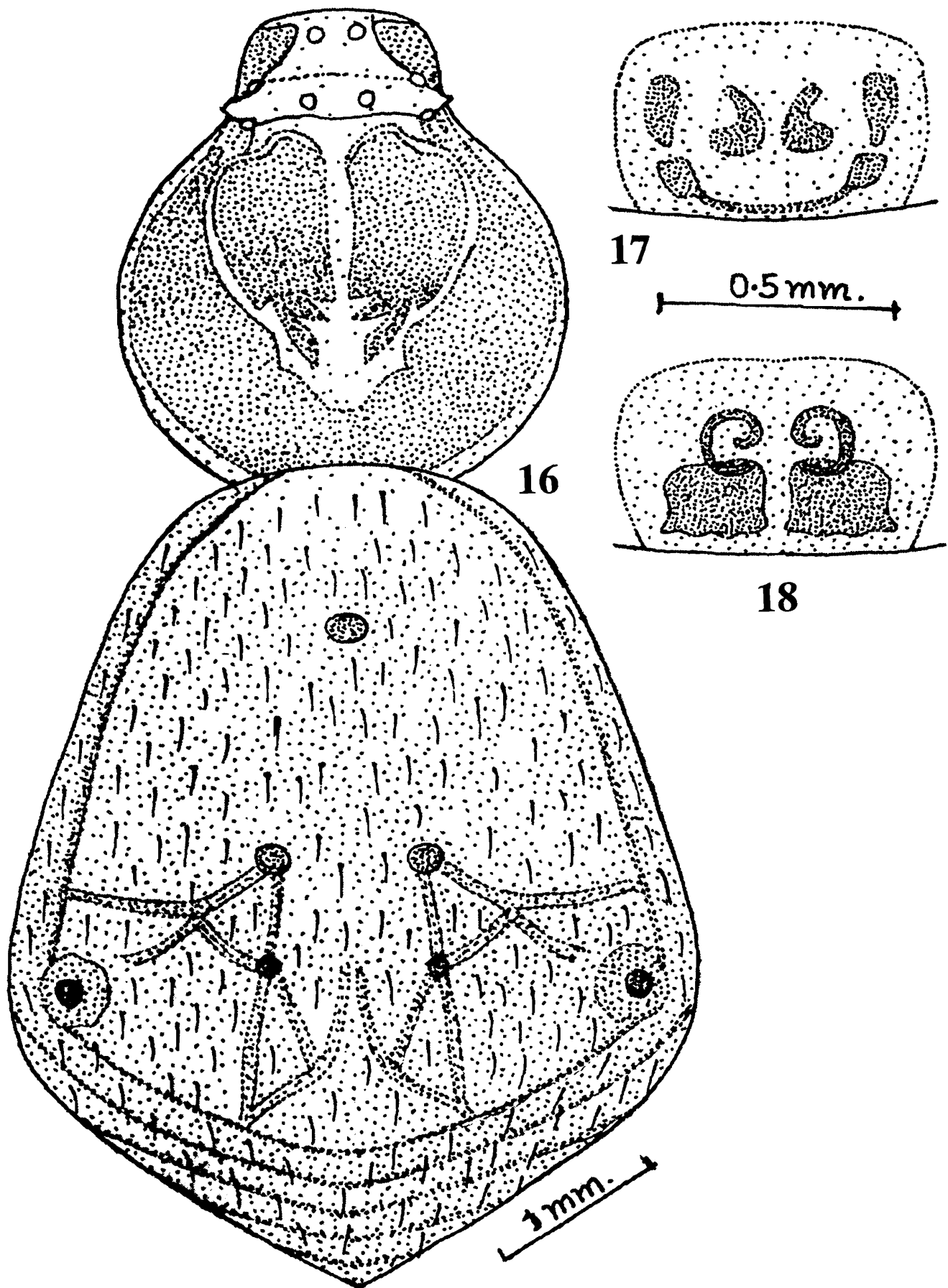
### 7. *Thomisus ashishi* sp. nov.

(Figs. 16-18)

*General* : Cephalothorax light brownish-green, legs yellowish-green, abdomen light yellowish-green. Total length 7.80 mm. Carapace 3.00 mm. long, 2.80 mm. wide; abdomen 5.00 mm. long, 4.00 mm. wide.

*Cephalothorax* : Longer than wide with a transverse chalk white band on ocular area, narrowing in front, chalk white longitudinal band starting from middle of cephalothorax to ocular area. Eyes black in two rows, both row recurved. Anterior row more recurved than the posterior row (as seen from in front), anterior medians slightly larger than the anterior laterals and closer to each other than to adjacent laterals. Clypeus long, subrectangular. Median ocular quadrangle longer than wide and wider behind than in front. Legs long and stout. I and II longer than III and IV, provided with chalk-white bands. Tibiae and metatarsi of I leg provided with four pairs of ventral spines each.

*Abdomen* : Nearly pentagonal, widest behind the middle, slightly overlapping the posterior region of cephalothorax in front, clothed with spine like hairs. Abdomen dorsally provided with



Figs. 16-18. *Thomisus ashishi* sp. nov.;  
 16. Dorsal view of female, legs omitted; 17. Epigyne; 18. Internal genitalia.

brownish spots and some reticulations as in fig. 16. Ventral side slightly lighter than the dorsal. Epigyne as in fig. 17. Internal genitalia as in fig. 18.

*Type-specimen : Holotype* : ♀, in spirit, other details as above. Registration No. 5441/18.

*Type-locality* : India : Madhya Pradesh, Charama, Baster district, Coll. U.A. Gajbe, 5.I.1984.

*Remarks* : This species closely resembles *Thomisus andamanensis* Tikader but differs from it as follows : (i) Cephalothorax provided with chalk-white longitudinal bands but in *T. andamanensis* cephalothorax not provided with such bands (ii) Tibiae and metatarsi of I leg provided with four pairs of ventral spines each but in *T. andamanensis* tibiae and metatarsi of I leg provided with two pairs of ventral spines respectively. (iii) Abdomen dorsally provided with brown reticulations but in *T. andamanensis* abdomen not provided with brown reticulations. (iv) Epigyne and internal genitalia also structurally different.

#### 8. *Thomisus cherapunjeus* Tikader

1966. *Thomisus cherapunjeus* Tikader, *Proc. Indian Acad. Sci.*, 64(1) : 54.

1980. *Thomisus cherapunjeus* : Tikader, *Fauna of India, Spiders*, 1(1) : 54.

*Specimen examined* : 1 ♀, on the bank of Aloni river Shahnagar, Panna district, Madhya Pradesh, Coll. R. K. Singh, 26.II.1987, (Reg. No. A/1753). 1 ♀, P.W.D. Rest House, Amanganj, Panna district, Madhya Pradesh, Coll. R. K. Singh, 19.II.1987, (Reg. No. A/1754). 1 ♀, on the bank of Hiran river near Patan, Jabalpur district, Madhya Pradesh, Coll. U. A. Gajbe, 29.IX.1981.

*Distribution* : India : Meghalaya, Kench's trace Shillong (Type-locality), Madhya Pradesh.

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

#### 9. *Thomisus lobosus* Tikader

1965. *Thomisus lobosus* Tikader, *Proc. Indian Acad. Sci.*, 61(5) : 285.

1980. *Thomisus lobosus* : Tikader, *Fauna of India, Spiders*, 1(1) : 36.

*Specimen examined* : 1 ♀, Konta, Bastar district, Madhya Pradesh, Coll. Y N. Gupta, 25.XI.1988 (Reg. No. A/1755).

*Distribution* : India : Poona, Maharashtra, Bastar, Madhya Pradesh.

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

#### 10. *Thomisus projectus* Tikader

1960. *Thomisus projectus* Tikader, *J. Bombay nat. Hist. Soc.*, 57 : 182

1980. *Thomisus projectus* : Tikader, *Fauna of India, Spiders*, 1(1) : 40.

*Specimen examined* : 2 ♀ ♀, on the bank of Ken river, Marha, Panna district, Madhya Pradesh, Coll. H. P. Agrawal, 22.XI.1988, (Reg. No. 1757). 1 ♀, Saucer, Chhindwara district, Madhya Pradesh, Coll. Y N. Gupta, 20.XI.1989, (Reg. No. A/1758).

*Distribution* : India : Habra near Kolkata, West Bengal; Panna and Chhindwara districts of Madhya Pradesh.

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

### 11. *Thomisus elongatus* Stoliczka

1869. *Thomisus (Xysticus) (Sci) elongatus* Stoliczka, *J. Asiat Soc. Bengal*, **38** : 227.

1971. *Thomisus elongatus* : Tikader, *Mem. Zool. Surv. India*, **15**(3) : 25.

1980. *Thomisus elongatus* : Tikader, *Fauna of India, Spiders*, **1**(1) : 56.

*Specimen examined* : 4 ♀ ♀, 1 ♂, on the bank of Ganga Mund Pond, Jagdalpur, Bastar district, Madhya Pradesh, Coll. Y N. Gupta, 28.XI.1988, (Reg. No. A/1752).

*Distribution* : India : Kolkata, West Bengal, Bastar, Madhya Pradesh.

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

### Genus 2. *Runcinia* Simon

1875. *Runcinia* Simon, *Ar. Fr.*, **2** : 254.

1895. *Runcinia* Simon, *Hist. Nat. Araign.*, **1**(4) : 1024.

1980. *Runcinia* Tikader, *Fauna of India, Spiders*, **1**(1) : 58.

*Characters* : Cephalothorax slightly wider than long; Cephalic region with prominent ocular tubercle, clothed with hairs and spines. Legs long and stout, I and II remarkably longer than others. Abdomen long, spined, narrowing behind. Lateral sides with conspicuous longitudinal muscular corrugations.

*Type-species* : *Runcinia laterals* (Koch).

*Distribution* : Europe, Africa, Asia and Australia.

### 12. *Runcinia escheri* Reimoser

1934. *Runcinia escheri* Reimoser, *Reync. Scise Zool.*, **41**(32) : 487.

1980. *Runcinia escheri* : Tikader, *Fauna of India, Spiders*, **1**(1) : 59.

*Specimen examined* : 1 ♀, Barghat village, Seoni district, Madhya Pradesh, Coll. U. A. Gajbe, 7.III.1987, (Reg. No. A/1766).

*Distribution* : India : Andhra Pradesh, Seoni, Madhya Pradesh.

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



Genus 3. *Xysticus* Koch

1835. *Xysticus* Koch, *H. Schacff. Deutsch. Ins.*, : 35.

1951. *Xysticus* : Locket & Millidge, *British Spiders, London*, 1 : 175.

1980. *Xysticus* : Tikader, *Fauna of India, Spiders*, 1(1) : 107.

**Characters** : Cephalothorax rather square fronted, clothed with simple isolated hairs and spines, which are usually pointed, rarely blunt, but never clavate. Posterior eyes nearly equidistant, median smaller than laterals, the anterior medians usually a little farther from each other than from the anterior laterals. The lateral eyes situated in low subconfluent tubercles. The tibiae and metatarsi of the anterior legs usually furnished with more than three pairs of inferior spines. Tarsal claws furnished with five or six isolated teeth. Abdomen much wider behind than in front, usually bearing dentate band on its dorsal surface. These live under stones and leaves or under loose bark, a few live on small plants and bushes.

**Type-species** : *Xysticus critatus* (Clerck).

**Distribution** : Africa, Europe, Asia and America.

Key to the species of the genus *Xysticus* Koch

1. Total length less than 6 mm. Clypeal margin with seven spines directed forward. Tibiae I and II with two pairs of ventral spines. Abdomen with a single transverse complete deep brown line. .... 2
- Total length more than 6 mm. Clypeal margin with more than seven spines. Tibiae I and II with more than two pairs of ventral spines. Abdomen without complete deep brown line. .... 4
2. Abdomen with a single transverse complete deep brown line. .... *minutes* Tikader
- Abdomen with more than one transverse line ..... 3
3. Cephalothorax light to deep brown ..... *bengalensis* Tikader
- Cephalothorax uniform dark ..... *kali* Tikader & Biswas
4. Clypeal margin provided with ten strong spines directed forward. Tibiae I and II provided with four pairs of ventral spines. Abdomen dorsally clothed with spine like hairs and provided with brownish patches. .... *viveki* sp. nov.
- Clypeal margin provided with sixteen strong spines directed forward. Tibiae I and II provided with four pairs of ventral spines. Abdomen dorsally clothed with hairs and provided with brownish patches. .... *yogeshi* sp. nov.

13. *Xysticus minutes* Tikader

1960. *Xysticus minutes* Tikader, *J. Bombay nat. Hist. Soc.*, 57(1) : 173.

1980. *Xysticus minutes* : Tikader, *Fauna of India, Spiders*, 1(1) : 120.

*Specimen examined* : 1 ♀, Gwari village on Jabalpur, Mandla road, Mandla district, Madhya Pradesh, Coll. U. A. Gajbe, 22.XII.1981, (Reg. No. A/1761). 1 ♀, Lametaghat, Jabalpur district, Madhya Pradesh, Coll. R. K. Singh, 26.XI.1974, (Reg. No. A/1762). 3 ♀ ♀, 1 ♂, Bhesdehi, Betul district, Madhya Pradesh, Coll. H. S. Sharma, 31.III.1990, (Reg. No. A/1763). 3 ♀ ♀, Singhpur Panna district, Coll. R. K. Singh, 16.II.1987, (Reg. No. A/1764). 1 ♀, Supkhar, Kanha National Park, Mandla district, Madhya Pradesh, Coll. R. K. Singh, 1.XII.1986, (Reg. No. A/1765). 1 ♂, Dhaurai village, Narayanpur Tahsil, Bastar district, Madhya Pradesh, Coll. Y. N. Gupta, 4.XII.1986. 1 ♀, on the bank of Ken river Marha, Panna district, Madhya Pradesh, Coll. H. P. Agrawal, 22.XI.1988.

*Distribution* : India : West Bengal, Dhakuria, Kolkata (Type-locality); Poona, Maharashtra; Shillong, Meghalaya; Gujarat; Madhya Pradesh.

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

#### 14. *Xysticus bengalensis* Tikader & Biswas

1974. *Xysticus bengalensis* Tikader & Biswas, *Proc. Indian Acad. Sci.*, **80**(6) : 262.

1980. *Xysticus bengalensis* : Tikader, *Fauna of India, Spiders*, **1**(1) : 127.

*Specimen examined* : 1 ♂, Gunour village, Panna district, Madhya Pradesh, Coll. R. K. Singh, 22.II.1987, (Reg. No. A/1760).

*Distribution* : India : Darjeeling, West Bengal; Panna, Madhya Pradesh.

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

#### 15. *Xysticus kali* Tikader & Biswas

1974. *Xysticus kali* Tikader & Biswas, *Proc. Indian Acad. Sci.*, **80**(6) : 265.

1980. *Xysticus kali* : Tikader, *Fauna of India, Spiders*, **1**(1) : 130.

*Specimen examined* : 1 ♂, P.W.D. Rest House, Amanganj, Panna district, Madhya Pradesh, Coll. R. K. Singh, 18.II.1987, (Reg. No. A/1759).

*Distribution* : India : Darjeeling, West Bengal; Panna, Madhya Pradesh.

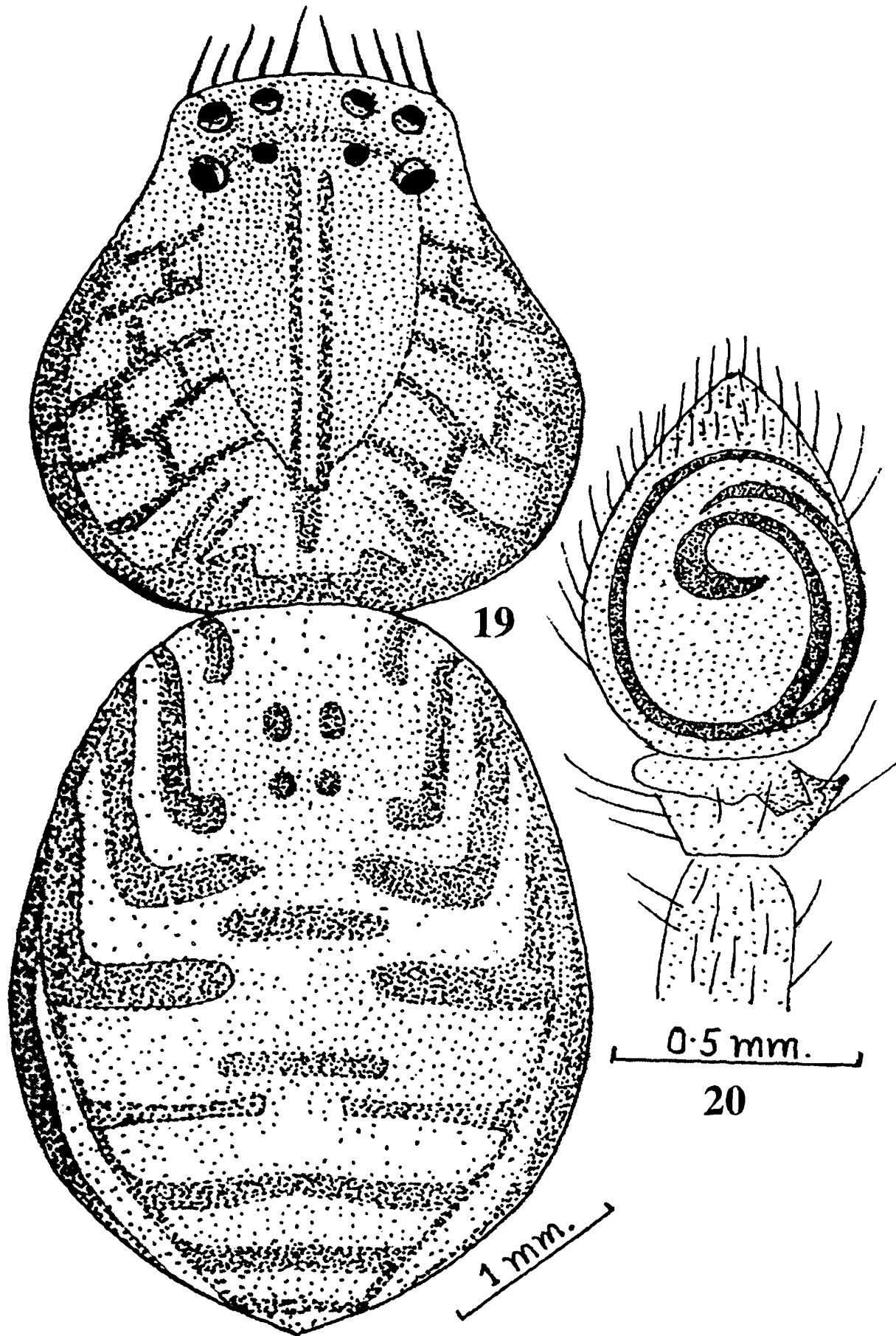
*Remarks* : This species is being reported for the first time from Madhya Pradesh.

#### 16. *Xysticus viveki* sp. nov.

(Figs. 19-20)

*General* : Cephalothorax reddish-green, legs brownish-black, abdomen chalk-white. Total length 7.00 mm. Carapace 3.10 mm., long, 3.00 mm. wide; abdomen 4.00 mm. long, 3.10 mm. wide.

*Cephalothorax* : Longer than wide, narrowing in front and provided laterally and middorsally with black reticulations. Clypeus high and broad, margin provided with ten strong spines



Figs. 19-20. *Xysticus viveki* sp. nov.;  
19. Dorsal view of male, legs omitted; 20. Male palp, ventral view.

directed forward. Eyes round, black, ringed with whitish-brown tubercles, both rows recurved (as seen from in front). Anterior row of eyes slightly recurved, anterior medians smaller than the laterals and closer than laterals than to each other. Median ocular quadrangle broader than long and wider behind than in front. Sternum oval, pointed behind, rebordered and densely clothed with fine hairs. Legs strong and spined, I and II longer than III and IV. Tibiae and metatarsi I provided with four and two pairs of ventral spines respectively. Male palp as in fig. 20.

*Abdomen* : Longer than wide, clothed with small spine like hairs and provided with brownish patches as in fig. 19. Ventral side slightly lighter than the dorsal and laterally provided with small brownish patches.

*Type-specimen* : *Holotype* : ♂, in spirit, other details as above. Registration No. 5442/18.

*Type-locality* : India : Madhya Pradesh, Baragon village near Chotedonger, Bastar district, Coll. U. A. Gajbe, 24.XII.1983.

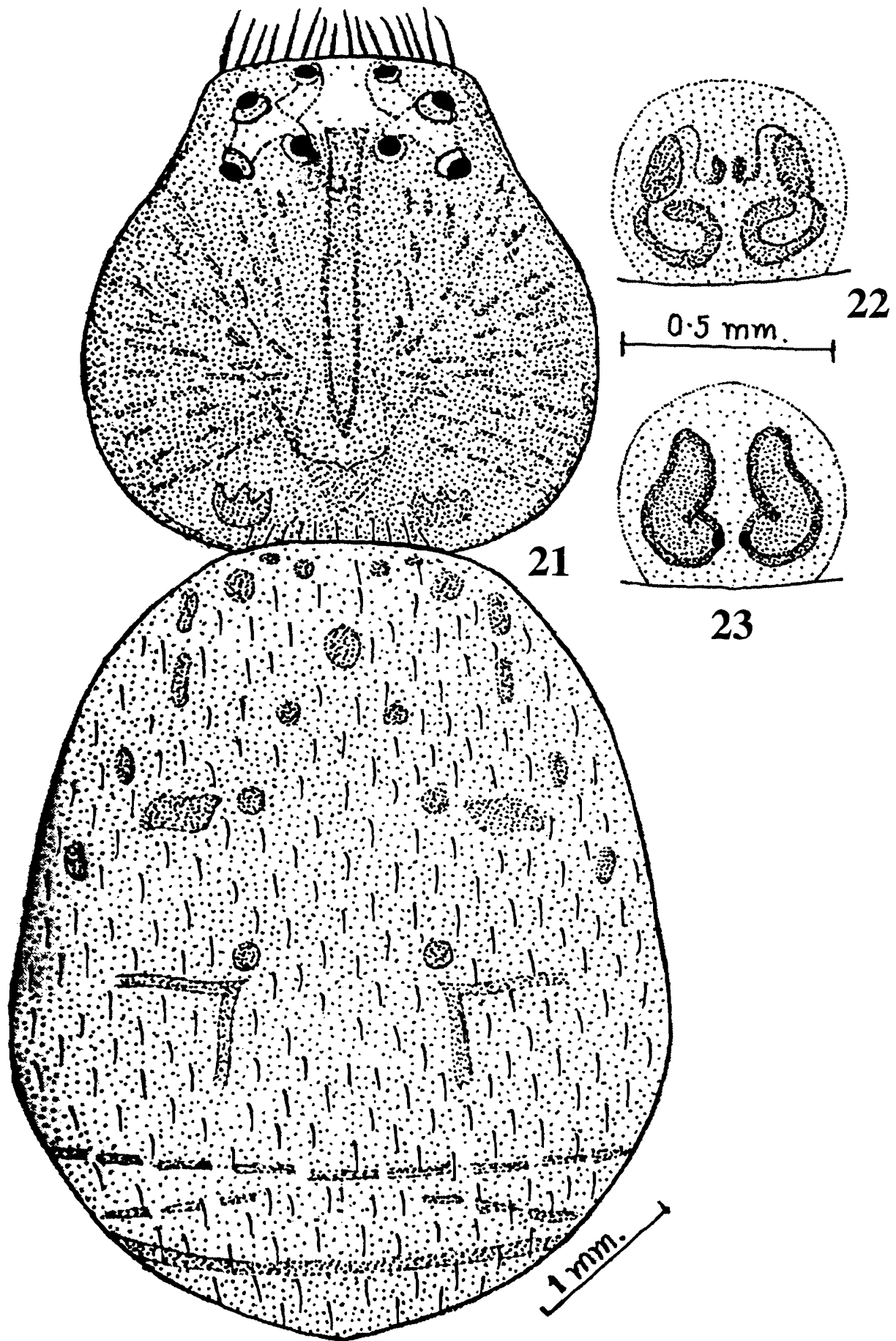
*Remarks* : This species resembles *Xysticus kamakhyai* Tikader but differs from it as follows : (i) Cephalothorax provided with brownish reticulations but in *X. kamakhyai*, cephalothorax provided with U-shaped broad, dark brown patch. (ii) Clypeus provided with ten strong spines but *X. kamakhyai* clypeus provided with six spines. (iii) Tibiae and metatarsi of I leg provided with four and two pairs of ventral spines respectively but in *X. kamakhyai* tibiae and metatarsi provided with two and three pairs of ventral spines respectively. (iv) Abdomen provided with brownish patches but in *X. kamakhyai* abdomen provided with two longitudinal deep brown irregular patches. (v) Male palp also structurally different.

### 17. *Xysticus yogeshi* sp. nov.

(Figs. 21-23)

*General* : Cephalothorax and legs reddish-green, abdomen yellowish-green. Total length 8.40 mm. Carapace 3.30 mm. long, 3.30 mm. wide; abdomen 5.20 mm. long, 4.10 mm. wide.

*Cephalothorax* : As long as wide, slightly narrowing in front, clothed with small hairs and provided laterally and middorsally with black reticulations. Clypeus high and broad, margin provided with sixteen strong spines directed forward. Eyes eight in two rows, round, black-ringed with whitish-brown tubercles, both rows recurved (as seen from in front). Anterior row of eyes slightly recurved, anterior medians smaller than the laterals and nearly equidistant to each other. Posterior row of eyes more recurved, medians smaller than the laterals and closer to adjacent laterals than to each other. Median ocular quadrangle wider than long and slightly wider behind than in front. Sternum oval, pointed behind and densely clothed with fine hairs and pigmented brown spots. Legs strong and spined, I and II longer than III & IV. Tibiae and metatarsi of I and II leg provided with four and three pairs of ventral spines, respectively.



Figs. 21-23. *Xysticus yogeshi* sp. nov.;  
21. Dorsal view of female, legs omitted; 22. Epigyne; 23. Internal genitalia.

*Abdomen* : Longer than wide, widest behind the middle clothed with hairs and provided with brownish patches as in fig. 21. Ventral side slightly lighter than the dorsal. Epigyne as in fig. 22. Internal genitalia as in fig. 23.

*Type-specimen* : *Holotype* : ♀, in spirit, other details as above. Registration No. 5443/18.

*Type-locality* : India : Madhya Pradesh, Narayanganj, Mandla district, Coll. U. A. Gajbe, 23.I.1985.

*Remarks* : This species closely resembles *Xysticus shyamrupus* Tikader but differs from it as follows : (i) The margin of clypeus provided with sixteen spines directed forward but in *X. shyamrupus* the margin of clypeus provided with nine spines. (ii) Cephalothorax provided laterally and middorsally with black reticulations but in *X. shyamrupus* cephalothorax laterally with deep brown patch. (iii) Tibiae and metatarsi of I and II leg provided with four and three pairs of ventral spines but in *X. shyamrupus* tibiae and metatarsi provided with three and four pairs of ventral spines respectively. (iv) Abdomen dorsally provided with brownish patches but in *X. shyamrupus* abdomen dorsally ornamented with brown and dirty white patches. (v) Epigyne and internal genitalia also structurally different.

#### Genus 4. *Synaema* Simon

1864. *Synaema* Simon, *Hist. Nat. Ar.*, 1 : 70.

1884. *Synaema* : Keyserling, *Varh. Zool. bot. Ges. Wien.*, 33 : 667.

1980. *Synaema* : Tikader, *Fauna of India, Spiders*, 1(1) : 134.

*Characters* : The genus *Synaema* is closely allied to *Xysticus* but differs in the following characters. The median ocular area is a little more narrow in front than behind, the anterior eyes equidistant or even with the median nearer to each other than to the lateral eyes, the tarsal claws of the first two pairs of legs furnished with more than five to six teeth, and the teeth extend beyond the middle of the claw, the cuticle smooth. Abdomen dorso-ventrally compressed. These spiders are found on the foldings of leaves of lower plants and bushes.

*Type-species* : *Synaema globosus* (Fabr.).

*Distribution* : Asia, America and Africa.

#### 18. *Synaema decorata* Tikader

1960. *Synaema decorata* Tikader, *J. Bombay, nat. Hist. Soc.*, 57(1) : 174.

1980. *Synaema decorata* : Tikader, *Fauna of India, Spiders*, 1(1) : 136.

*Specimen examined* : 1 ♀, Chhotedonger, Narayanpur Tahsil, Bastar district, Madhya Pradesh, Coll. U. A. Gajbe, 24.XII.1983, (Reg. No. A/1768). 1 ♀, Singhpur, Panna district, Madhya Pradesh, Coll. R. K. Singh, 16.II.1987, (Reg. No. 1769).

*Distribution* : India : West Bengal; Dhakuria, Kolkata (Type-locality) Karnataka, Maharashtra, Madhya Pradesh.

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

#### 19. *Synaema mysorensis* Tikader

1980. *Synaema mysorensis* : Tikader, *Fauna of India, Spiders*, 1(1) : 138.

*Specimen examined* : 1 ♀, on the bank of Machna river, Banka village, Betul district, Madhya Pradesh, Coll. H. S. Sharma, 20.III.1990, (Reg. No. A.1767).

*Distribution* : India : Bangalore, Karnataka, Betul, Madhya Pradesh.

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

### SUMMARY

This paper deals with 19 species under 4 genera of the family Thomisidae out of which 8 species are described as new to science.

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