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Revision of Indian Crab Spiders (Araneae : Thomisidae) By B. K. Tikader 1-90



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REVISION OF INDIAN CRAB SPIDERS (ARANEAE : THOMISIDAE)

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(With 22 Text-figures)

CONTENTS

	Page
I—INTRODUCTION	5
II—ACKNOWLEDGEMENTS	5
III—MORPHOLOGY	6
IV—SYSTEMATIC ACCOUNT	12
FAMILY THOMISIDAE	12
Subfamily <i>MISUMENINAE</i>	12
KEY TO THE GENERA OF THE SUBFAMILY <i>MISUMENINAE</i>	12
Genus I. Thomisus Walckenaer	13
KEY TO SPECIES OF THE GENUS <i>Thomisus</i> Walckenaer	14
1. <i>Thomisus sikkimensis</i> Tikader	14
2. <i>T. shivajiensis</i> Tikader	16
3. <i>T. pooneus</i> Tikader	16
4. <i>T. lobosus</i> Tikader	17
5. <i>T. katrajghatus</i> Tikader	17
6. <i>T. projectus</i> Tikader .	18
7. <i>T. dhakuriensis</i> Tikader	18
8. <i>T. memae</i> Sen and Basu	20
9. <i>T. rishus</i> Tikader	20
10. <i>T. sorajaii</i> Basu	21
11. <i>T. pugilis</i> Stoliczka	21
12. <i>T. bulani</i> Tikader	22
13. <i>T. shillongensis</i> Sen	22
14. <i>T. beautifularis</i> Basu	24
15. <i>T. cherapunjeus</i> Tikader	24
16. <i>T. elongatus</i> Stoliczka	25
Genus II. Runcinia Simon	26
17. <i>Runcinia roonwali</i> Tikader	26
18. <i>R. escheri</i> Reimoser	26
Genus III. Pistius Simon	28

	Page
KEY TO SPECIES OF THE GENUS <i>Pistius</i> Simon	28
19. <i>Pistius bhadurii</i> Basu	29
20. <i>P. gangulyi</i> Basu	29
21. <i>P. robusta</i> Basu	30
22. <i>P. sreepanchamii</i> Tikader	30
23. <i>P. kanikae</i> Basu	32
24. <i>P. kalimpus</i> Tikader	32
25. <i>P. barchensis</i> Basu	33
26. <i>P. roonwali</i> Basu	33
Genus IV. Oxyptila Simon	35
KEY TO SPECIES OF THE GENUS <i>Oxyptila</i> Simon	35
27. <i>Oxyptila khasi</i> Tikader	35
28. <i>O. maratha</i> Tikader	36
29. <i>O. manii</i> Tikader	36
30. <i>O. reena</i> Basu	37
Genus V. Misumena Latreille	37
KEY TO SPECIES OF THE GENUS <i>Misumena</i> Latreille	38
31. <i>Misumena menoka</i> Tikader	38
32. <i>M. indra</i> Tikader	40
33. <i>M. horai</i> Tikader	40
34. <i>M. mridulai</i> Tikader	42
35. <i>M. silveryi</i> Tikader	42
36. <i>M. annapurna</i> Tikader	42
37. <i>M. greenae</i> Tikader	43
Genus VI. Diaea Thorell	43
38. <i>Diaea jaintious</i> Tikader	44
Genus VII. Xysticus Koch.	44
KEY TO SPECIES OF THE GENUS <i>Xysticus</i> Koch	45
39. <i>Xysticus kamakhyai</i> Tikader	45
40. <i>X. hindusthanicus</i> Basu	46
41. <i>X. roonwali</i> Tikader	46
42. <i>X. shyamrupus</i> Tikader	47
43. <i>X. sikkimus</i> Tikader	47
44. <i>X. kashidi</i> Tikader	49
45. <i>X. mandali</i> Tikader	49
46. <i>X. minutus</i> Tikader	50
47. <i>X. sujatai</i> Tikader	50
48. <i>X. pynurus</i> Tikader	52
49. <i>X. jayantius</i> Tikader	52
50. <i>X. shillongensis</i> Tikader	53
Genus VIII. Synaema Simon	53
51. <i>Synaema decorata</i> Tikader	54
52. <i>S. brunettii</i> Tikader	54

	Page
Genus IX. Bomis Koch	54
53. <i>Bomis bengalensis</i> Tikader	55
Genus X. Monaeses Thorell	55
54. <i>Monaeses parvati</i> Tikader	57
Genus XI. Tmarus Simon	57
55. <i>Tmarus kotigeharus</i> Tikader	57
Genus XII. Misumenoides Cambridge	58
KEY TO SPECIES OF THE GENUS <i>Misumenoides</i> Cambridge	58
56. <i>Misumenoides kripalaniae</i> Tikader	58
57. <i>M. deccanes</i> Tikader	59
58. <i>M. shulli</i> Tikader	59
Genus XIII. Misumenops Cambridge	60
59. <i>Misumenops khandalaensis</i> Tikader	60
Genus XIV. Pasias Simon	61
60. <i>Pasias puspagiri</i> Tikader	61
61. <i>P. marathas</i> Tikader	61
Genus XV. Strigoplus Simon	63
62. <i>Strigoplus netravati</i> Tikader	63
Genus XVI. Regillus Cambridge	64
63. <i>Regillus elephantus</i> Tikader	64
Genus XVII. Amyciaea Simon	64
64. <i>Amyciaea forticeps</i> (Cambridge)	65
Genus XVIII. Platythomisus Dolesch.	65
65. <i>Platythomisus bazarus</i> Tikader	65
Subfamily <i>PHILODROMINAE</i>	66
KEY TO THE GENERA OF THE SUBFAMILY <i>PHILODROMINAE</i>	66
Genus XIX. Ebo Keyserling	66
66. <i>Ebo bharatae</i> Tikader	67
Genus XX. Philodromus Walckenaer	67
KEY TO SPECIES OF THE GENUS <i>Philodromus</i> Walckenaer	69
67. <i>Philodromus domesticus</i> Tikader	69
68. <i>P. assamensis</i> Tikader	70
69. <i>P. betrabatai</i> Tikader	70
70. <i>P. shillongensis</i> Tikader	71
71. <i>P. kendrabortai</i> Tikader	72
72. <i>P. devhutai</i> Tikader	74
73. <i>P. manikae</i> sp. n.	75
74. <i>P. decoratus</i> Tikader	75
75. <i>P. mohinia</i> Tikader	76
76. <i>P. bhagirathai</i> Tikader	77
77. <i>P. malinia</i> Tikader.	77

	Page
Genus XXI. Tibellus Simon	78
KEY TO SPECIES OF THE GENUS <i>Tibellus</i> Simon	80
78. <i>Tibellus chaturshingi</i> Tikader	80
79. <i>T. poonaensis</i> Tikader	80
80. <i>T. katrajghatus</i> Tikader	81
81. <i>T. elongatus</i> Tikader	82
Genus XXII. Thanatus Koch	82
KEY TO SPECIES OF THE GENUS <i>Thanatus</i> Koch	82
82. <i>Thanatus lanceolatus</i> Tikader	83
83. <i>T. dhakuricus</i> Tikader	84
84. <i>T. mandali</i> Tikader	84
Genus XXIII. Apollophanes Cambridge	86
85. <i>Apollophanes bangalores</i> Tikader	86
V—REFERENCES	87

I—INTRODUCTION

The Crab-spiders comprise the moderately large family Thomisidae, which is world-wide in distribution. The common name "crab-spiders" applied to the family refers to the crab-like appearance of the majority of species. The body is short, broad and the legs sprawl at right angles to the longitudinal axis. Most species are found on vegetation but some occur on dead bark, on the ground, or in leaf detritus. Capture of prey is effected without the means of a web but by ambush or less usually, by active pursuit. Gertsch (1939) has reviewed the somewhat limited information on the biology of the family. The Indian Thomisidae have received little attention in the past. Although thomisid spiders are abundant throughout the country, our knowledge of the Indian Thomisidae is extremely fragmentary. One of the earliest contributions on Indian crab-spiders was by Stoliczka (1869). Pocock (1900) recorded hardly two hundred species of spiders from India, Burma and Ceylon. Many common and well known forms like Thomisidae are not reported as occurring in India.

The relationship and numerical importance of the Oriental Thomisidae can best be appreciated by comparison with other faunal areas. Arachnologists are fortunate in having two major bibliographic works concerned with the world spider fauna. One of these is Roewer's "Katalog der Araneae" in which are listed in essential completeness the spider representations from the entire world. An even more ambitious and scholarly work is the "Bibliographia Araneaorum" of Pierre Bonnet of the University of Toulouse, France which is now available. From these sources and from supplementary catalogues it has been possible to glean reasonably accurate information on the distribution of thomisid genera and species of the world. Such a list is no better than the systematics on which it is based, so the following generalizations are subject to future revision. Altogether eighty five species, contained in twenty three genera of the family Thomisidae, are dealt with in this paper. I have given the general shape of cephalothorax and eye position of each genus (text figures 4-5).

The figures, which illustrate this paper, were all prepared by myself with the help of a camera lucida.

All types are deposited in the National Zoological Collections, Zoological Survey of India, Calcutta. The other materials studied were deposited in the collection of Eastern Regional Station, Zoological Survey of India, Shillong, Assam and Western Regional Station, Zoological Survey of India, Poona, Maharashtra.

II—ACKNOWLEDGEMENTS

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III—MORPHOLOGY

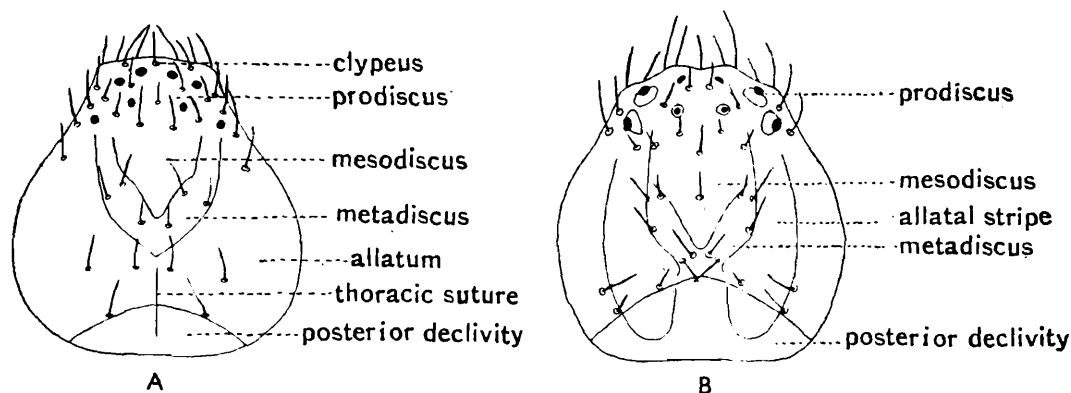
Some of the cuticular morphological features of the Thomisidae, pertinent to the present study, are summarized below. The terminology used is topological, and homologies with other groups of arthropods have not been clearly established. Some new terminology was proposed by Schick (1965). For fuller reference to the terminologies of the male and female genitalia, references may be made to the excellent works of Comstock (1910) and Gering (1953).

The body of spider is divisible into cephalothorax and abdomen, jointed together by a narrow pedicel.

Cephalothorax

(Text-fig. 1, A-B)

The cephalothorax can be divided into three regions, the *clypeus*, the *disc*, and bilateral *allata*. The clypeus is the area that lies between the cephalic margin of the cephalothorax and the anterior median eyes, terminating laterally near the level of the posterior lateral eyes.



TEXT-FIG. 1

- A. Cephalothorax of *Philodromus*, dorsal view, showing different parts.
 B. Cephalothorax of *Xysticus*, dorsal view, showing different parts.

The disc is a broad and elongated median region that extends from the levels of the anterior median eyes to thoracic suture or fovea. The disc can be subdivided into: (1) *Prodiscus*, the anterior portion lying in the ocular area, (2) *Mesodiscus*, the intermediate and the longest portion delineated cephalad by the posterior median eyes, caudad by the metadiscus and laterad by the cervical groove or, when the groove is not developed by a narrow stripe through setae or by difference in coloration of the allatum,

and (3) *Metadiscus*, the posterior portion developed as a usually distinct and white V-shaped marking.

The allatum is lateral and caudal to the discus and it may be unpigmented, uniformly pigmented, mottled or have a lateral or mesial pigmented stripe.

Eyes

Oriental Thomisidae have eight eyes, arranged in two transverse rows of four eyes each, an anterior row and a posterior row. The eyes are notate in pairs: anterior median eyes (AME), anterior lateral eyes (ALE), posterior median eyes (PME) and posterior lateral eyes (PLE). When the lateral eyes of a row are situated caudal to the level of the median eyes that row is termed "recurved", and when the lateral eyes are situated cephalic to the level of the median eyes, that row is termed "procurved".

Male Genitalia

(Text-fig. 2, A-B)

The male genitalia in spiders are usually used in reference to the palpus, which is the intromittent organ. The primary reproductive opening, the gonopore, is situated in the epigastric furrow. The mature male spider spins a small sheet of web, upon which it deposits a drop of semen, passed out through the gonopore. The genital bulb, contained in the distal end of the palpus, is a complexly developed but essentially hollow, bulb like structure. It is placed in contact with the semen, and the fluid passes into the hollow internal part (the receptaculum seminis) to be stored until copulation. At the time of copulation the tip of the genital bulb is inserted into the female genital orifice and the semen is ejected.

The palpus consists of seven segments (coxa, trochanter, femur, patella, tibia, tarsus and pretarsus), but only the three terminal segments (also rarely the fourth, the patella) are modified to take part in copulation. There is a progressive increase in specialization distally in these three or four segments, the pretarsus being the most specialized.

The *cymbium* is the tarsal segment of the palpus specialized for the reception of the genital bulb. There are several structural modifications of the cymbium for this purpose. The *alveolus* is a ventral depression, which receives the basal and middle divisions of the genital bulb. Although usually described as a cup like depression, the *alveolus* is actually a ringed depression to the inner margin of which is joined the basal hematodocha (the membranous basal portion of the genital bulb). The *tutaculum* functionally supplants the conductor and is present only in the Thomisidae. Generally it is formed as a shallow, membranous, tutacular groove developed peripherally along the distal and usually on the retrolateral margins of the alveolus.

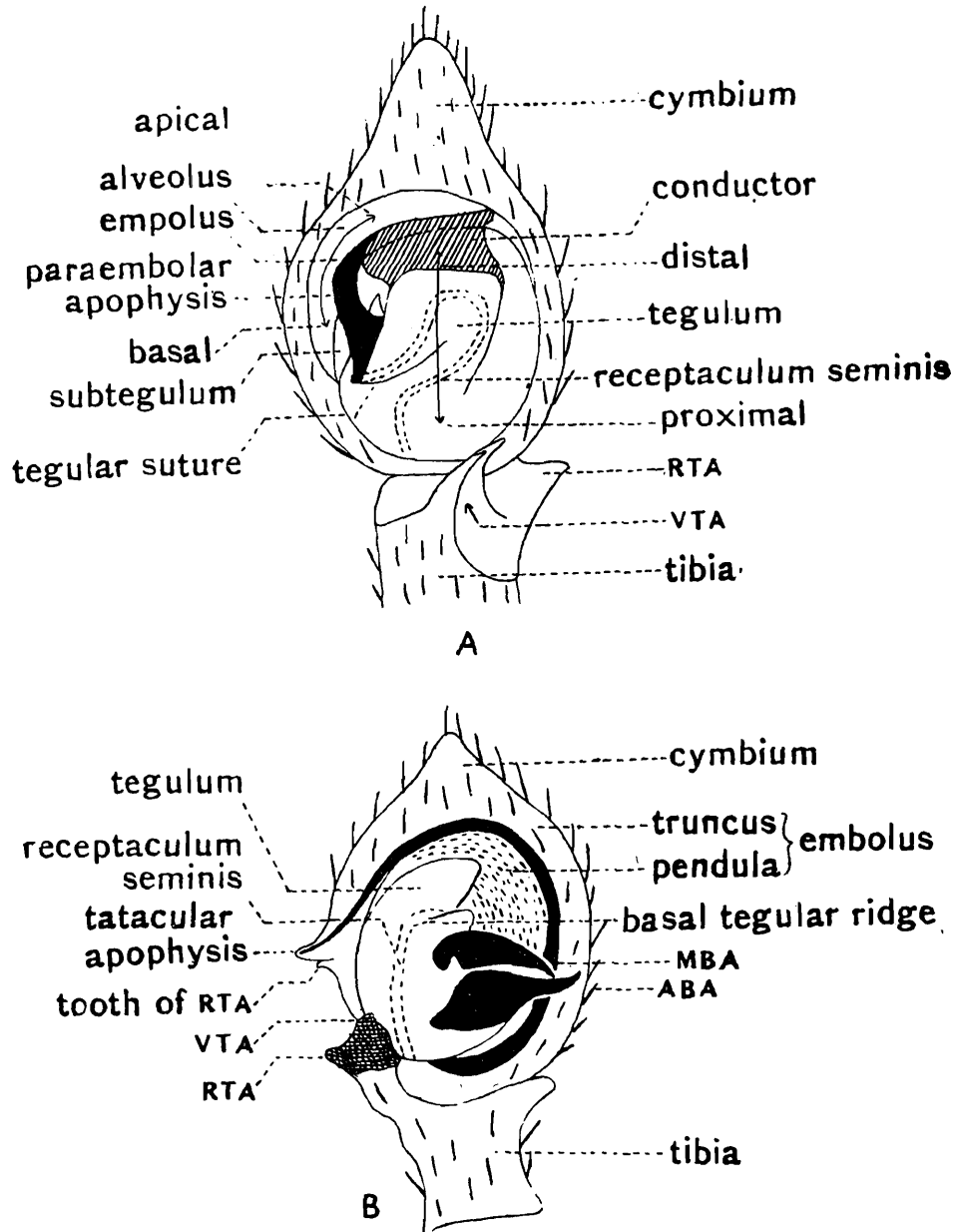
The genital bulb is the terminal segment of the palpus. It is a hollow organ, with external elaborations. The genital bulb is divided by three divisions (1) Basal division, (2) Middle division, (3) Apical division (after Comstock 1910).

BASAL DIVISION: The basal hematodocha is sclerotized basally to form a somewhat triangular sclerite, the petiole, the base of which articulates or is partially fused with the inner margin of the alveolus. The *subtegulum* is a comma-shaped sclerite of which the bulbous apical end articulates with the tegulum.

MIDDLE DIVISION: The *tegulum*, a discoidal sclerite, is the main portion of the middle division. The *tegulum* may bear apophyses, a conductor or other structures.

APICAL DIVISION: The *conductor* and the embolic subdivision comprise the apical division of the bulb (Comstock 1910). The conductor, a distal membranous or

sclerotized outgrowth of the tegulum which accommodates the apical portion of the embolus. The embolic subdivision consists of the embolus in the Thomisidae. The embolus is the actual intromittent part of the genital bulb.

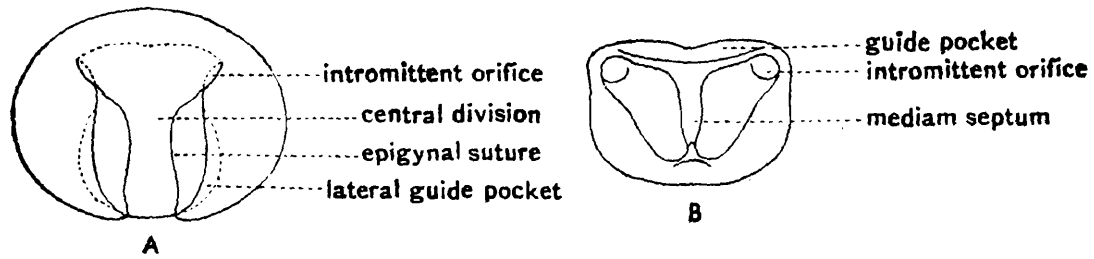


TEXT-FIG. 2

- A. Male palpi of *Philodromus assamensis* Tikader, showing different parts.
 B. Male palpi of *Xysticus sujatai* Tikader, showing different parts.

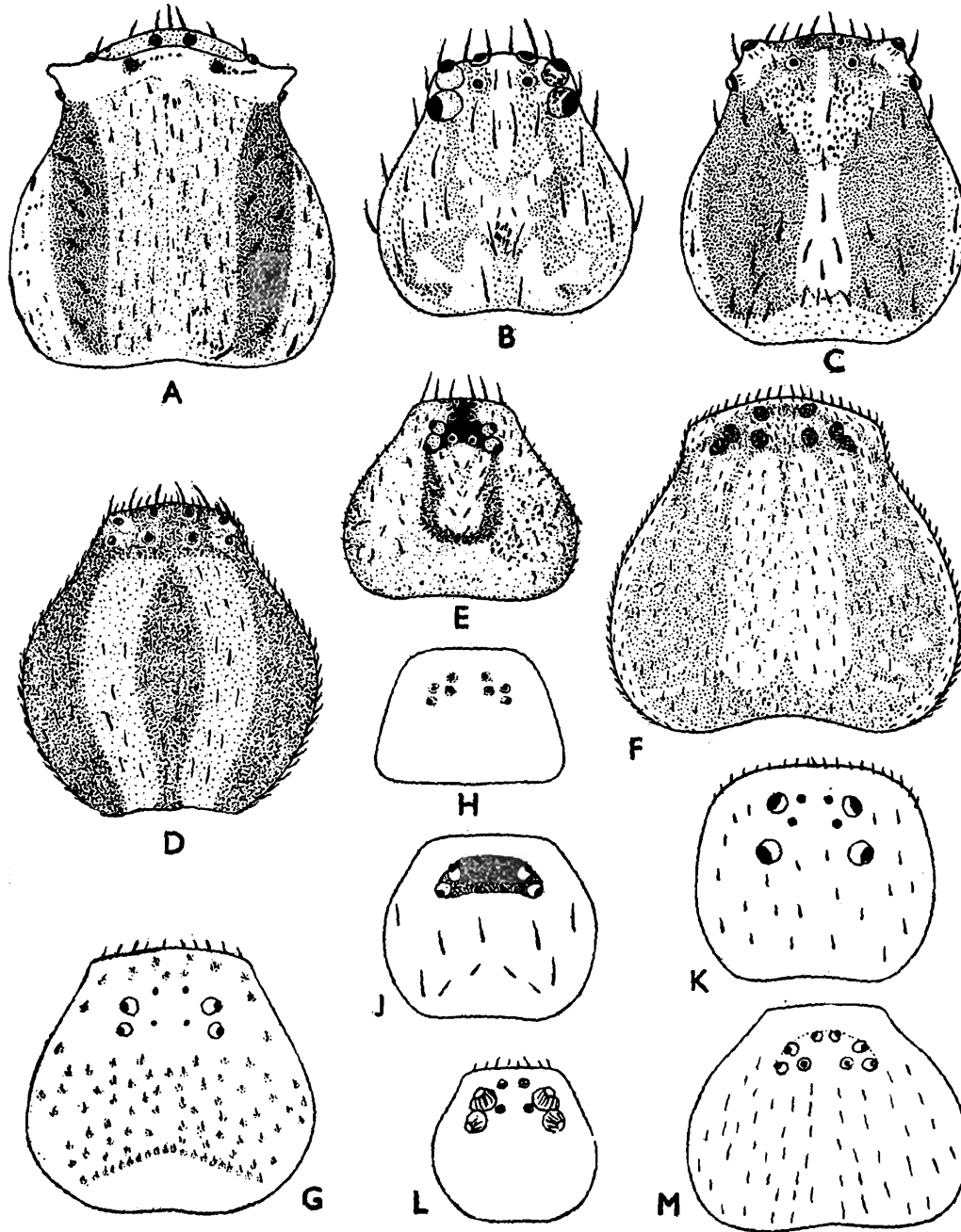
Female Genitalia
 (Text-fig. 3, A-B)

The term female genitalia refers to both an external epigynum and a pair of longitudinal internal canals which are invaginations of the epigynal integument. The epigynum is a poorly to well-defined, median, sclerotized area developed about the intromittent orifices on the venter of the abdomen cephalad of the epigastric furrow and may bear structures of which some, at least, serve to orientate the male palpus during copulation. Each internal canal is divided into an anterior receptaculum and a posterior



TEXT-FIG. 3

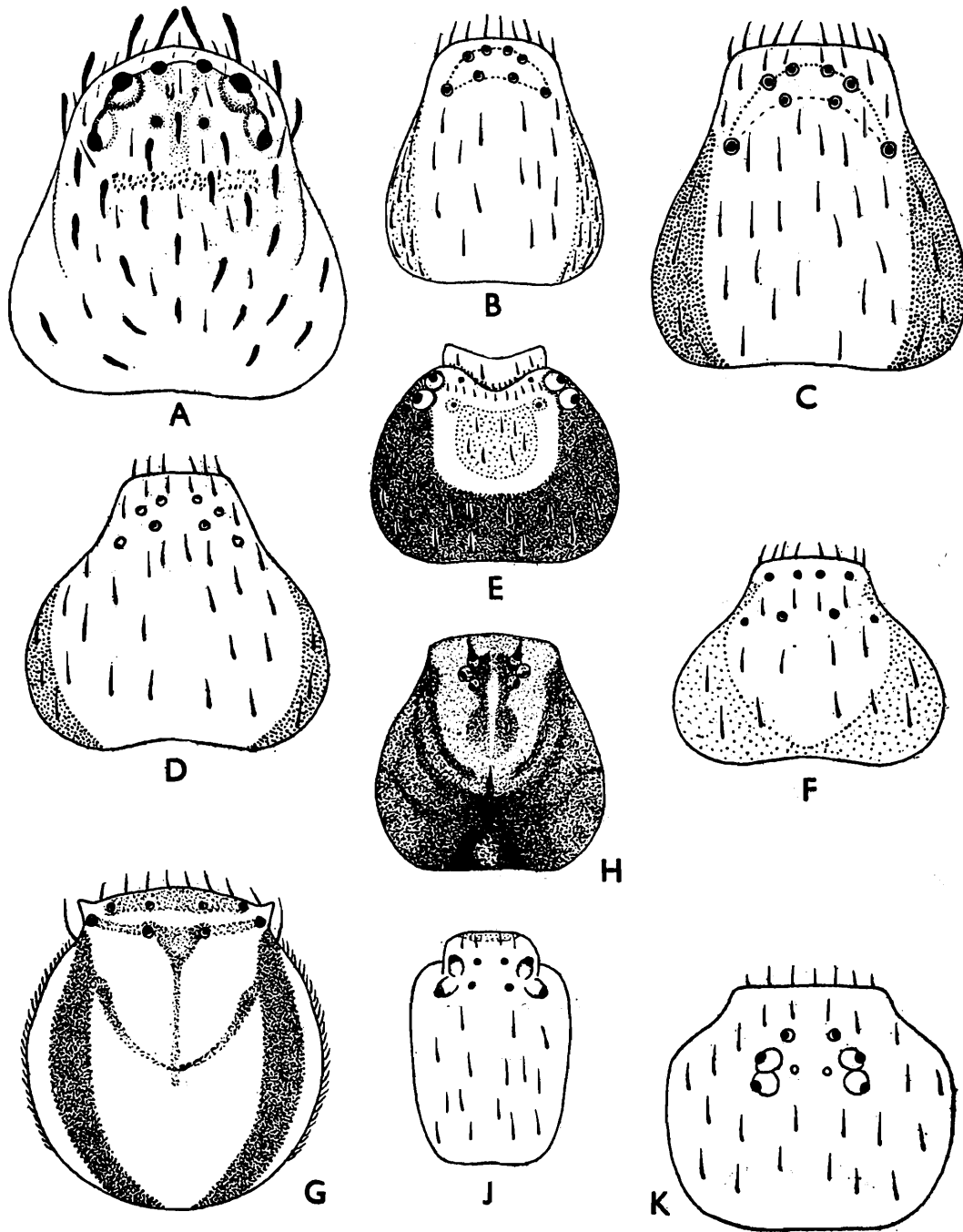
- A. Epigyne of *Philodromus assamensis* Tikader, showing different parts.
 B. Epigyne of *Bomis bengalensis* Tikader, showing different parts.



TEXT-FIG. 4

- A. Cephalothorax of *Thomisus* Walckenaer
 B. Cephalothorax of *Xysticus* Koch
 C. Cephalothorax of *Diaea* Thorell
 D. Cephalothorax of *Regillus* Cambridge
 E. Cephalothorax of *Misumenops* Cambridge
 F. Cephalothorax of *Misumenooides* Cambridge
 G. Cephalothorax of *Pistius* Simon
 H. Cephalothorax of *Bomis* Koch
 J. Cephalothorax of *Apollophanes* Cambridge
 K. Cephalothorax of *Amyciaea* Simon
 L. Cephalothorax of *Synaema* Simon
 M. Cephalothorax of *Tmarus* Simon

fertilization tube. The anterior end of the internal epigynum opens into the epigynum as the intromittent orifice and the posterior end into the vagina (Comstock 1910).



TEXT-FIG. 5

- A. Cephalothorax of *Oxyptila* Simon
- B. Cephalothorax of *Thanatus* Koch
- C. Cephalothorax of *Tibellus* Simon
- D. Cephalothorax of *Philodromus* Walckenaer
- E. Cephalothorax of *Strigoplus* Simon
- F. Cephalothorax of *Ebo* Keyserling
- G. Cephalothorax of *Runcinia* Simon
- H. Cephalothorax of *Platythomisus* Dolesch.
- J. Cephalothorax of *Monaeses* Thorell
- K. Cephalothorax of *Pasias* Simon

EPIGYNUM: Several types of structures, perhaps, serve as guides for the male palpus. The guide pocket is a concavity overlain by a sclerotized plate, the hood; the guide pocket may be antemedial on the epigynum and unpaired or bilaterally paired. The median septum, if any, is a raised mediolongitudinal structure; cephalad the rim of the septum may curve laterad, forming the arch of the median septum. In some cases a basin-like depression, the atrium, is formed in the epigynum, and the surrounding rim may serve as a palpal guide. Often the median septum divides the epigynum into bilateral atria.

The receptaculum is usually subdivided transversely into a morphologically, anterior intromittent division and a posterior spermatheca. These are functional subdivisions and may not be homologous in the different groups. In relation to the designation of directions along the axis of the receptaculum the term "proximal" refers to a direction towards the intromittent orifice, and the term "distal" to the direction towards the fertilization canal orifice.

IV—SYSTEMATIC ACCOUNT

FAMILY THOMISIDAE

1833. *Thomisides* : Sundevall, *Conspectus arachnidum* London, p. 27.
1869. *Thomisidae* : Stoliczka, *J. Asiat. Soc. Bengal.*, **38**, p. 225.
1892. *Thomisidae* : Simon, *Histoire Nat. Araignees* Paris, **1**, p. 949.
1935. *Thomisidae* : Dyal, *Bull. Zool. Punjab Univ.*, **1**, p. 209.
1940. *Thomisidae* : Comstock, *The Spider Book*, New York, p. 534.
1951. *Thomisidae* : Locket and Millidge, *British Spider*, London, **1**, p. 168.
1960. *Thomisidae* : Tikader, *J. Bombay nat. Hist. Soc.*, **57**, p. 180.
1962. *Thomisidae* : Tikader, *J. Linn. Soc.*, London, **44**, p. 569.

Originally the family Thomisidae was a part of the family Bradystichidae. Sundevall (1833) pointed out that thomisid spider, have a peculiarly crab-like appearance and he separated them under the family Thomisidae (Simon, 1892).

Thomisidae from India can be distinguished from other families by the following characters:—The typical members have a peculiar crab-like appearance. Cephalothorax and abdomen are usually short and broad; but somewhat elongated in *Tibellus* and *Thanatus*. The homogeneously coloured eyes (however, in life the anterior median eyes appear lighter than the others), the free rather than fused chelicerae, the lower margin of which is indistinct and unarmed; the bearing of two toothed tarsal claws on each laterigrade leg, one pair of book lungs; a single median tracheal opening near the spinnerets, and the absence of cribellum and calamistrum characterize the family. First two pair of legs are long and stout and frequently more sideways as is done by a crab; the legs are less obviously laterigrade in the genera *Philodromus* and *Thanatus*, and not at all in *Tibellus*. The members of the genus *Oxyptila* have the integument furnished with some characteristic clavate setae, but in the other genera the hairs and spines are normal.

The spiders of this family do not build snares, but in general catch their prey by lying in wait or hunting for it. They live at ground level or in low vegetation.

Two subfamilies of the Thomisidae are known so far from India *viz.*, *MISUMENINAE* and *PHILODROMINAE*.

Subfamily *MISUMENINAE* (Mi-su-me-ni'-nae)

In this subfamily the tarsi of the first and second pairs of legs are not furnished with scopulae in either sex. I and II legs much longer than III and IV; the hairs of the body are filiform or rod-shaped and erect; and the upper margin of the furrow of the chelicerae is without tooth.

This subfamily includes the majority of our species of crab-spiders. The genera occurring in the Indian subcontinent can be separated as follows:—

KEY TO THE GENERA OF THE SUBFAMILY *MISUMENINAE*

- | | |
|--|-----------------|
| 1. Lateral eyes on strong conical protuberence | 2 |
| Lateral eyes not on conical protuberence | 3 |
| 2. Abdomen widened and truncated behind | <i>Thomisus</i> |
| Abdomen long, lateral sides with longitudinal muscular corrugation | <i>Runcinia</i> |

3. Abdomen broadened and truncated behind	<i>Pistius</i>
Abdomen broadened but not truncated behind	4
4. Integument clothed with some clavate setae	<i>Oxyptila</i>
Integument not clothed with clavate setae	5
5. Anterior eyes nearly equidistant	<i>Misumena</i>
Anterior eyes not equidistant	6
6. Body covered with conspicuous spines	<i>Diaea</i>
Body not covered with conspicuous spines	7
7. Anterior median eyes close to the lateral eyes than to each other .	<i>Xysticus</i>
Anterior median eyes not close to lateral eyes	8
8. Tarsal claws of I leg with 6-12 teeth	<i>Synaema</i>
Tarsal claws of I leg without teeth	9
9. Cephalothorax wider than long	<i>Bomis</i>
Cephalothorax longer than wide	10
10. Abdomen produced well beyond the spinners	<i>Monaeses</i>
Abdomen not produced beyond the spinners	11
11. Abdomen high, with caudal tubercle	<i>Tmarus</i>
Abdomen not high	12
12. Clypeus with a distinct, white transverse carina and carapace flat	<i>Misumenooides</i>
Clypeus without white transverse carina	13
13. Anterior lateral eyes larger than the median eye	<i>Misumenops</i>
Anterior lateral eyes not larger than the median eye	14
14. Legs clothed with conspicuous spines	<i>Pasias</i>
Legs not clothed with conspicuous spines	15
15. Margin of clypeus with one row of small clavate hairs	<i>Strigoplus</i>
Margin of clypeus without clavate hairs	16
16. First pair of legs conspicuously robust	<i>Regillus</i>
First pair of legs not conspicuously robust	17
17. Ant like spider	<i>Amyciaea</i>
Not ant like spider	18
18. Abdomen without spines and tibiae and metatarsi I and II provided with conspicuous ventral spines	<i>Platythomisus</i>

Genus I. **Thomisus** Walckenaer

1805. *Thomisus* Walckenaer, *Tabl. Aron.*, p. 28.
 1869. *Thomisus* : Stoliczka, *J. Asiat. Soc. Bengal*, **38**, p. 225.
 1870. *Thomisus* : Thorell, *On European Spiders*, p. 170.
 1892. *Thomisus* : Simon, *Hist. Nat. Araign.*, Paris, **1**, p. 1023.
 1935. *Thomisus* : Dyal, *Bull. Dept. Zool. Punjab Univ.*, **1**, p. 200.
 1962. *Thomisus* : Tikader, *J. Linn. Soc.*, London, **44** (300), p. 569.
 1965. *Thomisus* : Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **61**(5), p. 283.

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 protuberance. 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

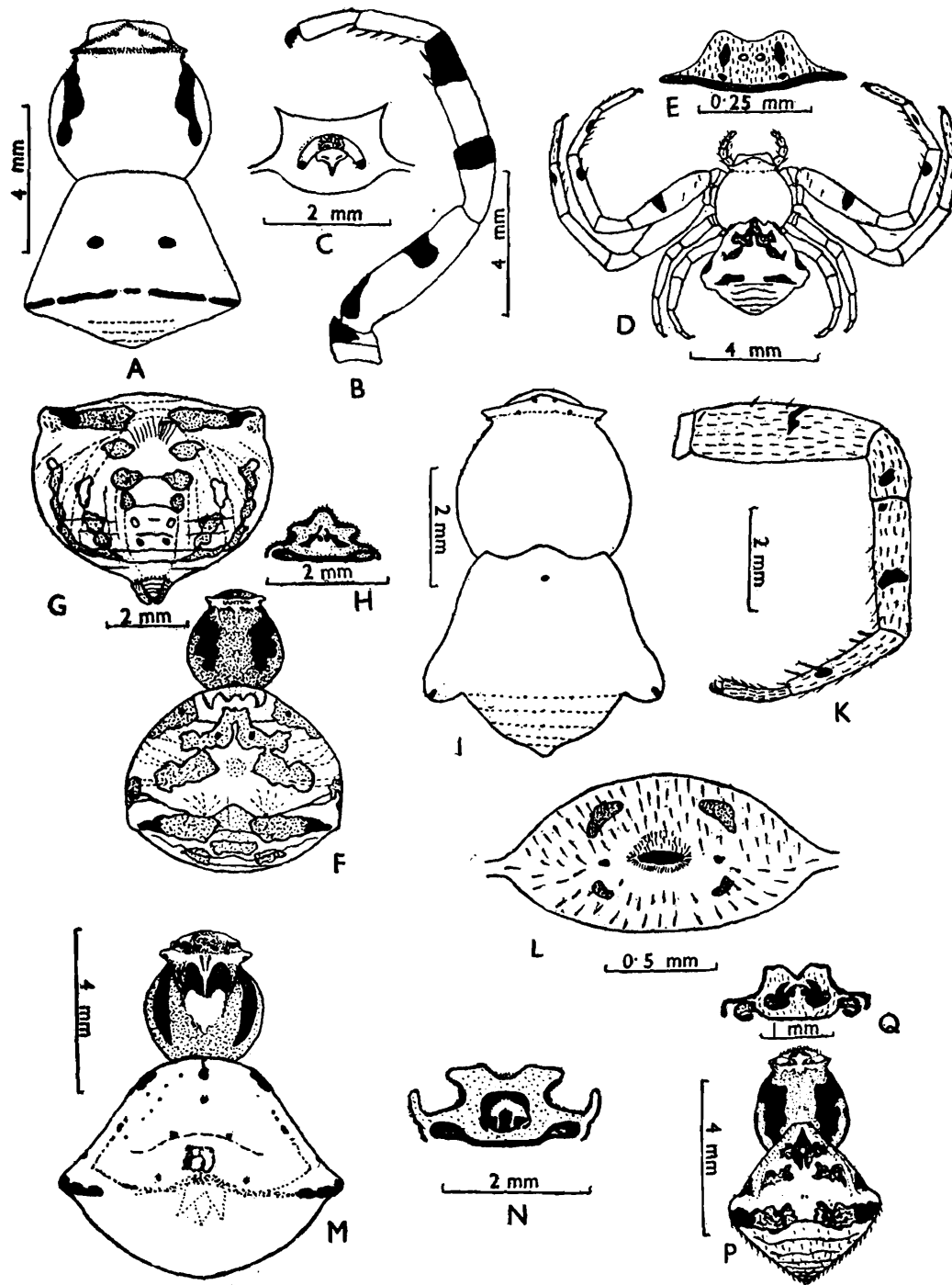
1. Abdomen wider than long	2
Abdomen longer than wide	15
2. First pair of legs with conspicuous black spots	3
First pair of legs without black spots	11
3. Cephalothorax with black patches	4
Cephalothorax without black patches	7
4. Abdomen with a transverse black band	<i>T. sikkimensis</i>
Abdomen without transverse black band	5
5. Abdomen rectangular	<i>T. shivajiensis</i>
Abdomen nearly round	6
6. Abdomen basally with a triangular deep brown marking	<i>T. pooneus</i>
Abdomen on antero-lateral with some black spots	<i>T. lobosus</i>
7. Abdomen basally with a triangular black marking	<i>T. katrajghatus</i>
Abdomen without triangular black marking	8
8. Broadest portion of abdomen tuberculated laterally and black spots on the tubercle	<i>T. projectus</i>
Broadest portion of abdomen without tubercle	9
9. Abdomen with paired elliptical black spots	<i>T. dhakuriensis</i>
Abdomen without black spots	10
10. Abdomen with three paired irregularly shaped black patches	<i>T. memae</i>
Abdomen with transverse muscular corrugation posteriorly	<i>T. rishus</i>
11. Abdomen with a transverse black band	<i>T. sorajaii</i>
Abdomen without transverse black band	12
12. Abdomen with a pair of shoulder tubercles, each with a black spot situated inwardly in the middle	<i>T. pugilis</i>
Abdomen without shoulder tubercle	13
13. Abdomen with three pairs of longitudinally arranged reddish brown spots	<i>T. bulani</i>
Abdomen without longitudinal spots	14
14. Broadest end of abdomen with a transverse black mark	<i>T. shillongensis</i>
Broadest end of abdomen without transverse mark	<i>T. beautifularis</i>
15. Cephalothorax with lateral longitudinal deep brown bands	<i>T. cherapunjeus</i>
Cephalothorax without lateral longitudinal band	<i>T. elongatus</i>

1. *Thomisus sikkimensis* Tikader

(Text-fig. 6, A-C)

1962. *Thomisus sikkimensis* Tikader, *J. Linn. Soc.*, London, **44**(300), p. 569.

General : Cephalothorax and legs brownish-green, ocular area yellowish-brown, with small chalk-white patches. Abdomen chalk-white. Total lengths 9.20 mm. Carapace 4.60 mm. long, 4.60 mm. wide; abdomen 5.00 mm. long, 6.20 mm. wide.



TEXT-FIG. 6

- A-C. *Thomisus sikkimensis* Tikader
 A.—Dorsal view of female, legs omitted. B—Front view of 1st leg. C—Epigyne.
- D-E. *Thomisus katrajghatus* Tikader
 D—Dorsal view of female. E—Epigyne.
- F-H. *Thomisus pooneus* Tikader
 F—Dorsal view of female, legs omitted. G—Posterior view of abdomen of female. H—Epigyne.
- J-L. *Thomisus projectus* Tikader
 J—Dorsal view of female, legs omitted. K—Frontal view of 1st leg. L—Epigyne.
- M-N. *Thomisus lobosus* Tikader
 M—Dorsal view of female, legs omitted. N—Epigyne.
- P-Q. *Thomisus shivajiensis* Tikader
 P—Dorsal view of female, legs omitted. Q—Epigyne.

Cephalothorax : Broadest posteriorly, slightly narrowing in front, as long as wide. Antero-lateral sides with conspicuous longitudinal black bars. Ocular area encircled by a yellowish-brown triangle. Eyes black, posterior median eyes somewhat smaller than the anterior medians. Clypeus long, subrectangular. Legs long and stout, I and II legs longer than III and IV legs. I and II legs with conspicuous black spots on trochanter, basally and apically below on femur, a black transverse band apically on patella and tibia. Tibia of I apically with two pairs of ventral spines and metatarsi with five pairs of stout ventral spines; III and IV pairs of legs unspotted and without spine.

Abdomen : Pentagonal, slightly overlapping the posterior region of cephalothorax in front, broadest just behind the middle; a black transverse incomplete line on the broadest region and two spots just in front of the transverse line subapically with broad black patch; posterior end with conspicuous transverse muscular corrugation. Epigyne text-fig. 6, C.

Type-locality : Rishi, West Sikkim. *Holotype* : female, in the National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : West Sikkim, India.

2. *Thomisus shivajiensis* Tikader

(Text-fig. 6, P-Q)

1965. *Thomisus shivajiensis* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **61**, p. 284.

General : Cephalothorax and legs light greenish-brown, abdomen white. Total length 5.80 mm. Carapace 2.50 mm. long, 2.30 mm. wide; abdomen 3.90 mm. long, 3.90 mm. wide.

Cephalothorax : High, nearly as long as wide. Antero-lateral sides with longitudinal deep brown bars. Eyes round black; ocular area encircled by a yellowish-brown triangle. Clypeus long, margin provided with spine-like hairs. Sternum heart-shaped, pale with two conspicuous longitudinal black marks. Legs long and stout, I and II legs longer than III and IV. I and II legs with conspicuous black spots on trochanter, apically with four and metatarsi with five pairs of ventral spines.

Abdomen : Nearly rectangular, broadest near the middle, strongly overlapping the posterior region of cephalothorax in front. Dorsum basally with a more or less triangular deep brown marking and a similar incomplete transverse band on the broadest area. Ventral side pale, with a conspicuous black round spot on the middle. Epigyne text-fig. 6, Q.

Type-locality : Shivajinagar, Poona, Maharashtra. *Holotype* : female, in the National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, India.

3. *Thomisus pooneus* Tikader

(Text-fig. 6, F-H)

1965. *Thomisus pooneus* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **61**(5), p. 283.

General : Cephalothorax light brown, legs light green and abdomen white. Total length 6.90 mm. Carapace 2.50 mm. long, 2.40 mm. wide; abdomen 4.50 mm. long, 5.20 mm. wide.

Cephalothorax : High, nearly as long as wide. Antero-lateral sides with conspicuous longitudinal black bars. Eyes round, black, anterior row strongly recurved, anterior

median eyes slightly larger than posterior medians; ocular area chalk-white. Clypeus long, subrectangular, margin provided with spine-like hairs. Legs long and stout, I and II longer than III and IV legs. I and II legs with black or dark brown spots apically below on femur and tibia. Tibia of I apically with two pairs and metatarsi with six pairs of ventral spines.

Abdomen : Round, slightly overlapping the posterior region of cephalothorax in front, broadest just behind the middle, laterally on the broadest portion with muscular tubercles and from this region the posterior portion of abdomen abruptly bent down up to the spinners. Dorsum basally with a triangular deep brown marking and similar incomplete transverse bands into the spinners. Epigyne text-fig. 6, H.

Type-locality : Poona University Compound, Poona, Maharashtra. *Holotype* : female, in the National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, India.

4. *Thomisus lobosus* Tikader

(Text-fig. 6, M-N)

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

General : Cephalothorax brown, legs light green and abdomen chalk-white. Total length 8.50 mm. Carapace 3.50 mm. long, 3.00 mm. wide; abdomen 5.50 mm. long, 7.00 mm. wide.

Cephalothorax : High, as long as wide. Antero-lateral sides with longitudinal light brown to deep brown patches and on the centre a V-shaped white conspicuous marking. Eyes round, black, ocular area chalk-white and a transverse yellow line from left lateral eyes to right laterals. Clypeus long. Sternum pale, heart-shaped with a black dot near the anterior end. Legs long and stout, I and II longer than III and IV legs. I and II legs with black or dark brown band apically on tibia. Tibia of I and II apically with two pairs and metatarsi with four pairs of ventral spines.

Abdomen : Nearly round, slightly overlapping the posterior region of cephalothorax in front, broadest just behind the middle, laterally on the broadest portion with muscular elevation and this portion provided with a transverse conspicuous black line. Antero-lateral border of abdomen with some black spots. Ventral side uniform pale colour. Epigyne text-fig. 6, N.

Type-locality : Law College Compound, Poona, Maharashtra. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, India.

5. *Thomisus katrajghatus* Tikader

(Text-fig. 6, D-E)

1963. *Thomisus katrajghatus* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **58**(5), p. 259.

General : Cephalothorax and legs greenish, abdomen white. Total length 5.00 mm. Carapace 2.50 mm. long, 2.50 mm. wide; abdomen 3.00 mm. long, 3.40 mm. wide.

Cephalothorax : High, as long as wide. Eyes round, black, anterior row strongly recurved, anterior medians slightly larger than posterior medians; ocular area chalk-white. Clypeus moderately high and sub-rectangular, with white as in the ocular area. Legs long and stout, I and II longer than III and IV; legs I with conspicuous black spots on the middle of femur and near the end of the tibia, and with three spines arising

from black pigmented spots on each femur prolaterally; metatarsi I and II with five pairs of ventral spines. Legs III and IV without spine.

Abdomen : Roughly hexagonal, overlapping the posterior region of cephalothorax in front, broadest just behind the middle; dorsum basally with a conspicuous, triangular, black marking and a similarly coloured, incomplete, transverse band on the broadest region; posterior end with conspicuous transverse muscular corrugation. Epigyne text-fig. 6, E.

Type-locality : Katrajghat, Poona, Maharashtra. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, India.

6. *Thomisus projectus* Tikader

(Text-fig. 6, J-L)

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

General : Cephalothorax greenish, clypeus and abdomen chalk-white. Total length 6.80 mm. Carapace 3.80 mm. long, 3.40 mm. wide; abdomen 4.00 mm. long, 4.10 mm. wide.

Cephalothorax : Pentagonal in shape, with a transverse yellow band on the ocular area; narrowing slightly in front, maximum width slightly less than length. Anterior median eyes slightly smaller than anterolateral. Clypeus long, subrectangular. Legs long and stout, I and II longer than III and IV. I legs with conspicuous incomplete transverse black mark anteriorly above on femur, a narrow black spot in front on patella, a small spot on the base, a large black spot subapically on tibia in front and a faint brown patch on the tip of metatarsus; I pair of legs with three spines above on femur; II legs with a small black spot on patella and a black spot subapically on tibia in front; metatarsi I and II with six pairs of ventral spines; III and IV pairs without spot and spine.

Abdomen : Pentagonal, slightly overlapping the posterior region of cephalothorax in front, broadest at the middle, this portion tuberculating laterally and a black spot on the top of tubercle, a yellow spot just on inner side of black spot; posterior half of abdomen with prominent transverse muscular corrugation. Epigyne text-fig. 6, L.

Type-locality : Habra, West Bengal, near Calcutta, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : West Bengal, India.

7. *Thomisus dhakuriensis* Tikader

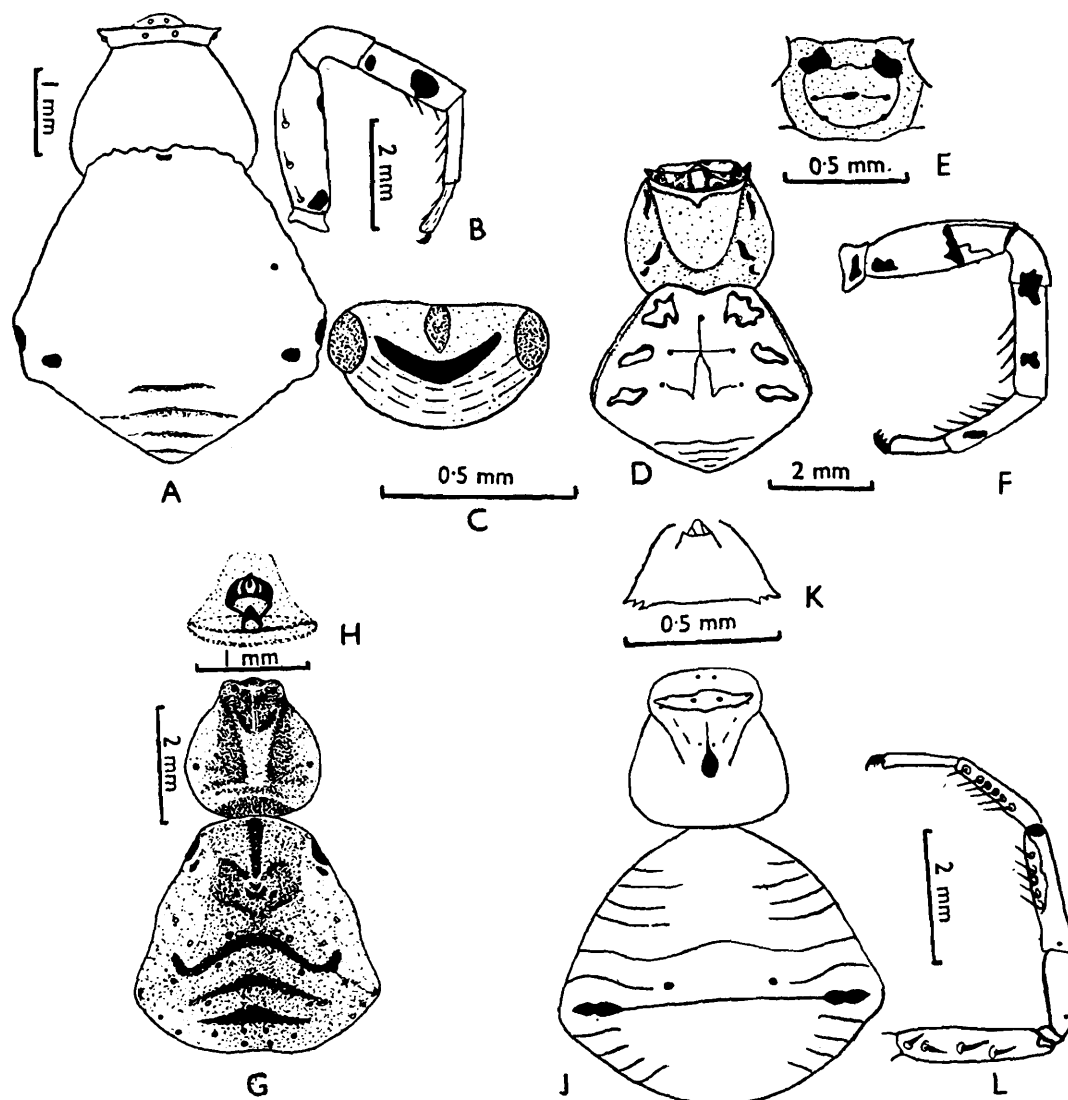
(Text-fig. 7, A-C)

1960. *Thomisus dhakuriensis* Tikader, *J. Bombay nat. Hist. Soc.*, **57**, p. 180.

General : Cephalothorax brownish-green; ocular area yellowish-brown, with small chalk-white patches; eyes black. Clypeus green with dark brown in the middle. Abdomen chalk-white. Total length 5.50 mm. Carapace 2.50 mm. long, 3.00 mm. wide; abdomen 4.00 mm. long, 3.70 mm. wide.

Cephalothorax : Broadest posteriorly, slightly narrowing in front, maximum width slightly more than length. Eyes black, anterior median eyes somewhat smaller than the anterior laterals; clypeus long, subrectangular. Legs long and stout, I and II legs

longer than III and IV legs, I legs with conspicuous black spots basally below on femur, a narrow black spot subapically on tibia in front; with three spines from black pigmented spots on each femur in front; II legs with a black spot basally below on femur and a narrow black spot basally in front on tibia, metatarsi of I and II with five pairs of ventral spines, III and IV without spot and spine.



TEXT-FIG. 7

- A-C. *Thomisus dhakuriensis* Tikader
 A—Dorsal view of female, legs omitted. B—Front view of 1st leg. C—Epigyne.
- D-F. *Thomisus memae* Sen and Basu
 D—Dorsal view of female, legs omitted. E—Epigyne. F—Front view of 1st leg.
- G-H. *Thomisus rishus* Tikader
 G—Dorsal view of female, legs omitted. H—Epigyne.
- J-L. *Thomisus sorajaii* Basu
 J—Dorsal view of female, legs omitted. K—Epigyne. L—Front view of 1st leg.

Abdomen : Pentagonal, overlapping the posterior region of cephalothorax in front, broadest just behind the middle, with four elliptical black spots laterally, two on each side, one near the broadest region and the other near the anterior region. Three pairs of very dark brown spots subapically on dorsal surface; black spots arranged in longitudinal rows; posterior pair the largest; a single minute crescent-shaped black spot medially at anterior margin, posterior end with conspicuous transverse muscular corrugation. Epigyne text-fig. 7, C.

Type-locality : Dhakuria, Calcutta, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : West Bengal, India.

8. *Thomisus memae* Sen and Basu

(Text-fig. 7, D-F)

1963. *Thomisus memae* Sen and Basu, *Sci. & Cult.*, Calcutta, **29**(19), p. 515.

General : Cephalothorax yellowish-brown, abdomen chalk-white. Total length 10.12 mm. Carapace 4.16 mm. long, 4.72 mm. wide; abdomen 6.00 mm. long, 7.20 mm. wide.

Cephalothorax : Slightly broader than long, slightly narrowing anteriorly, cephalic region high and convex; ocular quad broader than long; posterior median eyes smaller than the anterior medians. Clypeus moderate rectangular, sloping anteriorly and devoid of spine. Sternum hairy and heart-shaped. Legs I and II sub-equal and longer than III and IV; tibia and metatarsi I and II with four and six pairs of ventral spines respectively; and III and IV without spine. Coxa I with a black patch dorsally and coxae I-IV ventrally with dark brown spots and small patches; trochanters I and II dorsally with black patches; femora I and II with dark brown transverse bands and III and IV with patches of the same colour lying just a little above the mid-dorsal region; femora I and II proximally with dark brown spots at the antero-dorsal margin and II with two sub-equal spots of about the same colour at the proximal side of the band; patella and tibia I and II dorsally with dark brown patches at the distal and the proximal ends respectively; metatarsi I and II with dark brown patches dorsally.

Abdomen : Nearly pentagonal in shape, dorsally with two dark brown spots, one on each side near the tuberculating regions; six areas, irregular in shape, demarcated with brown lines, running parallel to the antero-lateral sides of the abdomen three on each side; posterior end with transverse muscular corrugation.

Type-locality : Sontoshpur near Calcutta. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : West Bengal, India.

9. *Thomisus rishus* Tikader

(Text-fig. 7, G-H)

1970. *Thomisus rishus* Tikader, *Rec. zool. Surv. India*, Calcutta, **64**, p. 48.

General : Cephalothorax and legs deep-brown and whitish patches, abdomen dirty chalk-white. Total length 6.50 mm. Carapace 2.30 mm. long, 2.20 mm. wide; abdomen 4.00 mm. long, 4.20 mm. wide.

Cephalothorax : Nearly as long as wide, convex, narrowing in front. Eyes black and tuberculate, both rows recurved but posterior row more curved than the anterior. Lateral eyes larger than others. Ocular quad nearly as long as wide, a transverse elevated muscular bar passing through the middle of ocular area. Clypeus long, subrectangular. Legs long and stout; I and II longer than III and IV. Tibia metatarsi of I and II legs provided with five and seven pairs of ventral spines respectively and III and IV legs without spine.

Abdomen : Nearly pentagonal, broadest behind the middle; minute brownish dots scattered irregularly all over the dorsum; posterior end with inconspicuous transverse muscular corrugation. Epigyne text-fig. 7, H.

Type-locality : Rishi, West Sikkim, India. *Holotype* : female, in the National Zoological Collections, Zoological Survey of India, Calcutta.

10. *Thomisus sorajaii* Basu

(Text-fig. 7, J-L)

1963. *Thomisus sorajaii* Basu, *Sci. & Cult.*, Calcutta, 29(2), p. 606.

General : Cephalothorax and abdomen yellowish-white, legs greenish. Total length 16.00 mm. Carapace 6.50 mm. long, 4.00 mm. wide; abdomen 10.00 mm. long, 8.00 mm. wide.

Cephalothorax : Longer than wide, subquadrangular, somewhat narrowed anteriorly. Ocular quad white. Eyes black, nearly equal in size excepting the two posterior medians which are larger than the others. Clypeus rectangular with definite whitish area in front and yellowish behind. Cephalic region high, an elongated white streak triangular at the base and projecting forward. Two minute white dots each on both the sides of the streak and two more smaller white streaks below the ocular area well developed. Legs I and II sub-equal; trochanter I white. Femur I with five spines, with chalk-white patch nearly in front. Patella I with minute yellow dot. Tibia and metatarsus of I with five pairs of ventral spines. Tibia I with a minute yellow dot at the base, white patch in front and a whitish area along the anterior margin; the base of the second and third spine somewhat greyish, and that of the third spine of the metatarsus I white, III and IV leg shorter and without spine.

Abdomen : Nearly rounded, projecting over the cephalothorax in front, maximum broad at the posterior two third region and tuberculating laterally at this broadest region. Two black patches at the tuberculating region well developed and connected with some other by a blackish and complete transverse band. Irregular few transverse ridges being well developed lateral and incomplete in the middle excepting one which is complete, present on the dorsum. Epigyne text-fig. 7, K.

Type-locality : Dum Dum, Calcutta. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : West Bengal, India.

11. *Thomisus pugilis* Stoliczka

(Text-fig. 22, D-E)

1869. *Thomisus (Xysticus)* [sic] *pugilis* Stoliczka, *J. Asiat. Soc. Bengal*, 38, p. 225.

1929. *Thomisus pugilis* : Sherriffs, *Ann. Mag. nat. Hist. Soc.*, 10(6), p. 243.

1935. *Thomisus pugilis* : Dyal, *Bull. Zool. Punjab Univ.*, 1, p. 20.

Cephalothorax : Broader than long, produced forwards into two lateral conical processes, and pale brown in colour, but light in the middle. Anterolateral eyes larger and situated on the antero-lateral edge on the cones; posterolateral midway on the posterior face of the cones; ocular quad slightly wider than long and narrower anteriorly. Clypeus very high and a pair of white streaks extending up to the top of the cephalic prominence. Sternum is broadly oval. Anterior metatarsi provided with five pairs of ventral spines; posterior legs without spine.

Abdomen : Subquadrate, and a pair of basal, conical shoulder tubercles each with a black spot situated inwardly in the middle. Colour of the abdomen white or yellowish white with transverse grooves in the posterior half which are absent in some of the specimens. Average length about 6 mm.

The male is very small; its abdomen coloured with dark reddish brown, interspersed sparsely with white.

The female is commonly found on light coloured rose which it resembles so closely that it is neither detected by enemies nor evaded by flower-visiting insects on which it preys. During mating season the male pursues the female who flees rather than attack it. The male, as it gets near the female, jumps on her back and settles on the posterior half of her abdomen. At first the female tries to shake off the male, but as her attempt is usually unsuccessful, she submits and the male is seen riding her till copulation takes place in the course of three or four days. The male has also been sometimes seen riding on the back of a young female till she casts her last molt and is ready for copulation.

Type-locality : Calcutta. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : West Bengal, Madras and Punjab, India.

12. *Thomisus bulani* Tikader

(Text-fig. 8, D-F)

1960. *Thomisus bulani* Tikader, *J. Bombay nat. Hist. Soc.*, 57(1), p. 178.

General : Cephalothorax greenish, ocular area whitish, triangular with a transverse yellow patch between the posterior median eyes. Abdomen chalk-white. Total length 5.00 mm. Carapace 2.50 mm. long, 2.30 mm. wide; abdomen 3.40 mm. long, 3.60 mm. wide.

Cephalothorax : High, as long as wide. Anterior median and anterior lateral eyes more or less equal. Clypeus moderate, sub-rectangular. Legs long and stout, I and II legs longer than III and IV, metatarsi of I and II with five pairs of ventral spines, posterior legs without spine; I pair of legs with three spines in each femur in front but not arising from black pigmented spots. Sternum heart-shaped, pointed behind.

Abdomen : Pentagonal, overlapping the posterior region of cephalothorax in front, broadest just behind the middle, with three pairs of reddish-brown spots on dorsal surface near the lateral border; the spots arranged in longitudinal rows, the posterior pair of spots the largest; four very minute reddish-brown spots present on the middle and some times only two spots; posterior end with conspicuous transverse muscular corrugation. Epigyne text-fig. 8, F.

Type-locality : Dhakuria, Calcutta. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : West Bengal, India.

13. *Thomisus shillongensis* Sen

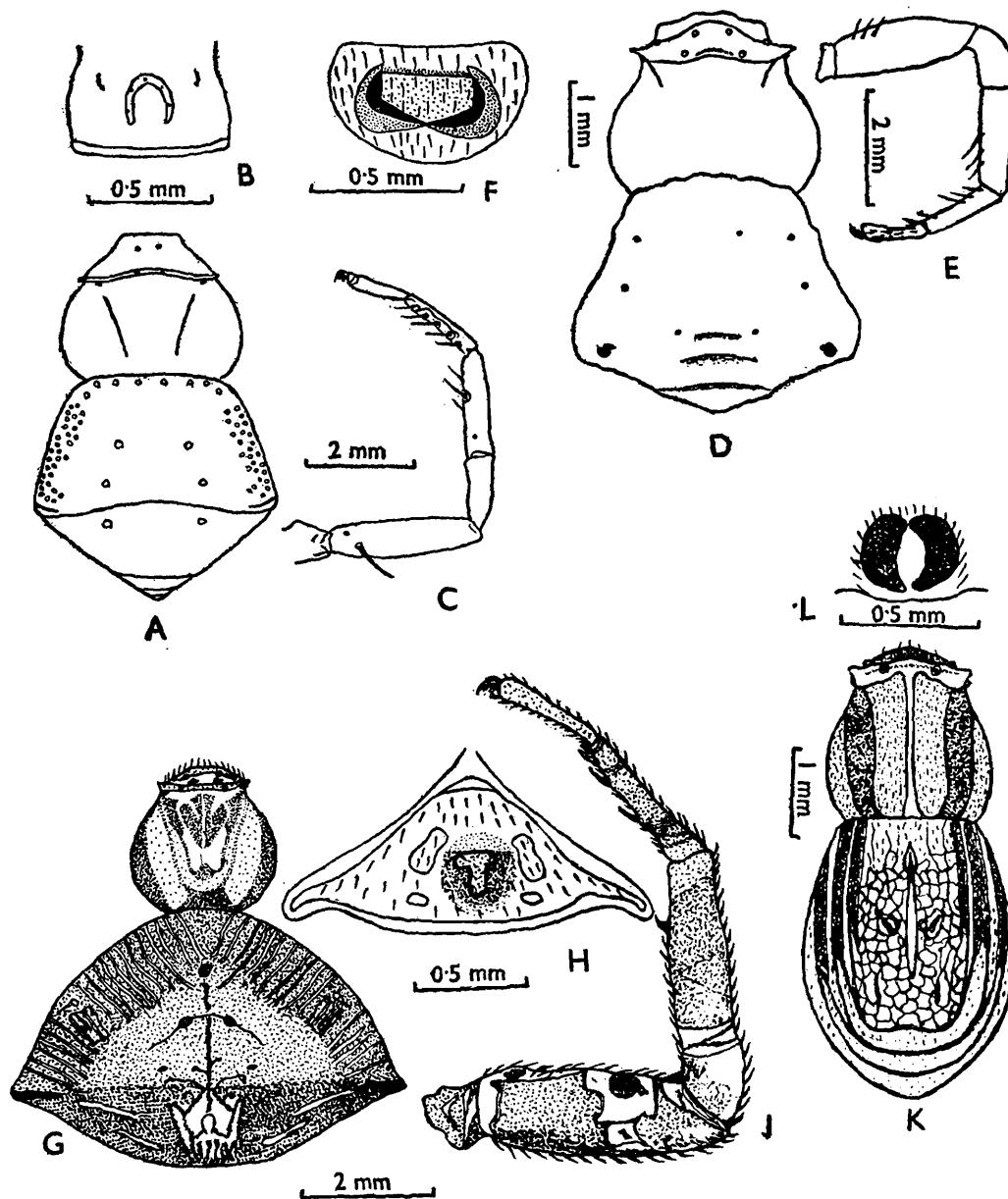
(Text-fig. 8, G-J)

1963. *Thomisus shillongensis* Sen, *Sci. & Cult.*, Calcutta, 29(12), p. 610.

General : Cephalothorax and legs light brown, abdomen dirty white. Total length 8.00 mm. Carapace 3.80 mm. long, 3.80 mm. wide; abdomen 5.00 mm. long, 6.30 mm. wide.

Cephalothorax : As long as broad, narrow in front. Anterior median eyes a little smaller than the anterior laterals, posterior eyes almost equal in size. Clypeus moderate, sub-rectangular. Cephalic region with V-shaped white marking on the centre and the limbs of V directed forward. Legs stout and I and II longer than III and IV, the II

being the longest. Tibiae of I with three pairs of ventral spines. III and IV legs without spine. Distal end of femur of leg I with conspicuous dark brown spot surrounded by white patch on the ventral aspect.



TEXT-FIG. 8

- A-C. *Thomisus beautifularis* Basu
 A—Dorsal view of female, legs omitted. B—Epigyne. C—Front view of 1st leg.
 D-F. *Thomisus bulani* Tikader
 D—Dorsal view of female, legs omitted. E—Frontal view of 1st leg. F—Epigyne.
 G-J. *Thomisus shillongensis* Sen
 G—Dorsal view of female, legs omitted. H—Epigyne. J—Front view of 1st leg.
 K-L. *Thomisus cherapunjeus* Tikader
 K—Dorsal view of female legs omitted. L—Epigyne.

Abdomen: Wider than long, dorsally with each cone having a transverse black mark on top; faint white lines arising on the anterior and lateral margin and running inwards for a little distance; and the posterior portion with dark brown markings. Epigyne text-fig. 8, H.

Type-locality : Kench's Trace, Shillong, Assam. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Shillong, Assam, India.

14. *Thomisus beautifularis* Basu

(Text-fig. 8, A-C)

1963. *Thomisus beautifularis* Basu, *J. Asiat. Soc. Bengal*, 5(1-2), p. 23.

General : Cephalothorax faintly yellowish, abdomen chalk-white. Total length 9.20 mm. Carapace 3.50 mm. long, 4.30 mm. wide; abdomen 5.80 mm. long, 6.20 mm. long.

Cephalothorax : High, oval, wider than long. The area just below the ocular region slightly curved. Ocular area light brown in front and whitish behind. Eyes black, posterior median eyes slightly larger than the others. Clypeus moderate more or less trapezoidal and granulated. Legs long and stout, I and II longer than III and IV. Metatarsus I with five pairs of spines and with a faint brown area occurring in between the spines two to four and with a minute yellow spot on the tibia and metatarsal joint. Tibia I with three spines, arising from a greyish area; a yellow spot at the base of the metatarsus I and a yellow spot in the frontal region adjacent with metatarsal joint. Patella I with a yellow spot in front. Femur I with a spine and a yellow spot just below the tibial joint. Metatarsus II with five pairs of spines. Tibia II with a minute yellow spot at the base and a single spine in the middle. Legs III and IV without spine and spot. Sternum oval, yellow in colour.

Abdomen : Pentagonal, projecting over the base of the cephalothorax in front, broadest just below the middle, faintly tuberculated laterally and with deep brown transverse area at the broadest region. This region with a brown transverse band faintly developed at the middle and well prominent laterally. The upper, lateral and sub-lateral parts marked with mauve colouration and beset with white glossy tubercles varying in size. Six colourless annular markings, four on the anterior and four on the posterior region well developed. Posterior part with prominent muscular corrugations. Epigyne text-fig. 8, B.

Type-locality : Tulshimanjuri, private road, Dum Dum, Calcutta. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Dum Dum, near Calcutta, West Bengal, India.

15. *Thomisus cherapunjeus* Tikader

(Text-fig. 8, K-L)

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

General : Cephalothorax and legs deep to light green, abdomen brown and mixed with dirty white. Total length 5.20 mm. Carapace 2.20 mm. long, 2.00 mm. wide; abdomen 3.40 mm. long, 2.50 mm. wide.

Cephalothorax : Slightly longer than wide, clothed with fine hairs, cephalic region slightly high and narrow, lateral two sides provided with conspicuous longitudinal broad deep brown patch extending from base of lateral eyes to base of thorax. Ocular tubercle high and laterally pointed and transversely joined with an elevated ridge and chalk white in colour; mid-dorsally provided with a narrow longitudinal chalk-white

line extending from ocular area to base of thorax. Eyes black, both rows recurved but posterior row less recurved and longer than anterior row; both lateral eyes situated on the base of opposite side of lateral conical tubercle, anterior lateral eyes larger than others. Ocular quad longer than wide and narrow in front. Clypeus moderate, margin of clypeus provided with seven small spines directed forward but middle one directed upward. Sternum heart-shaped, pointed behind, clothed with hairs. Legs I and II pairs very long and stout; tibiae of I with five and metatarsi with eight pairs of robust ventral spines.

Abdomen : Longer than wide, nearly elliptical in shape, maximum width behind the middle. Dorsal side provided with five sigilla marked with deep brown or black. Lateral sides of abdomen provided with three or four longitudinal deep brown thin lines and all lines joined respectively on the posterior side of abdomen. Ventral side uniform pale green colour and two sides provided with longitudinal parallel muscular elevations. Epigyne text-fig. 8, L.

Type-locality : Kench's Trace, Shillong, Assam. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Shillong, Cherapunji, Assam, India.

16. *Thomisus elongatus* Stoliczka

(Text-fig. 22, F-G)

1869. *Thomisus (Xysticus)* [sic] *elongatus* Stoliczka, *J. Asiat. Soc. Bengal*, **38**, p. 227.

1966. *Thomisus elongatus* : Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **64**(1), p. 64.

General : Cephalothorax and abdomen greyish-white. Total length 8.50 mm. Carapace 2.50 mm. long, 2.10 mm. wide; abdomen 6.00 mm. long, 2.30 mm. wide.

Cephalothorax : Quadrangular, convex the ocular portion in front truncate, a little narrow with projecting corners, the posterior lateral margins of the thorax being slightly curved; a broad white band runs posteriorly from the antero-lateral corners, it occupies the whole length of the thorax, and slightly indented with black on each side of its base; the sloping flanks are brown, and the margins again white with a very thin brown stripe at the extreme edges. The first pair of the middle, and the corresponding pair of the lateral eyes, placed on the perpendicular front side of the thorax; the former on a slight protuberance close together, the later which a little larger near the edges below the projecting corners; on the other side, still nearer to the outer point, the posterior laterals situated, being directed backward, the posterior central eyes above, but not quite on the front ridge, they nearly twice as far apart from each other than the anterior centrals, in size they hardly differ. Legs I and II long and stout than III and IV.

Abdomen : Sub-cylindrical, slightly narrow and truncate in front, where it partially covers the base of the thorax; in the middle it somewhat flattened; pointed and slightly elevated at the posterior end. The upper side marked with numerous raised lines, covering towards the terminal upper portion of the abdomen. Ventral side a number of similar raised lines, separated from former by a broad whitish band, they begin at the side of the trachean opercula and coverage towards the spinners. The genital opening very small, furnished on each side with a minute tubercle.

Type-locality : Calcutta. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : West Bengal, India.

Genus II. **Runcinia** Simon

1875. *Runcinia* Simon, *Ar. Fr.*, **2**, p. 254.
 1892. *Runcinia* : Simon, *Hist. Nat. Araign.*, **1**, p. 1024.
 1934. *Runcinia* : Reimoser, *Revue Suisse Zool.*, **41**, p. 465.
 1963. *Runcinia* : Schenkel, *Mem. Mus. Nati. Hist. Nat.*, **24**(1), p. 195.
 1964. *Runcinia* : Chrysanthus, *Nova Guinea*, **10**(28), p. 99.
 1965. *Runcinia* : Tikader, *Proc. Indian Acad. Sci.*, **61**(5), p. 277.

Characters : Cephalothorax slightly wider than long; cephalic region with prominent ocular tubercles, clothed with hairs and spines. Legs long and stout, I and II remarkably longer than others. Abdomen long, spined, narrower behind. Lateral sides with conspicuous longitudinal muscular corrugation.

Type-Species : *Runcinia lateralis* Koch.

Distribution : Europe, Africa, Asia and Australia.

17. Runcinia roonwali Tikader

(Text-fig. 9, A-C)

1965. *Runcinia roonwali* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **61**(5), p. 278.

General : Cephalothorax and abdomen light brown, legs light green. Total length 5.30 mm. Carapace 1.80 mm. long, 1.50 mm. wide; abdomen 5.30 mm. long, 1.70 mm. wide.

Cephalothorax : Slightly longer than wide, spined, the sides with broad longitudinal dark-brown patches but lateral margins with conspicuous whitish band. Carapace truncated in front and ocular area moderately protuberant and divergent laterally. Eyes black, anterior row more strongly recurved than the posterior row; ocular quad longer than wide, narrowing in front. Clypeus with a row of spines directed forward, but middle spine directed upward, two conspicuous strong spines originate just behind the posterior lateral eyes. Legs long and stout, I and II remarkably longer than others. Metatarsi of I and II legs with seven pairs of ventral spines, posterior legs without spine.

Abdomen : Long, cylindrical, spined, narrow behind, very slightly overlapping the posterior region of cephalothorax, dorsum with a long median broad-pigmented discontinuous line from the base to the end of abdomen. Lateral sides with conspicuous longitudinal muscular corrugations and elevated muscular ridges each provided with a row of spines. Ventral side uniform pale colour. Epigyne text-fig. 9, C.

Type-locality : Chaturshingi, Poona, Maharashtra. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

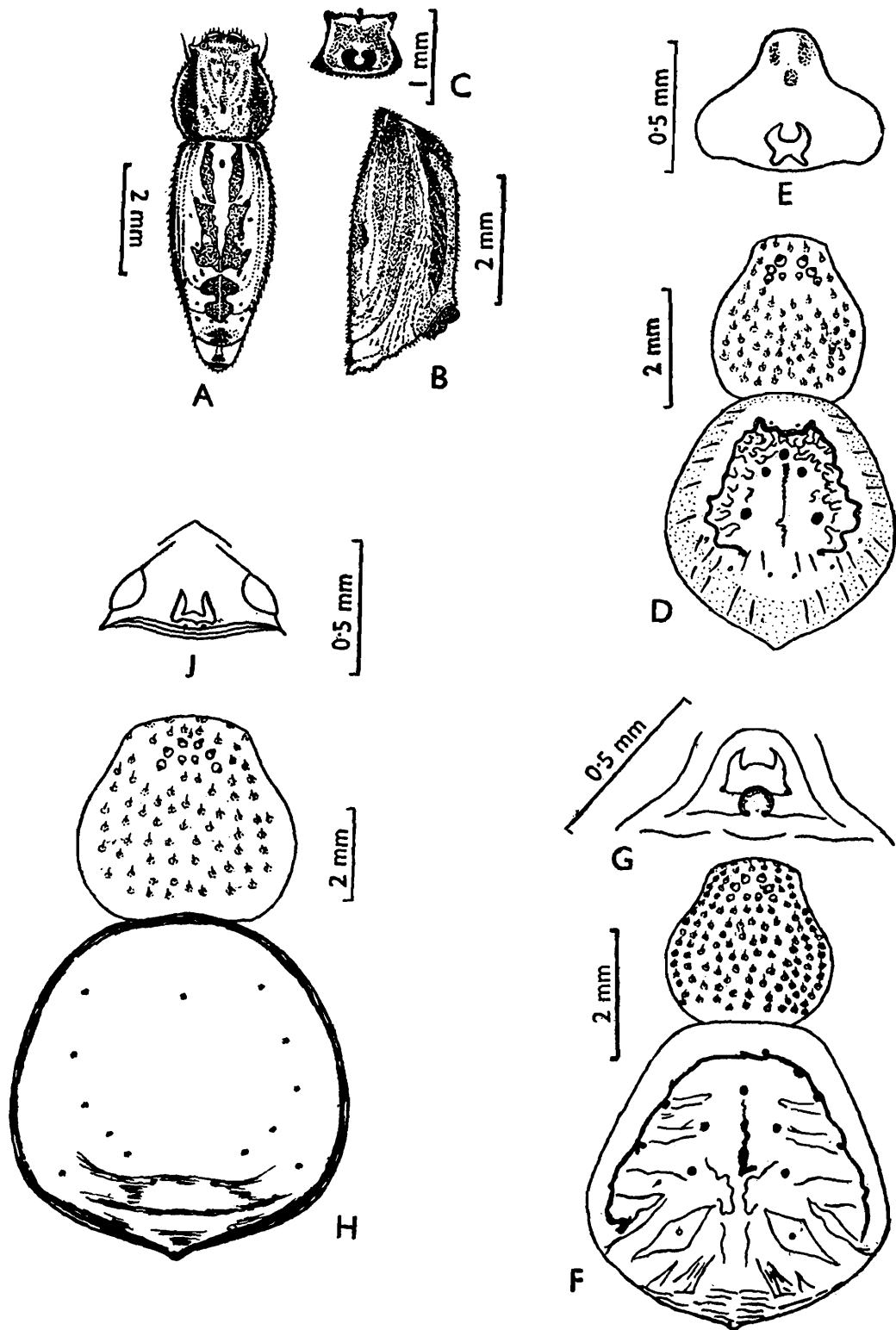
Distribution : Poona, Maharashtra, Shillong, Assam, India.

18. Runcinia escheri Reimoser

(Text-fig. 22, A-C)

1934. *Runcinia escheri* Reimoser, *Revue Suisse Zool.*, **14**, p. 487.
 1964. *Runcinia escheri* : Chrysanthus, *Nova Guinea Zool.*, **28**, p. 100.

General : Cephalothorax, abdomen and legs pale-yellow. Total length 7.90 mm. Carapace 2.40 mm. long, 2.40 mm. wide; abdomen 5.50 mm. long, 2.20 mm. wide.



TEXT-FIG. 9

- A-C. *Runcinia roonwali* Tikader
 A—Dorsal view of female, legs omitted. B—Lateral view of abdomen of female. C—Epigyne.
 D-E. *Pistius bhadurii* Basu
 D—Dorsal view of female, legs omitted. E—Epigyne.
 F-G. *Pistius gangulyi* Basu
 F—Dorsal view of female, legs omitted. G—Epigyne.
 H-J. *Pistius robusta* Basu
 H—Dorsal view of female, legs omitted. J—Epigyne.

Cephalothorax : Nearly as long as wide, clothed with short hairs and a few spines. Lateral sides provided with deep brown longitudinal patch. Clypeus with long hairs and mandibles brown in the basal half and pale-yellow in the anterior half. Sternum heart-shaped, pale yellow, spotted with black and clothed with hairs. Legs long, clothed with hairs and spines. I and II pairs longer than III and IV. Tibiae and metatarsi. I and II with five and six pairs of ventral spines respectively.

Abdomen : Long, narrow posteriorly, clothed with hairs. Dorsally at each side provided with five parallel longitudinal muscular ridges or folds and each ridge provided with row of short hairs. Mid-dorsally with a pair of brown spots. Ventral side uniform pale colour. Epigyne circular as in text-fig. 22, C.

Type-locality : Masnigudi, Andhra Pradesh, India. *Holotype* : female, in Museum d' Histoire Naturelle, Geneva, Switzerland.

Distribution : Andhra Pradesh, India.

I am giving here the remarks of Dr. Chrysanthus in his paper on spiders from South New Guinea "I have been able to compare the holotype of *R. escheri* Reimoser 1934. The species of *R. acuminata* (Thorell), *R. elongata* (Koch) and *R. escheri* Reimoser are very much alike as to their general aspect; the only differences are : (1) the number of spines at the underside of legs I and II is somewhat larger in *elongata* than in *escheri*, (2) the shape of the epigyne, (3) *elongata* is a little larger than *escheri*. It seems to me that *escheri* may prove to be but a subspecies of *acuminata*."

Genus III. *Pistius* Simon

1875. *Pistius* Simon, *Ar. Fr.*, 2, p. 257.

1951. *Pistius* : Locket and Millidge, *British Spiders*, London, 1, p. 175.

1962. *Pistius* : Tikader, *J. Linn. Soc.*, London, 44(300), p. 571.

1965. *Pistius* : Basu, *Proc. zool. Soc.*, Calcutta, 18, p. 71.

Characters : Cephalothorax armed with short fine spines, narrow anteriorly. Eyes small, medians forming practically a square; lateral eyes on shallow tubercle, anterior eyes subequal. Abdomen much widened and truncated behind, particularly in the female.

Type-Species : *Pistius truncatus* Pallas.

Distribution : Europe, Central Asia, India, Japan.

KEY TO SPECIES OF THE GENUS *Pistius* Simon

- | | |
|---|-------------------------|
| 1. A coloured continuous band surrounding the abdomen frontally and laterally | 2 |
| No coloured continuous band surrounding the abdomen frontally and laterally | 3 |
| 2. Cephalothorax with minute spines, clypeus with marginal hairs projecting forward; tibia I with two pairs of ventral spines | <i>P. bhadurii</i> |
| Cephalothorax without any spine; clypeus without marginal hair; tibia I with four pairs of ventral spines | <i>P. gangulyi</i> |
| 3. Abdomen without thomisid punctures | 4 |
| Abdomen with five thomisid punctures | 5 |
| 4. Tibia I with seven pairs of ventral spines, abdomen with greyish spots | <i>P. robusta</i> |
| Tibia I with three pairs of ventral spines; abdomen with no greyish spots | <i>P. sreepanchamii</i> |
| 5. Metatarsus I with six pairs of ventral spines | 6 |
| Metatarsus I with seven pairs of ventral spines | 7 |
| 6. Clypeus with no marginal hairs | <i>P. kanikae</i> |
| Clypeus with small marginal hairs | <i>P. kalimpus</i> |
| 7. Tibia II with four pairs of ventral spines | <i>P. barchensis</i> |
| Tibia II with three pairs of ventral spines | <i>P. roonwali</i> |

19. ***Pistius bhadurii*** Basu

(Text-fig. 9, D-E)

1965. *Pistius bhadurii* Basu, *Proc. zool. Soc.*, Calcutta, **18**, p. 71.

General : Cephalothorax and abdomen whitish-yellow, legs greenish-white. Total length 7.13 mm. Carapace 3.10 mm. long, 2.50 mm. wide; abdomen 4.00 mm. long, 3.80 mm. wide.

Cephalothorax : Oval, high, longer than broad, somewhat narrowed anteriorly and with numerous green spots throughout, excepting the ocular area. Almost all green spots with central spines projecting upward. Clypeus broad, truncated in front with green spots and with a few hairs given out from the anterior margin. Chelicera whitish-yellow, with green spots and bristles given out from the frontal and inner margin. Pedipalp whitish, hairy and spiny. Eyes black and beset with whitish tubercles. Ocular quad squarish. Anterior median and anterior lateral eyes larger than the posterior median and posterior lateral eyes respectively, anterior lateral eyes being largest. Legs whitish yellow and hairy; legs I and II longer than III and IV; femur I with five and II with one dorsal spines; patella III with one dorsal spine; tibia I with two pairs and II with one pair of ventral spines and III with two dorsal spines; metatarsi I and II armed ventrally with six pairs spines and a single dorsal spine.

Abdomen : Slightly longer than broad, a light reddish band with orange tint surrounds the abdomen laterally and frontally and on it deep red minute dots present; besides these dots there are a few more minute reddish dots lying within the area bounded by the band; there are bigger deep red dots encircled by orange dots present outside the banded area; five circular thomisid punctures well developed. Posterior margin with muscular corrugations. Epigyne text-fig. 9, E.

Type-locality : Hardwar, Saharanpur district, Uttar Pradesh, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Saharanpur district, Uttar Pradesh, India.

20. ***Pistius gangulyi*** Basu

(Text-fig. 9, F-G)

1965. *Pistius gangulyi* Basu, *Proc. zool. Soc.*, Calcutta, **18**, p. 73.

General : Cephalothorax orange red, abdomen creamy yellow and legs yellowish-green. Total length 10.80 mm. Carapace 3.9 mm. long, 3.8 mm. wide; abdomen 6.90 mm. long, 6.70 mm. wide.

Cephalothorax : Nearly as long as wide, with green spots all over, excepting the ocular area. Clypeus truncated in front and with green spots. Chelicerae orange yellow and with green spots. Pedipalp yellowish, hairy; tibia with three dorsal spines. Ocular area somewhat raised. Eyes black and beset with whitish tubercles; antero lateral and anterior median eyes larger than the postero laterals and posterior medians respectively. Ocular quad squarish. Clypeus high and without any hair or spine. Legs I and II subequal, femora I and II with four dorsal spines, patella II with two and III and IV with single dorsal spine in each; tibiae I and II with four pairs of ventral spines and III and IV with one ventral and dorsal spine respectively; metatarsi I and II armed with seven pairs of ventral spines and I also with single dorsal spine; tarsi I hairy. Sternum crank-shaped, and light yellow in colour.

Abdomen : Longer than broad, partly overlapping the base of the cephalothorax in front. A deep grey irregular band surrounds the abdomen frontally and laterally

and brown dots present at the posterior part of the abdomen; four prominent circular areas with deep orange spot in the middle along the lateral inner margin and two similar circular areas, one on the lower and one in front present outside the banded area. Five circular thomisid punctures well developed. Epigyne text-fig. 9, G.

Type-locality : Rishikesh, Dehra Dun, Uttar Pradesh, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Dehra Dun, Uttar Pradesh, India.

21. *Pistius robusta* Basu

(Text-fig. 9, H-J)

1965. *Pistius robusta* Basu, *Proc. zool. Soc.*, Calcutta, 18, p. 75.

General : Cephalothorax orange red, abdomen yellowish-white and legs whitish-yellow. Total length 12.70 mm. Carapace 4.70 mm. long, 4.70 mm. wide; abdomen 8.10 mm. long, 8.10 mm. wide.

Cephalothorax : High, oval, as long as wide, somewhat narrow anteriorly, with green spots throughout, excepting the ocular area. Clypeus truncated in front, with green spots and without any marginal hairs. Chelicerae light yellow, hairy, with green spots throughout, and with the anterior and inner margins hairy. Pedipalp, whitish-yellow with two dorsal tibial spines, one in front and one in the middle and the patella armed with a single marginal spine. Eyes black, beset with white tubercles; anterior median and antero lateral eyes larger than the posterior median and postero laterals respectively, antero lateral eyes being the largest of all. Ocular quad squarish. Legs whitish yellow; leg I and II much longer than III and IV, leg I being the longest. Femur I with three dorsal smaller spines. Patellae III and IV each with one ventral spine; tibiae I with seven pairs plus one ventral spines and II and III with six pairs and one ventral spines respectively; metatarsi I and II each with seven pairs of ventral and one dorsal spine and IV with a single ventral spine only. Sternum yellowish, shield-shaped.

Abdomen : Much longer than the cephalothorax, slightly projecting over the base of the cephalothorax in front, as long as wide, with as many as twenty greyish spots distributed all over the abdomen; posterior region with prominent muscular corrugations. Epigyne text-fig. 9, J.

Type-locality : Rishikesh, Dehra Dun, Uttar Pradesh, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Dehra Dun, Uttar Pradesh, India.

22. *Pistius sreepanchamii* Tikader

(Text-fig. 10, A-C)

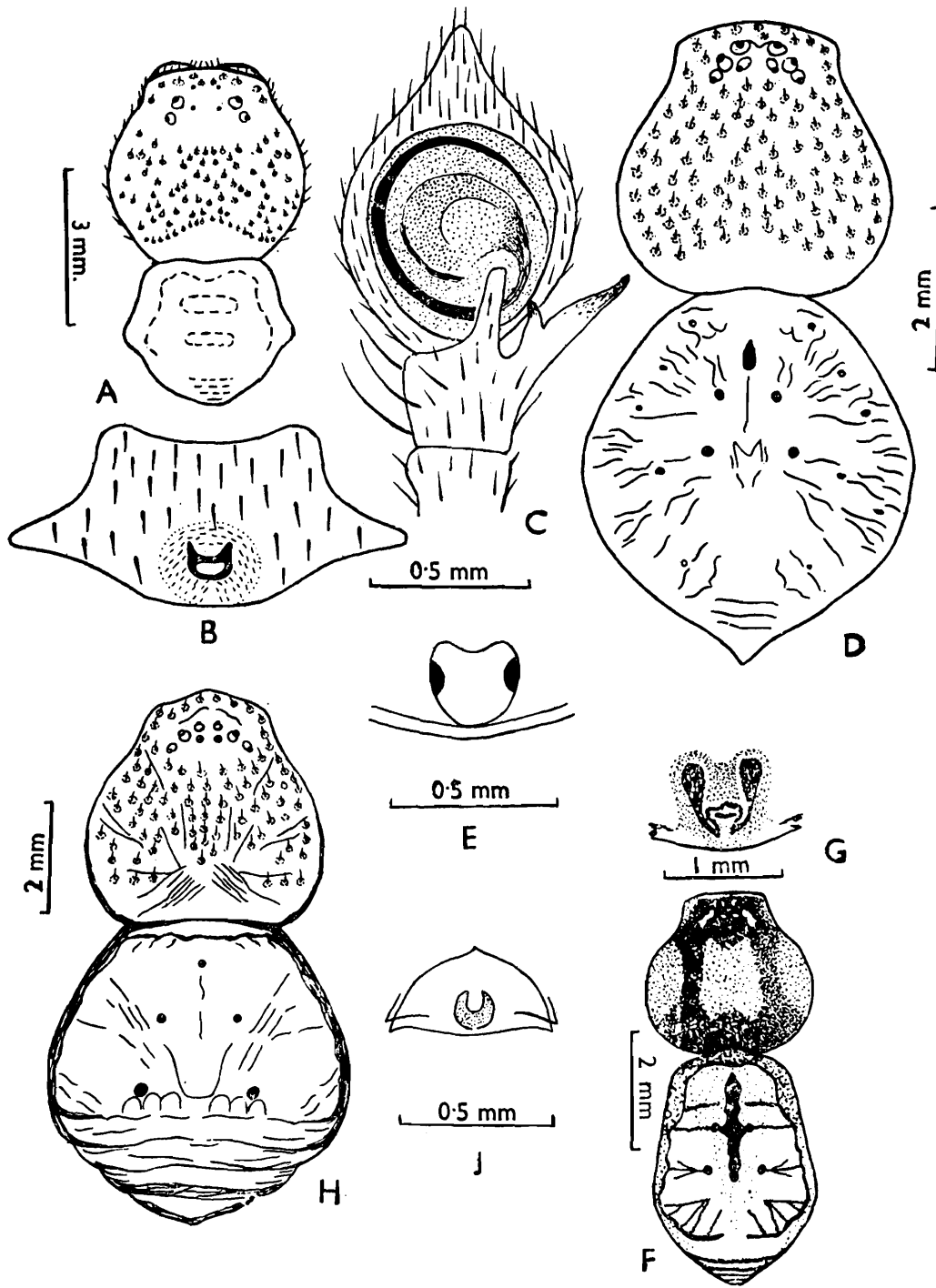
1962. *Pistius sreepanchamii* Tikader, *J. Linn. Soc.*, London, 44(300), p. 571.

1962. *Pistius sreepanchamii* : Daniel, *J. Bombay nat. Hist. Soc.*, 59(2), p. 681.

1965. *Pistius sreepanchamii* : Basu, *Proc. zool. Soc.*, Calcutta, 18, p. 71.

General : Cephalothorax and legs white, mottled with green, abdomen white and mottled with brown. Total length 6.50 mm. Carapace 3.90 mm. long, 3.80 mm. wide; abdomen 2.80 mm. long, 3.20 mm. wide.

Cephalothorax : Convex, high; oval in outline, somewhat narrow in front; almost all green spots with a central short spine; ocular and posterior areas without green spots. Eyes black; anterior medians slightly closer than wide; lateral eyes large on



TEXT-FIG. 10

- A-C. *Pistius sreepanchamii* Tikader
 A—Dorsal view of female, legs omitted. B—Epigyne. C—Male palp.
- D-E. *Pistius kanikae* Basu
 D—Dorsal view of female, legs omitted. E—Epigyne.
- F-G. *Pistius kalimpus* Tikader
 F—Dorsal view of female, legs omitted. G—Epigyne.
- H-J. *Pistius barchensis* Basu
 H—Dorsal view of female, legs omitted. J—Epigyne.

low white tubercles and anterior laterals larger than the posterior laterals; the eyes of anterior row equidistant, subequal, recurved; the posterior row also equidistant and subequal but less recurved than the anterior row. Clypeus high and obtuse, spotted like carapace, margin provided with small hairs, directed forward. Sternum oval, pointed behind. Legs I and II much longer than III and IV, tibiae I and II armed ventrally with three pairs of spines and on the metatarsi eight pairs of ventral spines.

Abdomen : After oviposition almost rounded but margin not uniformly straight; slightly overlapping the posterior region of cephalothorax, posterior half with conspicuous transverse corrugation, moderately truncated. Epigyne text-fig. 10, B.

Type-locality : Botanical garden, Shillong, Assam. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Shillong, Cherapunjee, Assam, India.

23. *Pistius kanikae* Basu

(Text-fig. 10, D-E)

1964. *Pistius kanikae* Basu, *J. Bengal nat. Hist. Soc.*, Darjeeling, **32**(2), p. 107.

General : Cephalothorax orange red in colour, abdomen light yellowish. Total length 7.30 mm. Carapace 3.10 mm. long, 3.00 mm. wide; abdomen 4.20 mm. long, 4.00 mm. wide.

Cephalothorax : Longer than broad, with green spots. Clypeus slightly arched anteriorly with green spots and without any hair. Chelicerae with green spots and without hair. Pedipalp yellowish. Eyes black, beset with milky white tubercles, ocular quad almost squarish and with single green spot; posterior medians and posterior laterals strongly recurved, anterior laterals procurved. Legs yellowish, tibiae I with four pairs and II with two pairs of ventral spines metatarsi I with six pairs and III with seven pairs of ventral and three dorsal spines. Sternum greenish yellow, pointed behind.

Abdomen : Slightly longer than wide, slightly overlapping the posterior region of cephalothorax in front; dorsally with five thomisid punctures; as many as fifteen reddish circular areas with deep red centres arranged a little inner to the lateral and anterior sides and three similar areas present laterally; three more similar spots two a little above the first thomisid and one a little below the last thomisid punctures well developed; two black dots present at the posterior-most region and this region with muscular corrugation. Epigyne text-fig. 10, E.

Type-locality : Lakshmanjhoala, Dehra Dun, Uttar Pradesh. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Dehra Dun, U.P., India.

24. *Pistius kalimpus* Tikader

(Text-fig. 10, F-G)

1970. *Pistius kalimpus* Tikader, *Rec. zool. Surv. India*, Calcutta, **64**, p. 53.

General : Cephalothorax and legs green, abdomen chalk-white. Total length 6.50 mm. Carapace 2.80 mm. long, 2.90 mm. wide; abdomen 4.00 mm. long, 2.90 mm. wide.

Cephalothorax : Nearly as long as wide, convex, oval in outline, somewhat narrow in front. Eyes black, posterior medians slightly closer than anterior medians; the median ocular area longer than wide, lateral eyes large and provided with contiguous

white tubercles; the eyes of anterior row equidistant, subequal, recurved, the posterior row less recurved than the anterior row. Clypeus high and obtuse, margin provided with small hairs. Sternum oval, pointed behind. Legs I and II much longer than III and IV; tibiae and metatarsi I and II armed ventrally with four and six pairs of spines respectively.

Abdomen : Longer than wide, dorsally with chalk-white patches and mixed with some yellow tint on it and lateral and front sides of these patches, encircled by a conspicuous black line. Ventral side uniform pale colour. Epigyne text-fig. 10, G.

Type-locality : Kalimpong, Dist. Darjeeling, West Bengal, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Kalimpong, West Bengal, India.

25. *Pistius barchensis* Basu

(Text-fig. 10, H-J)

1965. *Pistius barchensis* Basu, *Proc. zool. Soc., Calcutta*, **18**, p. 74.

General : Cephalothorax reddish-yellow, abdomen light yellow and legs yellowish. Total length 9.00 mm. Carapace 4.10 mm. long, 3.90 mm. wide; abdomen 5.10 mm. long, 4.70 mm. wide.

Cephalothorax : Longer than wide, somewhat narrowed anteriorly and with green spots all over, excepting ocular area. Clypeus truncated in front and without any hair or spine. Chelicerae reddish yellow with green spots, hairy and with bristles on frontal and inner margins. Pedipalp yellowish and hairy. Cephalic region high. Ocular quad squarish. Eyes black; antero lateral and anterior median eyes longer than postero-lateral and posterior median respectively, antero laterals being largest; all eyes beset with whitish tubercles. Legs I slightly longer than II; tibiae I and II armed with four pairs of ventral spines in each and III with a single dorsal spine only; metatarsi I and II with seven pairs of ventral spines in each, III with one ventral and two dorsal spines and IV with a single ventral spine only; metatarsus and tarsus III hairy.

Abdomen : Partly overlapping the base of the cephalothorax in front. Frontal region somewhat raised, irregular and somewhat corrugated and with a light brown irregular strap. Five circular thomisid punctures well marked. Some brownish spots scattered all over the dorsal surface. Abdomen slightly tuberculating laterally at about the posterior one third of the abdomen. Muscular corrugation well developed posteriorly. Epigyne text-fig. 10, J.

Type-locality : Rishikesh, Dehra Dun, Uttar Pradesh, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Dehra Dun, Uttar Pradesh, India.

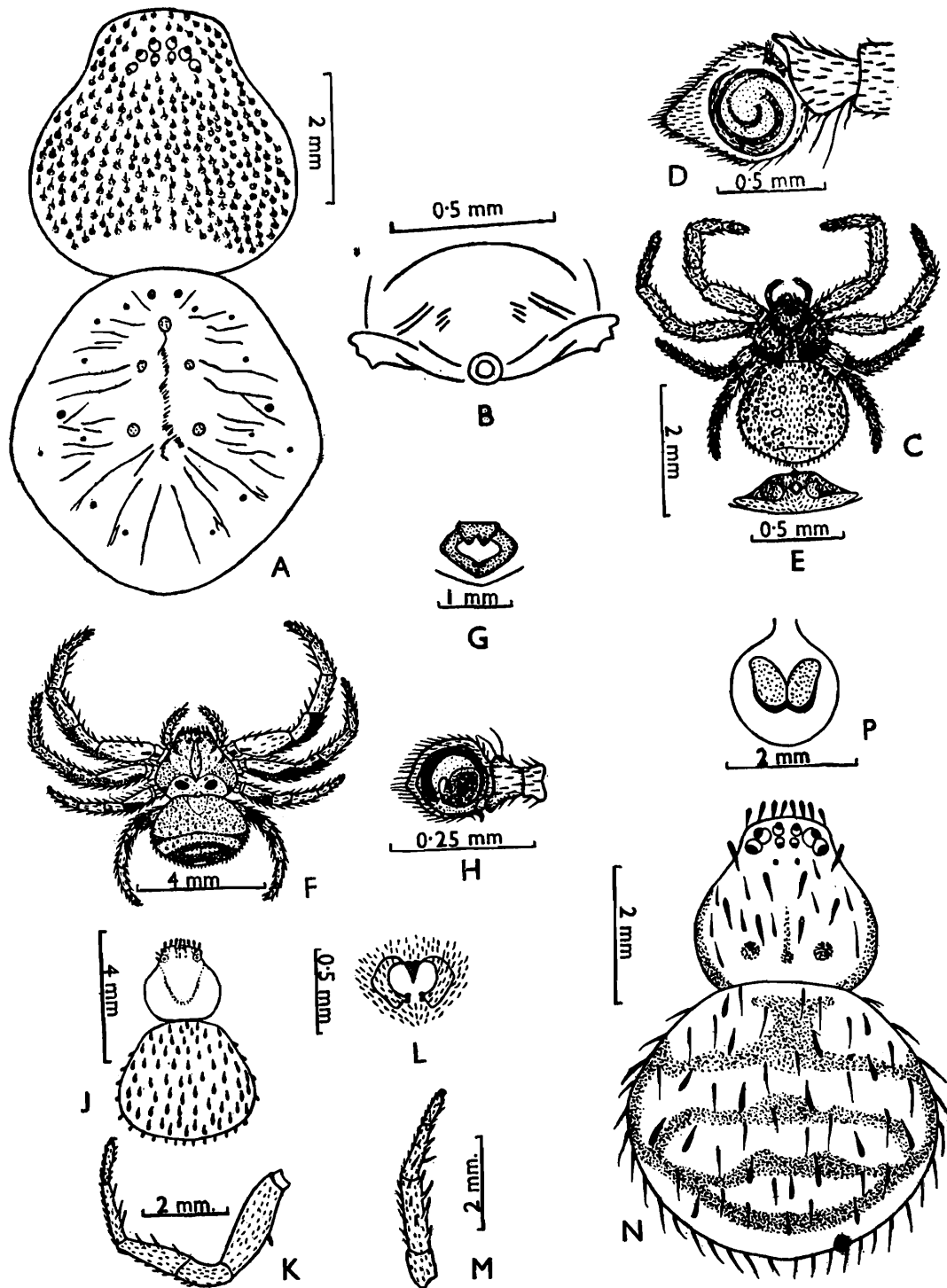
26. *Pistius roonwali* Basu

(Text-fig. 11, A-B)

1964. *Pistius roonwali* Basu, *J. Bengal nat. Hist. Soc., Darjeeling*, **32**(2), p. 104.

General : Cephalothorax and abdomen yellowish-white. Total length 7.80 mm. Carapace 3.75 mm. long, 3.40 mm. wide; abdomen 4.50 mm. long, 4.50 mm. wide.

Cephalothorax : Longer than broad, slightly narrowed anteriorly and with green spots excepting the ocular region. Clypeus arched anteriorly and a few hairs projecting forward from its anterior margin. Chelicerae yellowish with green spots and with upwardly projecting hairs. Pedipalp spiny and hairy. Eyes black and beset with



TEXT-FIG. 11

- A-B. *Pistius roonwali* Basu
A—Dorsal view of female, legs omitted. B—Epigyne.
- C-E. *Oxyptila khasi* Tikader
C—Dorsal view of female. D—Male palp. E—Epigyne.
- F-H. *Oxyptila maratha* Tikader
F—Dorsal view of female. G—Epigyne. H—Male palp.
- J-M. *Oxyptila manii* Tikader
J—Dorsal view of female, legs omitted. K—Front view of 1st leg. L—Epigyne. M—Ventral view of tibia of 1st leg.
- N-P. *Oxyptila reena* Basu
N—Dorsal view of female, legs omitted. P—Epigyne.

whitish tubercles; anterior laterals larger, anterior medians slightly recurved, posterior medians and postero-laterals recurved, but antero laterals procurved. Legs hairy; femur I with three dorsal spines; tibia I with four pairs, and II with three pairs of ventral spines; metatarsi I and II with seven pairs of ventral spines and a single dorsal spine in each but IV armed ventrally with single spine. Sternum greenish-yellow and pointed behind.

Abdomen : Nearly as long as wide, slightly overlapping in front of the cephalothorax; with some reddish spots arranged laterally and frontally; slightly tuberculating laterally a little behind the mid-region and this region with two reddish spots, one in each side; five thomisid punctures present. Epigyne text-fig. 11, B.

Type-locality : Hardwar, Uttar Pradesh. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Hardwar, Uttar Pradesh, India.

Genus IV. *Oxyptila* Simon

1864. *Oxyptila* Simon, *Hist. Nat. Ar.*, **1**, p. 439.
 1940. *Oxyptila* : Comstock, *Spider Book*, New York, p. 543.
 1951. *Oxyptila* : Locket and Millidge, *British Spiders*, London, **1**, p. 187.
 1960. *Oxyptila* : Tikader, *Proc. zool. Soc.*, Calcutta, **13**(2), p. 115.
 1964. *Oxyptila* : Tikader, *Sci. & Cult.* **30**, p. 152.
 1964. *Oxyptila* : Basu, *Sci. & Cult.* **30**, p. 154.

Characters : Cephalothorax, abdomen and legs clothed with some clavate or spatulate hairs; clypeus with a row of clavate hairs. The number of clavate hairs varies somewhat from species to species but is not a very reliable character as the hairs are broken off readily. Eyes black, median ocular trapezium longer than broad; posterior medians closer to one another than to laterals. Legs stout and short; tibiae I and II armed ventrally with two pairs of spines. The cuticle clothed with setae of various types, some of them pointed while others clavate or spatulate. These spiders are found on low plants or bushes and under stones.

Type-Species : *Oxyptila brevipes* Hahn.

Distribution : All tropical and sub-tropical countries of the world.

KEY TO SPECIES OF THE GENUS *Oxyptila* Simon

- | | | |
|---|---|-------------------|
| 1. Legs with pale or dark spots | . | 2 |
| Legs without spots | . | 3 |
| 2. Abdomen with numerous rounded whitish pigments on dorsum | . | <i>O. khasi</i> |
| Abdomen with transverse whitish band on the dorsum | . | <i>O. maratha</i> |
| 3. Abdomen uniform light brown | . | <i>O. manii</i> |
| Abdomen with two dark grey transverse bands | . | <i>O. reena</i> |

27. *Oxyptila khasi* Tikader

(Text-fig. 11, C-E)

1960. *Oxyptila khasi* Tikader, *Proc. zool. Soc.*, Calcutta, **13**(2), p. 116.

General : Cephalothorax and legs deep brown, abdomen light yellowish-brown. Total length 2.70 mm. Carapace 1.00 mm. long, 1.20 mm. wide; abdomen 1.80 mm. long, 1.90 mm. wide.

Cephalothorax : Slightly wider than long, narrowing anteriorly, bearing a few clavate hairs on the cephalic area; with a pair of white broad lines from the cephalic region to

base of cephalothorax on either side of the median longitudinal line. Eyes ringed with dirty-white tubercles, the lateral eyes large but the anterior laterals largest. Clypeus high, margin bearing six clavate hairs directed forward. Sternum heart-shaped, slightly pointed behind, densely clothed with hairs, white margins with black spots between coxae. Legs I and II longer than III and IV, irregular pale spots or patches on the legs. Femora III and IV pale except subapically, tibiae I and II armed ventrally with two pairs of strong spines.

Abdomen : Ovate, wider behind, densely clothed with short clavate hairs and numerous rounded whitish pigments on the dorsum, arranged more or less in longitudinal row. Epigyne text-fig. 11, E. Male palp text-fig. 11, D.

Type-locality : Kench's Trace, Shillong, Assam, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Shillong, Assam, India.

28. *Oxyptila maratha* Tikader*

(Text-fig. 11, F-H)

1964. *Oxyptila gertschi* Tikader, *Sci. & Cult.*, Calcutta 30(3), p. 152.

Oxyptila maratha Tikader, new name *Maharashtra Fauna district Gazetteer* (in press).

General : Cephalothorax and abdomen deep brown, legs light brown. Total length 4.10 mm. Carapace 2.20 mm. long, 2.60 mm. wide; abdomen 2.10 mm. long, 3.00 mm. wide.

Cephalothorax : Slightly wider than long, bearing clavate hairs on the cephalic region. Eyes ringed with brownish tubercles except posterior medians, ocular quad longer than wide, both rows of eyes recurved but anterior row strongly recurved. Ocular quad provided with three clavate hairs in a triangular pattern. Clypeus high, margin bearing seven clavate hairs directed forward but middle one directed upward. Posterior portion of cephalothorax light in colour and provided with two round dark brown spots. Sternum heart-shaped, slightly pointed behind, clothed with hairs, light in colour, margin with black spots between coxae. Legs I and II robust and longer than III and IV, some dark brown spots or patches on the legs. Femora I with three conspicuous strong spines on the front and base of spines encircled by a black ring. Tibiae and metatarsi I and II with three pairs of strong ventral spines.

Abdomen : Ovate, slightly wider, behind, densely clothed with short clavate hairs and some rounded brownish spots on the mid-dorsal, arranged in a V-shape. Epigyne text-fig. 11, G. Male palp text-fig. 11, H.

Type-locality : Poona University compound, Poona, Maharashtra, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, India.

29. *Oxyptila manii* Tikader

(Text-fig. 11, J-M)

1960. *Oxyptila manii* Tikader, *Proc. zool. Soc.*, Calcutta, 13(2), p. 115.

General : Cephalothorax deep brown, legs and abdomen light brown. Total length 5.80 mm. Carapace 2.60 mm. long, 2.80 mm. wide; abdomen 3.60 mm. long, 4.20 mm. wide.

* *Oxyptila gertschi* Tikader is a junior homonym of *Oxyptila gertschi* Kurata from Canada. So I have changed the previous specific name in *Maharashtra Fauna Gazetteer* (in press).

Cephalothorax : Slightly wider than long, bearing a few clavate hairs on the cephalic region. Eyes ringed with whitish tubercle, except posterior medians, ocular quad longer than wide, both rows of eyes recurved but anterior row strongly recurved. Ocular quad provided with four clavate hairs arranged in a quadrangular pattern. Clypeus high, margin bearing seven clavate hairs directed forward. Sternum heart-shaped, clothed with fine pointed hairs. Legs I and II longer than others, irregular dark brown spots or patches on the legs. Femora III and IV from the base more than half portion pale in colour; tibiae I and II armed ventrally with spines, outer row with three and inner row with four spines as in text-fig. 11, K.

Abdomen : Ovate, wider behind, clothed with numerous clavate or spatulate hairs, ventral side clothed with spiny hairs. Epigyne text-fig. 11, L.

Type-locality : Habra ca 48 kilometres north-east of Calcutta, West Bengal, India.
Holotype : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : West Bengal, India.

30. *Oxyptila reena* Basu

(Text-fig. 11, N-P)

1964. *Oxyptila reena* Basu, *Sci. & Cult.*, Calcutta, **30**, p. 154.

General : Cephalothorax reddish-yellow, abdomen whitish-grey and legs reddish-grey. Total length 6.40 mm. Carapace 2.43 mm. long, 2.75 mm. wide; abdomen 4.00 mm. long, 4.37 mm. wide.

Cephalothorax : Wider than long, somewhat narrowed anteriorly, greyish along with reddish-yellow tint in between the greyish area. Chelicerae and pedipalp hairy and spiny, reddish-yellow and greyish in colour respectively. Clypeus strong and with eight marginal hairs projecting forward. Eyes black, all but posterior medians beset with whitish tubercles; postero lateral eyes recurved, but anterior medians and antero laterals procurved; ocular quad slightly longer than wide and with two hairs projecting upward; ocular area somewhat raised, cephalic region with a few clavate hairs. Legs I and II much longer than III and IV; femur I with two dorsal spines; tibia I with four and three ventral spines situated at the outer and inner margins respectively; metatarsus I with three pairs of ventral and two dorsal spines; femur II dark grey, with a single dorsal spine, metatarsus II with two pairs plus one ventral and a single dorsal spine; legs III and IV subequal. Sternum shield shaped with few hairs.

Abdomen : Ovoidal, wider behind, greyish with whitish area in between, and provided with clavate or spatulate hairs; antero lateral margins somewhat wavy. Two dark grey transverse bands traverse the abdomen. Epigyne text-fig. 11, P.

Type-locality : Guptipara, Dist. Hooghly, West Bengal, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Hooghly, West Bengal, India.

Genus V. *Misumena* Latreille

- 1804. *Misumena* Latreille, *Nouv. Dict. Hist. Nat.*, **24**, 135.
- 1869. *Misumena* : Thorell, *Eur. Spiders etc.*, p. 184.
- 1875. *Misumena* : Simon, *Ar. Fr.*, **2**, p. 241.
- 1940. *Misumena* : Comstock, *The Spider Book*, New York, p. 538.
- 1961. *Misumena* : Locket and Millidge, *British Spiders*, London, **1**, p. 174.
- 1962. *Misumena* : Tikader, *J. Linn. Soc.*, London, **33**(300), p. 573.

Characters : Cephalothorax armed with a few only very short fine spines. The eyes of the anterior row are equidistant and in a more or less recurved line. The median ocular area is a little narrower in front than behind. Lateral eyes situated in slightly elevated confluent tubercles. Legs I and II much longer than III and IV. The spiders of this species generally are fond of flowers and low plants or bushes.

Type-Species : *Misumena vatia* (Clerck).

Distribution : Europe, America and Asia.

KEY TO SPECIES OF THE GENUS *Misumena* Latreille

- | | |
|--|---------------------|
| 1. Abdomen ornamented by black or white patches | 2 |
| Abdomen not ornamented by black or white patches | 5 |
| 2. Cephalothorax with brown patches | 3 |
| Cephalothorax without brown patches | 4 |
| 3. Cephalic region with a U-shaped dark brown patch | <i>M. menoka</i> |
| Cephalic region with two kidney-shaped longitudinal deep brown broad bands | <i>M. indra</i> |
| 4. Abdomen with more or less longitudinal row of 6-10 black spots | <i>M. horai</i> |
| Abdomen with an incomplete longitudinal light brown line mid-dorsally and five small sigilla on the dorsum | <i>M. mridulai</i> |
| 5. Abdomen with silvery white colour | <i>M. silveryi</i> |
| Abdomen without silvery white colour | 6 |
| 6. Cephalothorax with yellowish-brown and abdomen chalk-white | <i>M. annapurna</i> |
| Cephalothorax with light brown and abdomen greenish-pale | <i>M. greenae</i> |

31. *Misumena menoka* Tikader

(Text-fig. 12, H-J)

1963. *Misumena menoka* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, 58(2), p. 254.

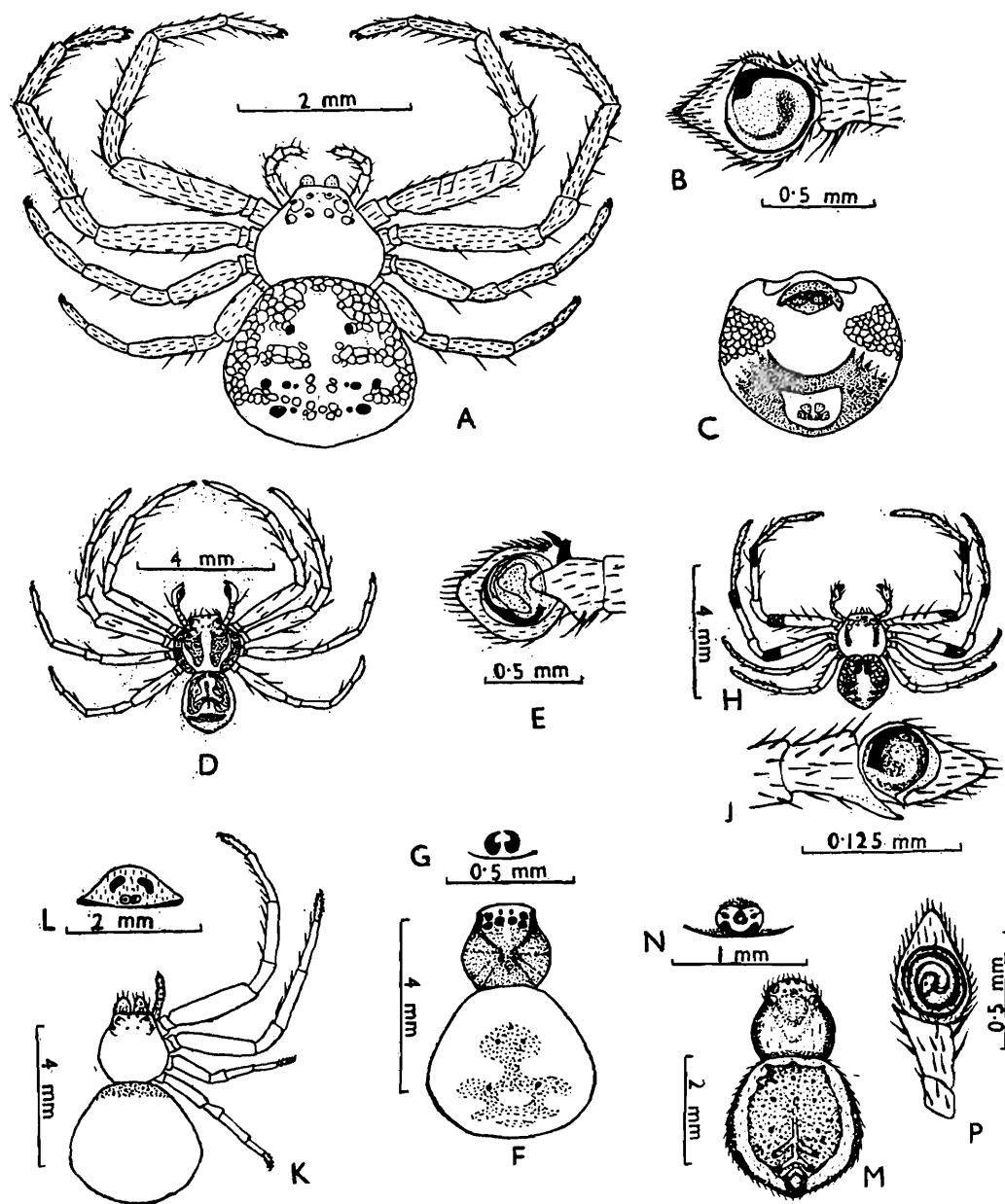
General : Cephalothorax yellowish-brown, abdomen silvery-white, legs light green. Total length 2.80 mm. Carapace 1.20 mm. long, 1.50 mm. wide; abdomen 1.50 mm. long, 1.50 mm. wide.

Cephalothorax : Convex, slightly wider than long, clothed with fine pubescence and a few spines; cephalic region slightly elevated with a U-shaped, broad, dark brown patch on the cephalothorax, the base of the U-lying in the ocular area and the limbs directed backward on the cephalothorax. Clypeus broad, the margin provided with six spines directed forward. Eyes round, posterior row slightly recurved and almost equal and equidistant; antero row more recurved than the posterior; lateral eyes situated on elevated, confluent, white tubercles; antero lateral eyes larger than the others; the median ocular area a little narrower in front than behind. Legs I and II much longer than III and IV, clothed with hairs and spines. Distal end of femora and tibiae I and II with a dark transverse band; femur I with two pairs of ventral spines.

Abdomen : Round, broadest just behind the middle, dorsally on the posterior half with three incomplete, transverse, black patches and on the base of abdomen with a V-shaped mark. Male palp text-fig. 12, J.

Type-locality : Kotigehara, Dist. Chikmagalur, Mysore, India. *Holotype* : male, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Chikmagalur, Mysore, India.



TEXT-FIG. 12

- A-C. *Misumena horai* Tikader
 A—Dorsal view of female. B—Male palp. C—Ventral view of a abdomen with epigyne.
- D-E. *Misumena indra* Tikader
 D—Dorsal view of male. E—Male palp.
- F-G. *Misumena silveryi* Tikader
 F—Dorsal view of female, legs omitted. G—Epigyne.
- H-J. *Misumena menoka* Tikader
 H—Dorsal view of male. J—Male palp.
- K-L. *Misumena annapurna* Tikader
 K—Dorsal view of female, one side leg omitted. L—Epigyne.
- M-P. *Misumena greenae* Tikader
 M—Dorsal view of female. N—Epigyne. P—Male palp.

32. *Misumena indra* Tikader

(Text-fig. 12, D-E)

1963. *Misumena indra* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **58**(5), p. 265.

General : Cephalothorax and abdomen greyish-brown, legs light green. Total length 3.20 mm. Carapace 1.60 mm. long, 1.90 mm. wide; abdomen 1.70 mm. long, 1.60 mm. wide.

Cephalothorax : Slightly convex, wider than long, clothed with fine pubescence and a few spines; cephalic region slightly elevated; two kidney shaped longitudinal, deep-brown, broad bands on the cephalothorax extending from the ocular area to nearly the base of cephalothorax, the lateral margins also provided with longitudinal, deep-brown bands. Clypeus high, the margin with six long spines directed forward. Eyes round and black, ringed with dirty-white tubercles, the posterior row more recurved than the anterior; antero lateral eyes larger than the rest; tubercles of the lateral eyes contiguous. Legs I and II much longer than III and IV, clothed with hairs and strong spines; tibiae I with three pairs and metatarsi with two pairs of ventral spines. Sternum heart-shaped, pointed behind.

Abdomen : Round, broadest just behind the middle, clothed with hairs and a few spines; dorsally with irregular, rounded, whitish dots or pigments, surrounded by deep-brown background. Male palp text-fig. 12, E.

Type-locality : Kotigehara, Dist. Chikmagalur, Mysore, India. *Holotype* : male, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Chikmagalur, Mysore, Poona, Maharashtra, India.

33. *Misumena horai* Tikader

(Text-fig. 12, A-C)

1962. *Misumena horai* Tikader, *J. Linn. Soc.*, London, **44**(300), p. 573.

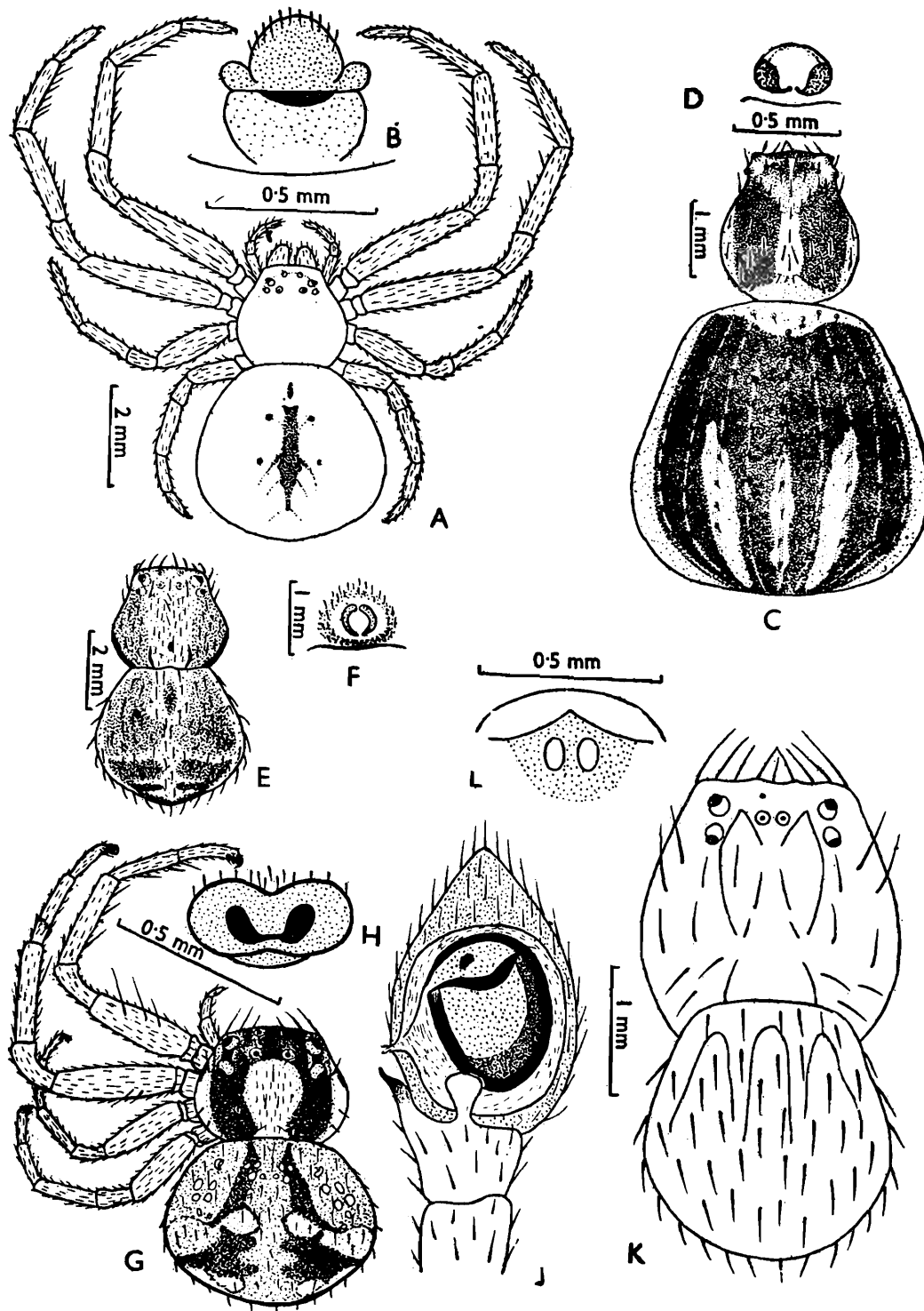
General : Cephalothorax and abdomen yellowish-brown, legs pale brown. Total length 3.00 mm. Carapace 1.30 mm. long, 1.50 mm. wide; abdomen 2.00 mm. long, 2.30 mm. wide.

Cephalothorax : Convex, slightly wider than long, clothed with fine pubescence and a few spines; cephalic region slightly high. Posterior row of eyes slightly recurved and almost equal and equidistant, anterior row more recurved than posterior row, lateral eyes situated on the elevated confluent white tubercles; anterior lateral eyes larger than others, the median ocular area a little narrower in front than behind. Clypeus high. Legs I and II much longer than III and IV, armed with three front and two dorsal spines on the I femur; on tibiae I with three pairs and metatarsi with four pairs of ventral spines; clothed with fine hairs. Sternum heart-shaped, slightly pointed behind.

Abdomen : Round, broadest just behind the middle, dorsally with two longitudinal rows of 6-10 black spots, antero lateral areas with irregular chalk-white patches. Ventral side yellowish but the surrounding area of spinners with very dark brown patch. Male palp text-fig. 12, B.

Type-locality : Kench's Trace, Shillong, Assam, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Shillong, Assam, India.



TEXT-FIG. 13

- A-B. *Misumena mridulai* Tikader
 A—Dorsal view of female. B—Epigyne.
- C-D. *Diaea jaintious* Tikader
 C—Dorsal view of female, legs omitted. D—Epigyne.
- E-F. *Xysticus shyamrupus* Tikader
 E—Dorsal view of female, legs omitted. F—Epigyne.
- G-J. *Xysticus kamakhyai* Tikader
 G—Dorsal view of female. H—Epigyne. J—Male palp.
- K-L. *Xysticus hindusthanicus* Basu
 K—Dorsal view of female, legs omitted. L—Epigyne.

34. *Misumena mridulai* Tikader

(Text-fig. 13, A-B)

1962. *Misumena mridulai* Tikader, *J. Linn. Soc.*, London, **44**(300), p. 573.

General : Cephalothorax, legs and abdomen yellowish. Total length 6.10 mm. Carapace 2.40 mm. long, 2.40 mm. wide; abdomen 3.90 mm. long, 4.00 mm. wide.

Cephalothorax : Convex, as long as wide, cephalic region slightly high. Eyes of the posterior row slightly recurved and almost equidistant. The anterior row more recurved than the posterior row, lateral eyes situated on the elevated confluent white tubercles; antero laterals larger than others. The median ocular area a little narrower in front than behind. Clypeus high. Legs I and II much longer than III and IV, armed ventrally on tibia I with five pairs and metatarsi with six pairs of robust spines, legs clothed with fine hairs. Sternum heart-shaped, slightly pointed behind, clothed with fine hairs.

Abdomen : Rounded, slightly overlapping the posterior region of the cephalothorax in front, broadest just behind the middle; an incomplete light brown line mid-dorsally and five small sigilla-like depressions on posteriorly diverging line on either side of the mid-dorsum. Epigyne text-fig. 13, B.

Type-locality : Kench's Trace, Shillong Assam, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Shillong, Assam, India.

35. *Misumena silveryi* Tikader

(Text-fig. 12, F-G)

1965. *Misumena silveryi* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **61**(5), p. 282.

General : Cephalothorax and legs light brownish-green, abdomen silvery white. Total length 5.20 mm. Carapace 2.00 mm. long, 2.00 mm. wide; abdomen 3.40 mm. long, 4.00 mm. wide.

Cephalothorax : Convex, as long as wide, clothed with fine pubescence; cephalic region slightly high. Eyes round, black, both rows recurved but anterior row more recurved than posterior row. Lateral eyes provided with prominent tubercles, anterior lateral row of eyes longer than others, the median ocular area a little narrower in front than behind. Clypeus high. Legs I and II much longer than III and IV, tibiae I with three pairs and metatarsi with six pairs of ventral spines; clothed with fine hairs. Sternum heart-shaped, pointed behind.

Abdomen : Rounded, broadest just behind the middle, dorsally with five sigilla-like depressions arranged V-shaped. Ventral side less silvery than dorsal side. Epigyne text-fig. 12, G.

Type-locality : Poona University Compound, Poona, Maharashtra, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, India.

36. *Misumena annapurna* Tikader

(Text-fig. 12, K-L)

1963. *Misumena annapurna* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **58**(5), p. 256.

General : Cephalothorax and legs yellowish-brown, abdomen chalk-white. Total length 5.10 mm. Carapace 1.90 mm. long, 1.90 mm. wide; abdomen 3.20 mm. long, 3.60 mm. wide.

Cephalothorax : Convex, as long as wide, the cephalic region slightly elevated and with a whitish, longitudinal, middle band; clothed with a few spines. Clypeus median in height, its margin provided with seven strong spines directed forward but the middle one directed upward. Eyes round and black, ocular area chalk-white, the posterior row slightly more recurved than the anterior row; lateral eyes situated on elevated, confluent, white tubercles; anterior laterals larger than the others. The median ocular area a little narrower in front than behind. Legs I and II much longer than III and IV, armed ventrally on tibiae I with four pairs and on metatarsi with six pairs of robust spines; legs clothed with fine hairs.

Abdomen : Round, broadest just behind the middle; two small sigilla on the dorsum. Ventral side uniform pale colour. Epigyne text-fig. 12, L.

Type-locality : Kotigehara, Dist. Chikmagalur, Mysore, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Chikmagalur, Mysore, Poona, Maharashtra, India.

37. *Misumena greenae* Tikader (Text-fig. 12, M-P)

1965. *Misumena greenae* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **61**(5), p. 281.

General : Cephalothorax and legs light brown, abdomen greenish-pale. Total length 4.00 mm. Carapace 1.50 mm. long, 1.50 mm. wide; abdomen 2.60 mm. long, 2.50 mm. wide.

Cephalothorax : Convex, as long as wide, cephalic region slightly high, clothed with a few spines. Eyes black with tubercles, both rows recurved, posterior row longer and eyes almost equidistant but median eyes smaller than others; anterior lateral eyes larger than others, the median ocular area a little narrower in front than behind. Clypeus moderate, margin provided with seven spiny hairs. Legs I and II much longer than III and IV, tibiae I and II armed ventrally with four pairs of spines and metatarsi three pairs of ventral spines.

Abdomen : Rounded, broadest just behind the middle, dorsally with deep greenish patch, encircled by dirty white patches on the margin of abdomen; behind the middle on the dorsal side provided with two longitudinal rows of black spots and these rows join posteriorly at the end of abdomen. Ventral side uniform pale colour. Epigyne text-fig. 12, N. Male smaller than female, legs long and cylindrical, tibiae and metatarsi of I and II with conspicuous deep brown colour. Male palp text-fig. 12, P.

Type-locality : National Chemical Laboratory Compound, Poona, Maharashtra, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, India.

Genus VI. *Diaea* Thorell

- 1869. *Diaea* Thorell, *Eur. Spid. Etc.*, p. 184.
- 1875. *Diaea* : Simon, *Ar. Fr.*, **2**, p. 260.
- 1895. *Diaea* : Simon, *Hist. Nat. Araigeen*, **1**, p. 1035.
- 1935. *Diaea* : Dyal, *Bull. Zool. Punjab Univ.*, **1**, p. 199.
- 1961. *Diaea* : Locket and Millidge, *British Spiders*, London, **1**, p. 172.
- 1966. *Diaea* : Tikader, *Proc. Indian Acad. Sci.*, **64**(1), p. 59.

Characters : Cephalothorax armed with a number of long spines. Eyes black, medians form a rectangle slightly longer than wide; laterals on separate shallow tubercles. Abdomen oval, slightly broadened behind, clothed with long hairs. Legs armed with numerous long spines; legs I and II much longer than III and IV, exceptionally so in the male.

Type-Species : *Diaea dorsata* (Fabricius).

Distribution : Europe, Africa, Asia and America.

38. *Diaea jointious* Tikader

(Text-fig. 13, C-D)

1966. *Diaea jointious* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **64**(1), p. 59.

General : Cephalothorax and abdomen light to deep brown, legs light green. Total length 6.00 mm. Carapace 2.00 mm. long, 1.80 mm. wide; abdomen 4.00 mm. long, 4.80 mm. wide.

Cephalothorax : Longer than wide, convex, narrowing in front, clothed with spines, lateral two sides provided with conspicuous longitudinal deep brown patches extending from base of lateral eyes to near the base of thorax; mid-dorsally with a longitudinal white broad patch extending from ocular area to base of thorax. Eyes black, lateral eyes situated on the shallow tubercles; ocular quad wider than long and narrowing in front. Clypeus moderate, margin provided with seven spines directed forward but middle one directed upward. Sternum heart-shaped, clothed with hairs. Legs I and II conspicuously long, clothed with hairs and spines; II pair of legs darker in colour than I pair; metatarsi of I and II pairs of legs provided with six pairs of ventral spines; II and IV pairs of legs comparatively very short and without ventral spine.

Abdomen : Oval, prominently dilated behind, clothed with spiny hairs, some spines arranged longitudinally on the dorsum and base of each hair with a white dot. Dorsal side almost deep brown in colour but lateral sides and posterior half provided with some whitish longitudinal patches. Ventral side uniform pale colour. Epigyne text-fig. 13, D.

Type-locality : Risha colony, Shillong, Assam, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Shillong, Cherapunjee, Assam, India.

Genus VII. *Xysticus* Koch.

1835. *Xysticus* Koch, *H. Schaeff. Deutschl. Ins.*, p. 35.

1892. *Xysticus* : Simon, *Hist. Nat. Araignees*, **1**, p. 1035.

1940. *Xysticus* : Comstock, *The Spider Book*, New York, p. 545.

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

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

1962. *Xysticus* : Tikader, *J. Linn. Soc.*, London, **44**(300), p. 576.

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, medians smaller than laterals; the anterior medians usually a little further 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

a dentate band on its dorsal surface. These spiders live under stones and leaves or under loose bark; a few live on low plants and bushes.

Type-Species : *Xysticus cristatus* Clerck.

Distribution : Europe, Africa, Asia and America.

KEY TO SPECIES OF THE GENUS *Xysticus* Koch

1. Cephalothorax with dark brown patches	2
Cephalothorax without dark brown patches	12
2. Cephalothorax with a broad U-shaped dark brown patch	<i>X. kamakhyai</i>
Cephalothorax without U-shaped patch	3
3. Allatum with longitudinal broad dark brown patch	4
Allatum without longitudinal dark brown patches	<i>X. hindusthanicus</i>
4. Abdomen with deep brown patches	5
Abdomen without deep brown patch	<i>X. roonwali</i>
5. Abdomen with longitudinal deep brown or black patches	6
Abdomen with transverse deep brown or black patches	9
6. Abdomen laterally with complete broad longitudinal black or deep brown lines	7
Abdomen laterally with incomplete broad longitudinal deep brown patches .	<i>X. shyamrupus</i>
7. Female abdomen laterally with black or deep brown bars extending base to end .	8
Male abdomen laterally with deep brown broad bars extending base to end	<i>X. sikkimus</i>
8. Abdomen with two black spots dorsally	<i>X. kashidi</i>
Abdomen with laterally two conspicuous black line extending from base to end	<i>X. mandali</i>
9. Abdomen with a single transverse complete deep brown line	<i>X. minutus</i>
Abdomen with more than one transverse line	10
10. Abdomen with complete transverse white or pale lines .	<i>X. sujatai</i>
Abdomen with incomplete transverse white or pale lines	11
11. Abdomen mid-ventrally with longitudinal broad brownish-red band	<i>X. pynurus</i>
Abdomen mid-ventrally with two longitudinal brown lines extending from base to spinners	<i>X. jayantius</i>
12. Abdomen with two conspicuous black spots nearly on the anterior lateral margin and one-third of the posterior portion black	<i>X. shillongensis</i>

39. *Xysticus kamakhyai* Tikader

(Text-fig. 13, G-J)

1962. *Xysticus kamakhyai* Tikader, *J. Linn. Soc.*, London, **33**(300), p. 575.

General : Cephalothorax dirty yellowish, legs brownish-yellow, abdomen dirty yellowish-brown. Total length 2.40 mm. Carapace 1.10 mm. long, 1.30 mm. wide; abdomen 1.50 mm. long, 1.90 mm. wide.

Cephalothorax : Wider than long, spined, a U-shaped broad, dark brown patch, with base of the U in the ocular area and the limbs directed backward and sublaterally on the cephalothorax. Clypeus high, and broad, margin provided with six strong spines directed forward. Eyes round, black, ringed with whitish-brown tubercles; both rows recurved but posterior row longer, lateral eyes large but anterior medians smaller than the space of posterior medians. Sternum oval, pointed behind, moderately and densely clothed with fine hairs. Legs strong and spined; legs I and II longer than

others, on the front side of I femur with three conspicuous strong spines; tibiae with two pairs of ventral spines and metatarsi with three pairs of ventral spines.

Abdomen : Ovate, wider than long, clothed with spines, dorsal side with two longitudinal deep brown irregular broad patches interrupted by a transverse pale yellowish line on the middle. Ventral side pale brown. Epigyne text-fig. 13, H.

Type-locality : Kench's Trace, Shillong, Assam. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Shillong, Assam, India.

40. *Xysticus hindusthanicus* Basu

(Text-fig. 13, K-L)

1963. *Xysticus hindusthanicus* Basu, *J. Asiat. Soc., Bengal*, 5(1-2), p. 23.

General : Cephalothorax brown, legs black, abdomen brownish. Total length 3.80 mm. Carapace 2.00 mm. long, 1.90 mm. wide; abdomen 1.90 mm. long, 1.90 mm. wide.

Cephalothorax : As long as wide, spined; three light brown areas along the posterior median eyes extending well below the thorax; the mid-region of the cephalic base reddish. Clypeus median with eight strong spines all directed forward. Eyes rounded, ringed with whitish tubercles. Ocular quad as long as wide, lateral eyes large; posterior median eyes larger than the anterior median eyes. Legs black excepting the metatarsi and tarsi, hairy and spined. Tibiae I and II with three ventral spines; metatarsi I and II with five dorsal spines.

Abdomen : Nearly as long as wide, spined, projecting over the base of the cephalothorax in front, oval, dorsum deep brown in colour excepting the anterior part which is white. Epigyne text-fig. 13, L.

Type-locality : Modern colony, Dum Dum, near Calcutta, West Bengal, female holotype in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Dum Dum, district 24-Parganas, West Bengal, India.

41. *Xysticus roonwali* Tikader

(Text-fig. 14, A-C)

1961. *Xysticus roonwali* Tikader, *Rec. Indian Mus., New Delhi*, 59(3), p. 264.

General : Cephalothorax, legs pale brown, 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 margins with longitudinal dark brown broad patches. Clypeus moderate, margin with nine strong spines directed forward. Eyes round, black, ringed with dirty white tubercles; ocular quad slightly 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 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 epigyne text-fig. 14, B, C.

Type-locality : Base camp on way to Mt. Everest ca 5,151m. high in Nepal. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Nepal and Sikkim, India.

42. *Xysticus shyamrupus* Tikader

(Text-fig. 13, E-F)

1966. *Xysticus shyamrupus* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **64**(1), p. 57.

General : Cephalothorax, legs and abdomen light brown to deep brown. Total length 6.00 mm. Carapace 3.00 mm. long, 3.40 mm. wide; abdomen 3.80 mm. long, 3.40 mm. wide.

Cephalothorax : Slightly wider than long, convex, cephalic region slightly high and broad, clothed with conspicuous long and stout spines, lateral two sides provided with longitudinal broad deep-brown patches, mid-dorsally provided with wide longitudinal light patch extending from ocular area to base of thorax. Eyes black, lateral eyes large and provided with conspicuous high tubercles. Ocular quad almost square or slightly wider than long. Clypeus high, margin provided with nine robust spines directed forward but middle one directed upward. Sternum heart-shaped, pointed behind, clothed with hairs and pigmented brown dots. Legs I and II robust and longer than III and IV, clothed with three pairs of robust ventral spines and metatarsi with four or five pairs of ventral spines.

Abdomen : Oval, slightly wider than long, clothed with conspicuous spines, maximum width behind the middle. Dorsally ornamented with brown and dirty white patches. Ventral side uniform light colour, clothed with hairs. Epigyne text-fig. 13, F.

Type-locality : Mawphlong, Shillong, Assam, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Shillong, Assam, India.

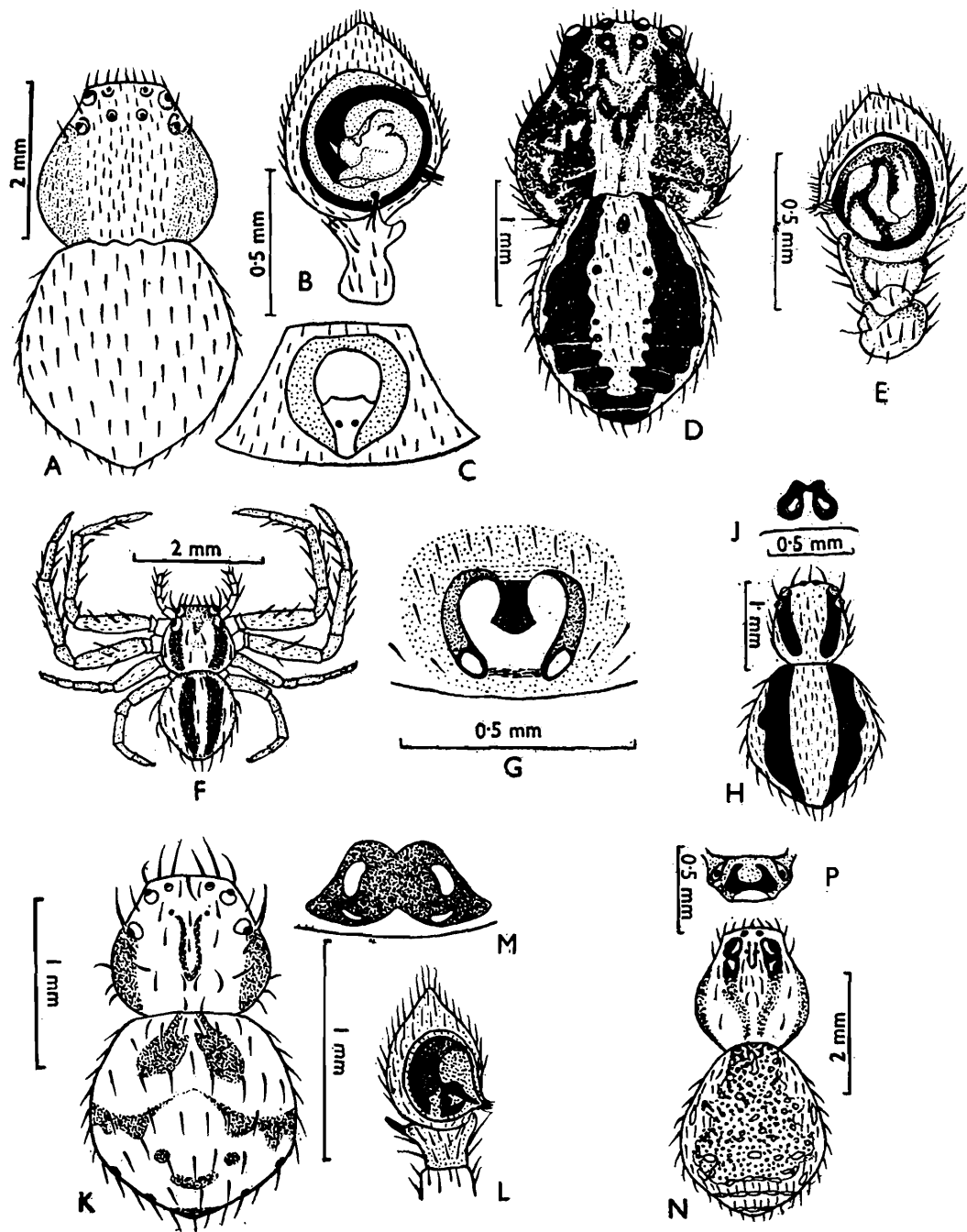
43. *Xysticus sikkimus* Tikader

(Text-fig. 14, D-E)

1970. *Xysticus sikkimus* Tikader, *Rec. zool. Surv. India*, Calcutta, **64**, p. 51.

General : Cephalothorax, legs and abdomen dark-brown. Total length 3.10 mm. Carapace 1.60 mm. long, 1.70 mm. wide; abdomen 1.80 mm. long, 1.50 mm. wide.

Cephalothorax : Nearly as long as wide, densely and conspicuously spined; middle of cephalothorax provided with a broad longitudinal light patch from ocular area to base of thorax. Eyes round, black lateral eyes large and ringed with contiguous brown tubercles, ocular quad wider than long, medians almost equal in size. Sternum broadly oval, slightly pointed behind, dark colour. Legs strong and spined; I and II longer than III and IV, from base to patella of I and II with deep brown and remaining portion of legs pale in colour. Tibiae and metatarsi of I and II with three and four pairs of ventral spines respectively.



TEXT-FIG. 14

- A-C. *Xysticus roonwali* Tikader
 A—Dorsal view of female, legs omitted. B—Male palp. C—Epigyne.
- D-E. *Xysticus sikkimus* Tikader
 D—Dorsal view of male, legs omitted. E—Male palp.
- F-G. *Xysticus kashidi* Tikader
 F—Dorsal view of female. G—Epigyne.
- H-J. *Xysticus mandali* Tikader
 H—Dorsal view of female, legs omitted. J—Epigyne.
- K-M. *Xysticus minutus* Tikader
 K—Dorsal view of female, legs omitted. L—Male palp. M—Epigyne.
- N-P. *Xysticus pynurus* Tikader
 N—Dorsal view of female, legs omitted. P—Epigyne.

Abdomen : Shortly ovate, wider behind, clothed with numerous spines, mid-dorsally with a longitudinal broad light patch, extending from base to end of abdomen. Ventral side deep-brown or black. Male palp text-fig. 14, E.

Type-locality : Satmaila, (near Gangtok) East Sikkim, India. *Holotype* : male, deposited in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Sikkim, India.

44. *Xysticus kashidi* Tikader

(Text-fig. 14, F-G)

1963. *Xysticus kashidi* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **58**(5), p. 261.

General : Cephalothorax and legs pale green, abdomen greenish-white. Total length 2.30 mm. Carapace 1.10 mm. long, 1.20 mm. wide; abdomen 1.30 mm. long, 1.20 mm. wide.

Cephalothorax : Broadest behind, slightly narrower in front, maximum width slightly more than length, covered with fine hairs and a few spines, with two broad, longitudinal, deep brown patches extending from base of lateral eyes to base of cephalothorax; middle and cephalic region provided with irregular brown small dots. Clypeus moderate. Eyes black, round, ringed with white tubercles, ocular quad slightly wider than long, space of the anterior median eyes a little smaller than the posterior; lateral eyes larger. Legs spined, with irregular brown dots; I and II longer than others; tibiae and metatarsi I and II with three pairs of ventral spines.

Abdomen : Oval, slightly overlapping the cephalothorax in front, clothed with hairs and spines, on the middle of dorsum one pair of brown spots, and irregular brown small dots almost all over abdomen. Epigyne text-fig. 14, G.

Type-locality : Kotigehara, Dist. Chikmagalur, Mysore, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Chikmagalur, Mysore, India.

45. *Xysticus mandali* Tikader

(Text-fig. 14, H-J)

1966. *Xysticus mandali* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **64**(1), p. 58.

General : Cephalothorax, legs and abdomen light green. Total length 2.80 mm. Carapace 1.00 mm. long, 0.90 mm. wide; abdomen 1.80 mm. long, 1.60 mm. wide.

Cephalothorax : Nearly as long as wide, spined, the sides provided with broad longitudinal conspicuous black bands, extending from the base of lateral eyes to near the base of thorax. Clypeus high, margin with five spines, directed forward but the median directed upward. Eyes round, black, ringed with dirty white tubercles; ocular quad slightly wider than long, space of the anterior median eyes a little smaller than that of posterior. Posterior median eyes smaller than the anterior medians; lateral eyes large but anterior laterals largest. Legs I and II pair long and stout, spined, tibiae I and II with two pairs of ventral spines.

Abdomen : Almost oval, dorsum provided with spines and hairs, slightly overlapping the posterior region of cephalothorax, dorsal side provided with two conspicuous black broad longitudinal bands extending from base to end of the abdomen but in some specimens these bands not continuous. Abdomen broadest just behind the middle.

Lateral sides provided with a black spot. Ventral side uniform light green. Epigyne text-fig. 14, J.

Type-locality : Risha colony, Shillong, Assam, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Shillong, Mawphlong, Assam, India.

46. *Xysticus minutus* Tikader

(Text-fig. 14, K-M)

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

General : Cephalothorax light brown, legs greenish, abdomen light brown. Total length 2.20 mm. Carapace 1.00 mm. long, 1.00 mm. wide; abdomen 1.30 mm. long, 1.20 mm. wide.

Cephalothorax : As long as wide, spined, the sides with broad longitudinal dark brown patches, a pair of long pale brown irregular lines from the base of posterior median eyes, extending to the middle of the thorax. Clypeus median, margin with seven strong spines, directed forward but the median directed upward. Eyes black, round, ringed with dirty-white tubercles; ocular quad slightly wider than long, space of the anterior median eyes a little wider than that of posterior; lateral eyes larger; posterior median eyes smaller than anterior median. Legs spined, with brown transverse bands, tibiae I and II with two pairs of ventral spines. The apex of tibiae I and II with broad dark brown patches.

Abdomen : Oval, dorsum spined, slightly overlapping the posterior region of cephalothorax, dorsal surface with dentate bands beautifully coloured with admixture white, dark brown and red. Epigyne text-fig. 14, M. Male palp text-fig. 14, L.

Type-locality : Dhakuria, Calcutta, West Bengal, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : West Bengal, Poona, Shillong, Gujarat, India.

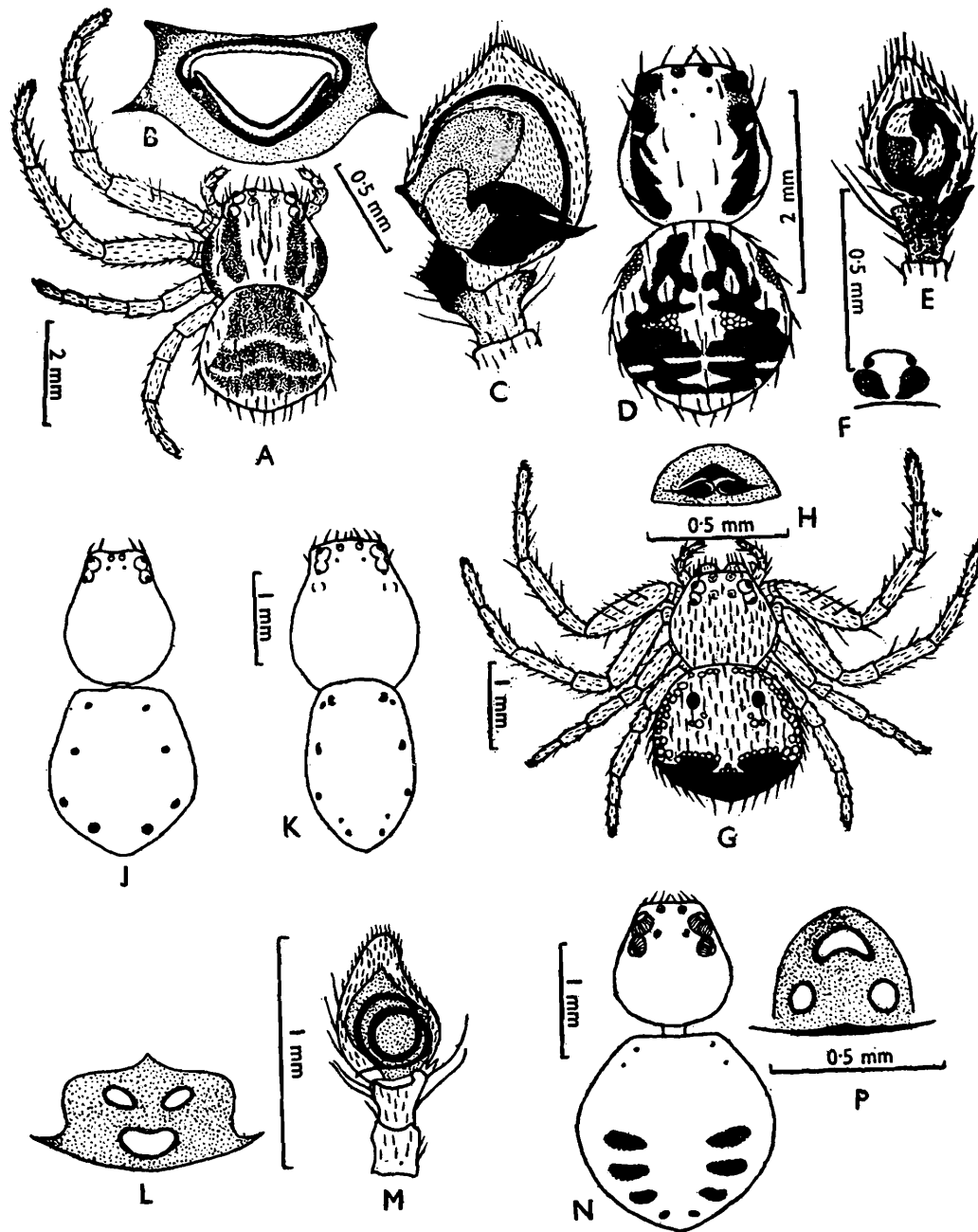
47. *Xysticus sujatai* Tikader

(Text-fig. 15, A-C)

1962. *Xysticus sujatai* Tikader, *J. Linn. Soc.*, London, 44(300), p. 577.

General : Cephalothorax and legs dirty white, abdomen brown or greyish-white. Total length 4.20 mm. Carapace 2.20 mm. long, 2.20 mm. wide; abdomen 2.50 mm. long, 2.50 mm. wide.

Cephalothorax : As long as wide, densely and conspicuously spined, the lateral margin with dark brown and two longitudinal broad dark brown bands, extending from both the lateral eyes to nearly the base of cephalothorax. Clypeus high, margin of clypeus with seven long strong spines directed forward but the middle one directed upward. Eyes round, lateral eyes large and nearly contiguous, ringed with dirty white tubercles, ocular quad wider than long, medians almost equal in size. Sternum broadly oval, slightly pointed behind with thick spiny hairs. Legs strong and spined with irregular deep brown or black dots, and these dots more conspicuous on the III and IV legs. Tibiae I with three pairs of ventral spines. Two longitudinal brown parallel lines extending from the base of patella and upto the end of tibia on the dorsal side of I and II legs.



TEXT-FIG. 15

- A-C. *Xysticus sujatai* Tikader
 A—Dorsal view of female, one side leg omitted. B—Epigyne. C—Male palp.
- D-F. *Xysticus jayantius* Tikader
 D—Dorsal view of female, legs omitted. E—Male palp. F—Epigyne.
- G-H. *Xysticus shillongensis* Tikader
 G—Dorsal view of female. H—Epigyne.
- J-M. *Synaema decorata* Tikader
 J—Dorsal view of female, legs omitted. K—Dorsal view of male, legs omitted. L—Epigyne.
 M—Male palp.
- N-P. *Synaema brunettii* Tikader
 N—Dorsal view of female, legs omitted. P—Epigyne.

Abdomen : Short ovate, wider behind, clothed with spines, dorsal side with paired transverse white lines, laterally and ventrally lighter than dorsally. Adult male black, I and II legs deep black upto the end of patella. Epigyne text-fig. 15, B. Male palp text-fig. 15, C.

Type-locality : Kench's Trace, Shillong, Assam, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Shillong, Assam, Kameng, NEFA, India.

48. *Xysticus pynurus* Tikader

(Text-fig. 14, N-P)

1966. *Xysticus pynurus* Tikader, *J. Asiat. Soc. Bengal*, Calcutta, 8(4), p. 249.

General : Cephalothorax and legs brownish green, abdomen white. Total length 4.80 mm. Carapace 2.00 mm. long, 1.80 mm. wide; abdomen 2.80 mm. long, 2.50 mm. wide.

Cephalothorax : Slightly longer than wide, clothed with conspicuous spines, the lateral margins with dark brown and two conspicuous longitudinal broad dark brown bands, extending from lateral eyes to near the base of the cephalothorax. Clypeus high, margin of clypeus with seven spines directed forward but the middle one directed upward. Eyes round and black, lateral eyes large and ringed with dark brown tubercles, anterior medians slightly larger than posterior median eyes, ocular quad longer than wide; sternum heart-shaped, pointed behind, clothed with thick hairs. Legs strong and spined, provided with irregular deep brown or black dots, and these dots more conspicuous on the I and II legs. Tibiae and metatarsi of I provided with five pairs of ventral spines.

Abdomen : Nearly ovate, wider behind the middle, clothed with numerous spines. Dorsally with a broad brown patch, provided with conspicuous white dots. Ventral side less whitish than dorsal side and mid-ventrally provided with a longitudinal broad brownish-red band, extending from epigastric fold to near the base of spinners. Epigyne text-fig. 14, P.

Type-locality : Pynursla, Dist. Khasi and Jaintia Hills, Assam, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Khasi and Jaintia Hills, Assam, India.

49. *Xysticus jayantius* Tikader

(Text-fig. 15, D-F)

1966. *Xysticus jayantius* Tikader, *J. Asiat. Soc., Bengal*, 8(4), p. 250.

General : Cephalothorax and legs light brownish-green, abdomen brown. Total length 3.50 mm. Carapace 1.80 mm. long, 1.50 mm. wide; abdomen 2.00 mm. long, 1.90 mm. wide.

Cephalothorax : Slightly longer than wide, broad in front, clothed six conspicuous spines, two conspicuous lateral longitudinal broad dark brown bands, extending from lateral eyes to near the base of cephalothorax. Clypeus high, margin of clypeus with five spines directed forward but middle one directed upward. Eyes round and black, lateral eyes large and ringed with dark tubercles, anterior median larger than posterior median eyes, ocular quad slightly longer than wide. Sternum heart shaped, clothed with hairs. Legs strong and spined. Tibiae and metatarsi I and II legs provided with two pairs of ventral spines.

Abdomen : Nearly ovate, wide in the middle, clothed with spines. Dorsally provided with symmetrically longitudinal deep brown patches as in text-fig 15, D. Ventral side pale colour but two longitudinal brown mid-lines, extending from base of spinners to near the middle of abdomen. Epigyne text-fig. 15, F. Male nearly same colour like female, but abdomen slightly long and legs also longer than female. Male palp text-fig. 15, E.

Type-locality : Mawphlong, Dist. Khasi and Jaintia Hills, Assam, India. *Holotype* : female, in National Zoological Collections. Zoological Survey of India, Calcutta.

Distribution : Pynursala, Shillong, Assam, India.

50. *Xysticus shillongensis* Tikader

(Text-fig. 15, G-H)

1962. *Xysticus shillongensis* Tikader, *J. Linn. Soc.*, London, **44**(300), p. 572.

General : Cephalothorax, legs and abdomen yellowish-brown. Total length 2.80 mm. Carapace 1.20 mm. long, 1.20 mm. wide; abdomen 1.80 mm. long, 1.90 mm. wide.

Cephalothorax : As long as wide, clypeus high, marginally with five strong spines, directed forward. Eyes round, black, lateral eyes large and contiguous, ringed with white tubercles, ocular quad as long as wide; posterior medians slightly smaller than anterior medians; median ocular space slightly smaller in front than behind; anterior laterals largest. Sternum heart-shaped, pointed behind, clothed with fine hairs. Legs strong and spined, tibiae and metatarsi I with three pairs of ventral spines.

Abdomen : Broadly oval, wider behind, clothed with stiff hairs. Two conspicuous brownish-black spots nearly on the antero lateral margin; one-third of the posterior portion black. Ventral side uniform pale brown but margin encircled by a black line. Epigyne text-fig. 15, H.

Type-locality : Kench's Trace, Shillong, Assam, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Shillong, Assam, India.

Genus VIII. *Synaema* Simon

- 1864. *Synaema* Simon, *Hist. Nat. Ar.*, **1**, p. 70.
- 1892. *Xysticus* : Emerton, *Trans. Connect. Acad. Sci.*, **8**, p. 366.
- 1893. *Synaema* : Keyserling, *Verh. Zool. bot. Ges. Wien.*, **33**, p. 667.
- 1940. *Synaema* : Comstock, *Spider Book*, New York, p. 553.
- 1960. *Synaema* : Tikader, *J. Bombay nat. Hist. Soc.*, **57**(1), p. 174.
- 1962. *Synaema* : Tikader, *J. Linn. Soc.*, London, **44**(300), p. 578.

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 or six teeth, and the teeth extend beyond the middle of the claw; the cuticle smooth. Abdomen dorsoventrally compressed. These spiders are found on the folding of leaves of low plants and bushes.

Type-Species : *Synaema globosum* Fabr.

Distribution : Asia, America and Africa.

51. *Synaema decorata* Tikader

(Text-fig. 15, J-M)

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

General : Cephalothorax green, ocular tubercles chalk-white, eyes black, legs and abdomen green. Total length 3.40 mm. Carapace 1.40 mm. long, 1.40 mm. wide; abdomen 2.00 mm. long, 1.80 mm. wide.

Cephalothorax : As long as wide, eyes four pairs, lateral eyes larger, posterior median eyes smaller than the anterior medians, except the posterior median eyes all ringed with chalk-white, ocular tubercles contiguous; ocular quad slightly wider than long, space of anterior median eyes a little smaller than that of the posterior medians. Clypeus narrow, margin of clypeus bearing slender spines. Legs I and II pairs longer than the III and IV, tibiae of legs with four pairs of ventral spines, bases of spines black, the first pair of spines shortest.

Abdomen : More or less elliptical dorsoventrally flattened. Very slightly overlapping the cephalothorax, four pairs of circular black spots on the dorsum near the lateral margin, the posterior pair largest.

Type-locality : Dhakuria, Calcutta, West Bengal, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : West Bengal, Mysore, Maharashtra, India.

52. *Synaema brunettii* Tikader

(Text-fig. 15, N-P)

1962. *Synaema brunettii* Tikader, *J. Linn. Soc.*, London, **44**(300), p. 578.

General : Cephalothorax and legs greenish, abdomen light brown. Total length 2.80 mm. Carapace 1.10 mm. long, 1.10 mm. wide; abdomen 1.50 mm. long, 1.60 mm. wide.

Cephalothorax : As long as wide, cephalic region high, lateral margin encircled by a deep brown line. Eyes black, ringed with chalk-white tubercles, lateral tubercles contiguous. ocular quad slightly longer than wide, space of anterior median eyes a little smaller than that of the posterior medians; both rows strongly recurved. Clypeus high, vertical. Sternum heart-shaped, pointed behind, Legs not very strong, I and II pairs longer than III and IV, tibiae I and II with two pairs of ventral spines.

Abdomen : Oval, scattered chalk-white patches on the dorsum, four pairs of irregular shaped black patches on the posterior half of abdomen arranged in longitudinal rows, the anterior pair larger and posterior pair smaller, and the anterior half provided with black dots; lateral sides with deep brown patches; ventral surface uniform pale. Epigyne text-fig. 15, P.

Type-locality : Darjeeling, West Bengal, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Darjeeling, West Bengal, India.

Genus IX. *Bomis* Koch1873. *Bomis* Koch, *Ar. Auster.*, **10**, p. 528.1892. *Bomis* : Simon, *Hist. Nat. Aréig.*, **1**, p. 1005.1962. *Bomis* : Tikader, *J. Linn. Soc.*, London, **44**(300), p. 580.

Characters : Cephalothorax wider than long, convex, posteriorly subvertical. Eyes small, equal and equidistant, posterior slightly recurved, medians remote each other than the laterals, distinctly recurved, median ocular area large, slightly narrower in front. Clypeus flat, sloping abruptly from the ocular area. Sternum narrow, pointed behind, Labium broad at base, apically reduced. Legs short, stout, metatarsi very short. Abdomen broad, convex, truncated in front, posterior rounded and transversely furrowed.

Type-Species : *Bomis larvata* Koch.

Distribution : North Hollandia, India.

53. *Bomis bengalensis* Tikader (Text-fig. 16, A-B)

1962. *Bomis bengalensis* Tikader, *J. Linn. Soc.*, London, **44**(300), p. 580.

General : Cephalothorax and legs yellowish-brown, abdomen pale yellowish. Total length 3.10 mm. Carapace 1.20 mm. long, 1.60 mm. wide; abdomen 1.90 mm. long, 2.20 mm. wide.

Cephalothorax : Rectangular, wide behind, convex, clothed with uniform fine pubescence. Eyes round, black, ringed with white tubercles, both rows recurved but posterior row less recurved than anterior and longer; ocular quad wider than long, lateral eyes slightly larger and tubercles nearly contiguous. Posterior medians farther away from each other than from the laterals. Clypeus high and sloping downward. Legs stout, short, clothed with hairs or spiny-hairs; almost equal in length; claw tuft very prominent. Sternum heart-shaped, clothed with fine hairs.

Abdomen : Wider than long, nearly rectangular with white characteristic pattern of closely set minute acute tubercles on the dorsum, paired black circles sub-anteriorly on either side, the inner circle being larger and nearly in the middle; an irregular transverse black band on the posterior side. Ventral side pale yellow, margin encircled by two or three muscular elevated ridges with characteristic white tubercles. Epigyne text-fig. 16, B.

Type-locality : Habra, ca 48 kilometres north-east of Calcutta, West Bengal, India.
Holotype : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : West Bengal, India.

Genus X. *Monaeses* Thorell

1870. *Monaeses* Thorell, *Eur. Spiders etc.*, **1 & 2**, p. 182.

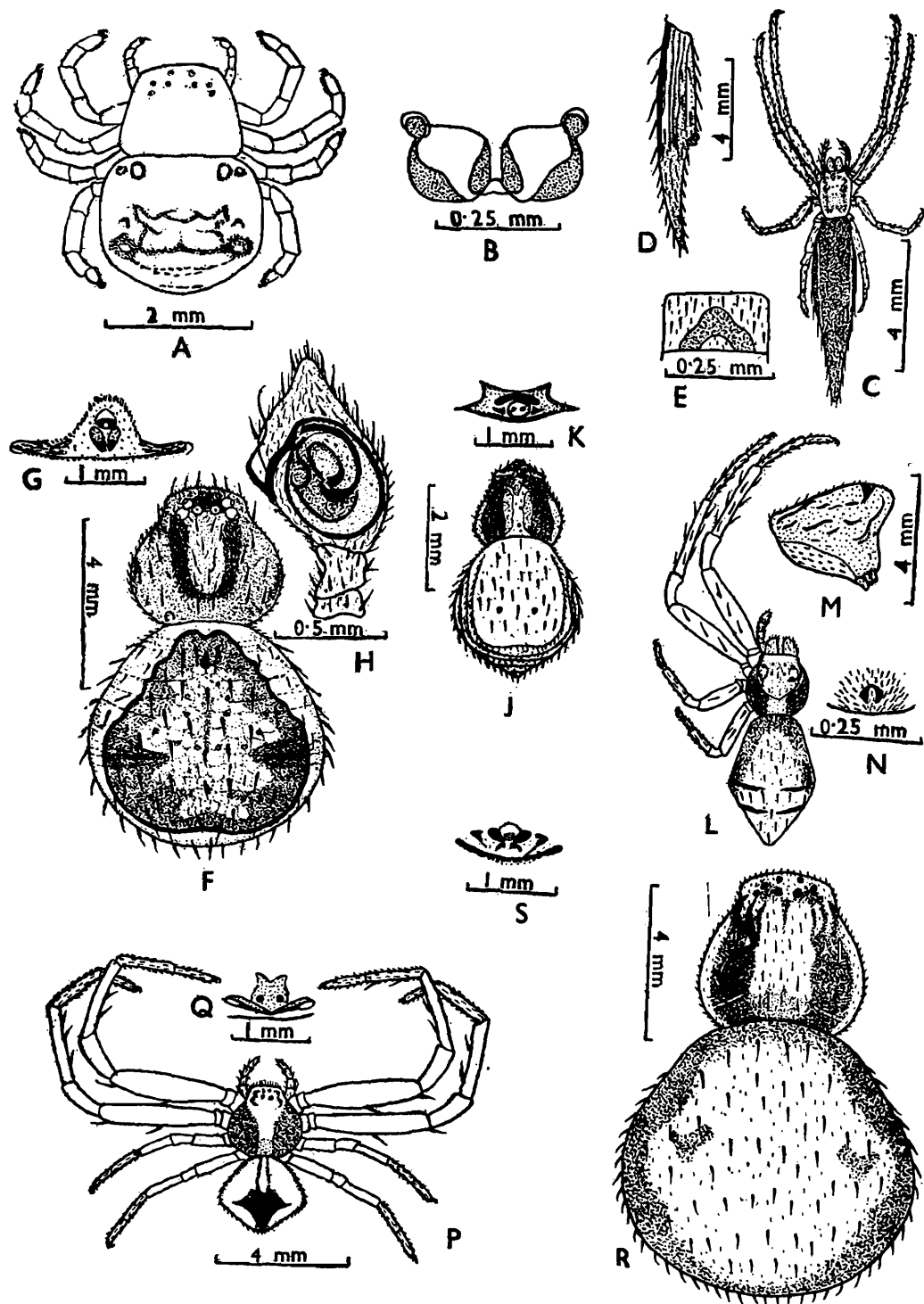
1895. *Monaeses* : Simon, *Hist. Nat. Argain.*, **1**, p. 995.

1963. *Monaeses* : Tikader, *Proc. Indian Acad. Soc.*, **58**(5), p. 249.

Characters : Cephalothorax longer than wide, slightly wider in front. Eyes black and round, both rows nearly straight or slightly recurved, lateral eyes with prominent tubercles. Legs I and II conspicuously long and strong. Abdomen very long and narrowing posteriorly, clothed with conspicuous spines.

Type-Species : *Monaeses paradoxus* Lucas.

Distribution : Asia, India, Japan, Burma, Hollandia and Africa.



TEXT-FIG. 16

- A-B. *Bomis bengalensis* Tikader
 A—Dorsal view of female. B—Epigyne.
- C-E. *Monaeses parvati* Tikader
 C—Dorsal view of female. D—Lateral view of abdomen of female. E—Epigyne.
- F-H. *Misumenops khandalaensis* Tikader
 F—Dorsal view of female, legs omitted. G—Epigyne. H—Male palp.
- J-K. *Misumenoides deccanes* Tikader
 J—Dorsal view of female, legs omitted. K—Epigyne.
- L-N. *Tmarus kotigeharus* Tikader
 L—Dorsal view of female, one side legs omitted. M—Lateral view of abdomen of female. N—Epigyne
- P-Q. *Misumenoides kripalaniae* Tikader
 P—Dorsal view of female. Q—Epigyne.
- R-S. *Misumenoides shulli* Tikader
 R—Dorsal view of female, legs omitted. S—Epigyne.

54. **Monaeses parvati** Tikader

(Text-fig. 16, C-E)

1963. *Monaeses parvati* Tikader, *Proc. Indian Acad. Sci.*, 58(5), p. 249.

General : Cephalothorax pale yellowish-olive green, legs green, abdomen olive-green. Total length 7.00 mm. Carapace 1.50 mm. long, 1.00 mm. wide; abdomen 5.50 mm. long, 1.40 mm. wide.

Cephalothorax : Very long, strongly convex and sparsely spined; clypeus long and rectangular. Eyes black, in two rows, lateral eyes larger and ringed with white tubercles; anterior row slightly procurved, the posterior slightly more recurved than the anterior; median ocular area narrower in front. Chelicerae long and directed forward, provided with thick, long spines. Legs long, especially I and II clothed with spiny hairs.

Abdomen : Very long and slender, pointed behind, slightly overlapping the posterior region of cephalothorax in front, clothed with long spines. In adult specimens each lateral side provided with five white, longitudinal, almost parallel lines extending from the anterior extremity to near the spinners. Abdomen produced well beyond the spinners. Epigyne text-fig. 16, E.

Type-locality : Parvati Hill, Poona, Maharashtra, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, Chandigarh, Punjab, India.

Genus XI. **Tmarus** Simon1875. *Tmarus* Simon, *Ar. Fr.*, 2, p. 259.1880. *Tmarus* : Keyserling, *Spin. Amer. Later.*, 1, p. 137.1940. *Tmarus* : Comstock, *Spider Book*, New York, p. 537.1963. *Tmarus* : Tikader, *Proc. Indian Acad. Sci.*, 58(5), p. 251.

Characters : The members of this genus are easily distinguished from other Crab-spiders occurring in our Indian fauna by the fact that the abdomen is elevated and pointed behind. The lateral eyes of each side are on two distinct tubercles, of which the posterior is the larger.

The spiders live on plants and can run with greater rapidity. Their colour is more or less protective when one of these spiders is at rest upon a twig, it clasps the twig closely with its legs, and the form of the body is such that the spider appears like a bud or a stump of a petiole.

Type-Species : *Tmarus piger* Walckenaer.

Distribution : Asia, America, Africa and Japan.

55. **Tmarus kotigeharus** Tikader

(Text-fig. 16, L-N)

1963. *Tmarus kotigeharus* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, 58(5), p. 250.

General : Cephalothorax yellowish-brown, legs pale green, abdomen brownish-grey. Total length 5.90 mm. Carapace 2.00 mm. long, 1.90 mm. wide; abdomen 4.00 mm. long, 2.60 mm. wide.

Cephalothorax : Longer than wide, cephalic region high, clothed with spines; clypeus moderately high, its margin with seven spines directed forward but the middle one directed upward; sides with broad longitudinal, dark brown patches. Eyes round, black, both rows recurved but posterior row longer than anterior, the lateral eyes larger than the others and ringed with brown tubercles; anterior median eyes smaller than posterior medians; the median ocular area narrower in front than behind. Legs I and II much longer than III and IV, clothed with hairs and spines; tibiae I and II with three pairs of ventral spines.

Abdomen : High and pointed behind, broadest behind the middle, clothed with spines, on the posterior half transversely crossed by two dark, incomplete bands. Epigyne text-fig. 16, N.

Type-locality : Kotigehara, Dist. Chikmagalur, Mysore, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Chikmagalur district, Mysore, Poona, Maharashtra, Pynursala, Dist. Khasi and Jayantia Hills, Assam, India.

Genus XII. *Misumenoides* Cambridge

1900. *Misumenoides* Cambridge, *Biol. Centr. Amer. Zool.*, **2**, p. 136.
 1939. *Misumenoides* : Gertsch, *Bull. Amer. Mus. Nat. Hist.*, **76**, p. 309.
 1940. *Misumenoides* : Comstock, *Spider Book*, New York, p. 540.
 1963. *Misumenoides* : Tikader, *Proc. Indian Acad. Sci.*, **58**(5), p. 258.
 1965. *Misumenoides* : Tikader, *Proc. Indian Acad. Sci.*, **61**(5), p. 279.
 1965. *Misumenoides* : Schick, *Bull. Amer. Mus. Nat. Hist.*, **129**(1), p. 105.

Characters : Cephalothorax relatively flatter, clypeus vertical, with a white anterior carina curving to allatum; lateral eyes situated on a common and strongly projecting processes. Tibiae I and II without prolateral spiniforms and without a proventro-apical spiniform; tarsi I and II without prolateral spiniforms. Abdomen oval, wider behind the middle.

Type-Species : *Misumenoides magna* (Keyserling)

Distribution : America and Asia.

KEY TO SPECIES OF THE GENUS *Misumenoides* Cambridge

- | | | | |
|--|---|---|-----------------------|
| 1. Abdomen rectangular | . | . | 2 |
| Abdomen rounded | . | . | 3 |
| 2. Abdomen with lens-shaped transverse black band | . | . | <i>M. kripalaniae</i> |
| 3. Lateral sides of abdomen with muscular corrugations | . | . | <i>M. deccanes</i> |
| Lateral sides of abdomen without muscular corrugations | . | . | 4 |
| 4. Abdomen round and broadest just below the middle | . | . | <i>M. shullii</i> |

56. *Misumenoides kripalaniae* Tikader

(Text-fig. 16, P-Q)

1963. *Misumenoides kripalaniae* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **58**(5), p. 258.

General : Cephalothorax and abdomen light brown to deep brown, legs light brown. Total length 4.30 mm. Carapace 2.10 mm. long, 2.10 mm. wide; abdomen 2.20 mm. long, 2.50 mm. wide.

Cephalothorax : Depressed posteriorly cephalic region high, as long as wide, clothed with hairs; a broad, whitish, median longitudinal band from the ocular area of the middle of cephalothorax. Clypeus narrow, the margin provided with long spine-like hairs directed forward. Eyes round and black, both rows recurved; all eyes forming a more or less crescent-shaped group, the anterior row shorter than posterior row; the posterior medians nearer to each other than to the laterals. Sternum heart-shaped, pointed behind, clothed with hairs and a few spines. Legs relatively long, II slightly longer than I, clothed with fine hairs and a few spines; tibiae I and II with three pairs and metatarsi with two pairs of ventral spines.

Abdomen : Rectangular, broadest nearer the middle; a lens-shaped, transverse black band on the middle at the broadest region; posterior end somewhat angular. Epigyne text-fig. 16, Q.

Type-locality : Kotigehara, District Chikmagalur, Mysore, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Chikmagalur district, Mysore, India.

57. *Misumenoides deccanes* Tikader

(Text-fig. 16, J-K)

1965. *Misumenoides deccanes* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **61**(5), p. 279.

General : Cephalothorax light brown, abdomen dirty white, legs light green to pale. Total length 4.10 mm. Carapace 1.50 mm. long, 1.70 mm. wide; abdomen 2.70 mm. long, 2.30 mm. wide.

Cephalothorax : Slightly wider than long, convex, allatum with broad longitudinal deep brown patches. Clypeus moderate, margin provided with seven spines directed forward but middle one directed upward. Eyes black, ringed with tubercles; anterior row strongly recurved, posterior row slightly recurved; tubercles of lateral eyes contiguous, posterior medians smaller than others. A transverse band or ridge from left anterior lateral eye to right lateral eye. Sternum pale with hairs, heart-shaped, pointed behind. Legs I and II longer than others and metatarsi of I and II provided with seven pairs of ventral spines. A longitudinal deep brown line on the dorsal side of metatarsi of II leg.

Abdomen : Slightly longer than wide, clothed with spiny hairs and posterior half wider. Lateral sides provided with faint longitudinal muscular corrugations. Ventral side uniform pale colour. Epigyne text-fig. 16, K.

Type-locality : Poona University Compound, Poona, Maharashtra, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, India.

58. *Misumenoides shulli* Tikader

(Text-fig. 16, R-S)

1965. *Misumenoides shulli* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **61**(5), p. 280.

General : Cephalothorax brown, legs light green and abdomen white. Total length 9.60 mm. Carapace 3.60 mm. long, 3.80 mm. wide; abdomen 6.00 mm. long 6.70 mm. wide.

Cephalothorax : Nearly as long as wide, relatively flat, clothed with small hairs. Allatum with longitudinal deep brown patches. Eyes round, black, both rows recurved

but anterior row more recurved than posterior. Lateral eyes provided with prominent tubercles and the tubercles contiguous. Ocular area as long as wide. Legs long and stout, I and II longer than III and IV legs. Tibiae of I and II apically with four pairs and metatarsi with eight pairs of strong ventral spines.

Abdomen : Round, nearly as long as wide, broadest just behind the middle, clothed with similar small hairs as on cephalothorax. Ventral side uniform pale colour. Epigyne text-fig. 16, S.

Type-locality : Mussoorie, Uttar Pradesh, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Mussoorie, Uttar Pradesh, India.

Genus XIII. **Misumenops** Cambridge

1900. *Misumenops* Cambridge, *Biol. Centr. Amer. Zool.*, **2**, p. 141.

1939. *Misumenops* : Gertsch, *Bull. Amer. Mus. Nat. Hist.*, **76**, p. 318.

1940. *Misumenops* : Comstock, *Spider Book*, New York, p. 542.

1965. *Misumenops* : Schick, *Bull. Amer. Mus. Nat. Hist.*, **129**(1), p. 108.

1965. *Misumenops* : Tikader, *Proc. Indian Acad. Sci.*, **61**(5), p. 287.

Characters : This genus is closely allied to *Misumena* but differs in having large and prominent spines on the femora of the I and II legs, and the upper surface of tibiae of the same legs. The cephalothorax and abdomen are more spiny in *Misumena*. The tubercles of the lateral eyes are joined by a round ridge.

Type-Species : *Misumenops oblonga* (Keyserling).

Distribution : America, Asia and Africa.

59. **Misumenops khandalaensis** Tikader

(Text-fig. 16, F-H)

1965. *Misumenops khandalaensis* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **61**(5), p. 287.

General : Cephalothorax and legs light brownish-green; abdomen white. Total length 8.10 mm. Carapace 3.20 mm. long, 3.50 mm. wide; abdomen 5.90 mm. long, 6.20 mm. wide.

Cephalothorax : Nearly as long as wide, clothed with spines, convex, cephalic region slightly high. Eyes round, black, both rows recurved, ringed with tubercles but lateral eyes situated on prominent tubercles; ocular area with deep brown patches, and ocular quad as long as wide. Clypeus high, margin provided with seven spines directed forward. Sternum heart-shaped, pointed behind. Legs long and stout, I and II legs longer than III and IV. I and II legs clothed with prominent spines. Tibia of I with six pairs and metatarsi with seven pairs of ventral spines.

Abdomen : Round, slightly wider than long, clothed with long spines, and oval-shaped conspicuous brown patch on the dorsum and outer border of the patch provided with prominent black line. Ventral side uniform pale colour. Epigyne text-fig. 16, G. Male palp text-fig. 16, H.

Type-locality : Near Khandala Hotel, Khandala Ghat, Dist. Poona, Maharashtra, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Khandala Ghat, Poona, Maharashtra, India.

Genus XIV. **Pasias** Simon

1892. *Pasias* Simon, *Hist. Naturelle des Araig.*, Paris, 1, p. 984.

1963. *Pasias* : Tikader, *Proc. Indian Acad. Sci.*, Bangalore, 58(5), p. 253.

1965. *Pasias* : Tikader, *Proc. Indian Acad. Sci.*, Bangalore, 61(5), p. 286.

Characters : Cephalothorax wider than long, cephalic region slightly high. Eyes round and black, anterior row strongly recurved so that it looks like two distinct rows; lateral eyes situated on elevated, confluent tubercles; posterior row less recurved than anterior row; median ocular area much longer than wide and wider in front. Legs I and II longer than III and IV, clothed with hairs and long spines as in family Oxyopidae. Abdomen longer than wide.

Type-Species : *Pasias luzonus* Simon.

Distribution : Philippine and India.

60. **Pasias puspagiri** Tikader

(Text-fig. 17, AB)

1963. *Pasias puspagiri* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, 58(5), p. 253.

General : Cephalothorax yellowish-brown, abdomen and legs light green to white. Total length 3.90 mm. Carapace 1.40 mm. long, 1.80 mm. wide; abdomen 2.30 mm. long, 1.50 mm. wide.

Cephalothorax : Wider than long, clothed with fine hairs, cephalic region slightly higher than behind, clypeus high. Eyes round and black, anterior row strongly recurved so that it looks like two distinct rows; lateral eyes situated on elevated, confluent, bluish-white tubercles; posterior row less recurved than anterior row; median ocular area much longer than wide and wider in front; both lateral eyes larger and posterior medians smaller than anterior median. Legs I and II longer than III and IV, clothed with hairs and long spine; tibiae I with two pairs of ventral spines; tarsal scopulae not well developed but claw tufts prominent.

Abdomen : Long, cylindrical, narrowed behind and spined. One pair of oblong black spots on the middle dorsum, and posterior half provided with four incomplete, transverse, black bands. Epigyne text-fig. 17, B.

Type-locality : Sakalespur Dist. Hassan, Mysore, India. *Holotype* : female, in the National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : District Hassan, Mysore, India.

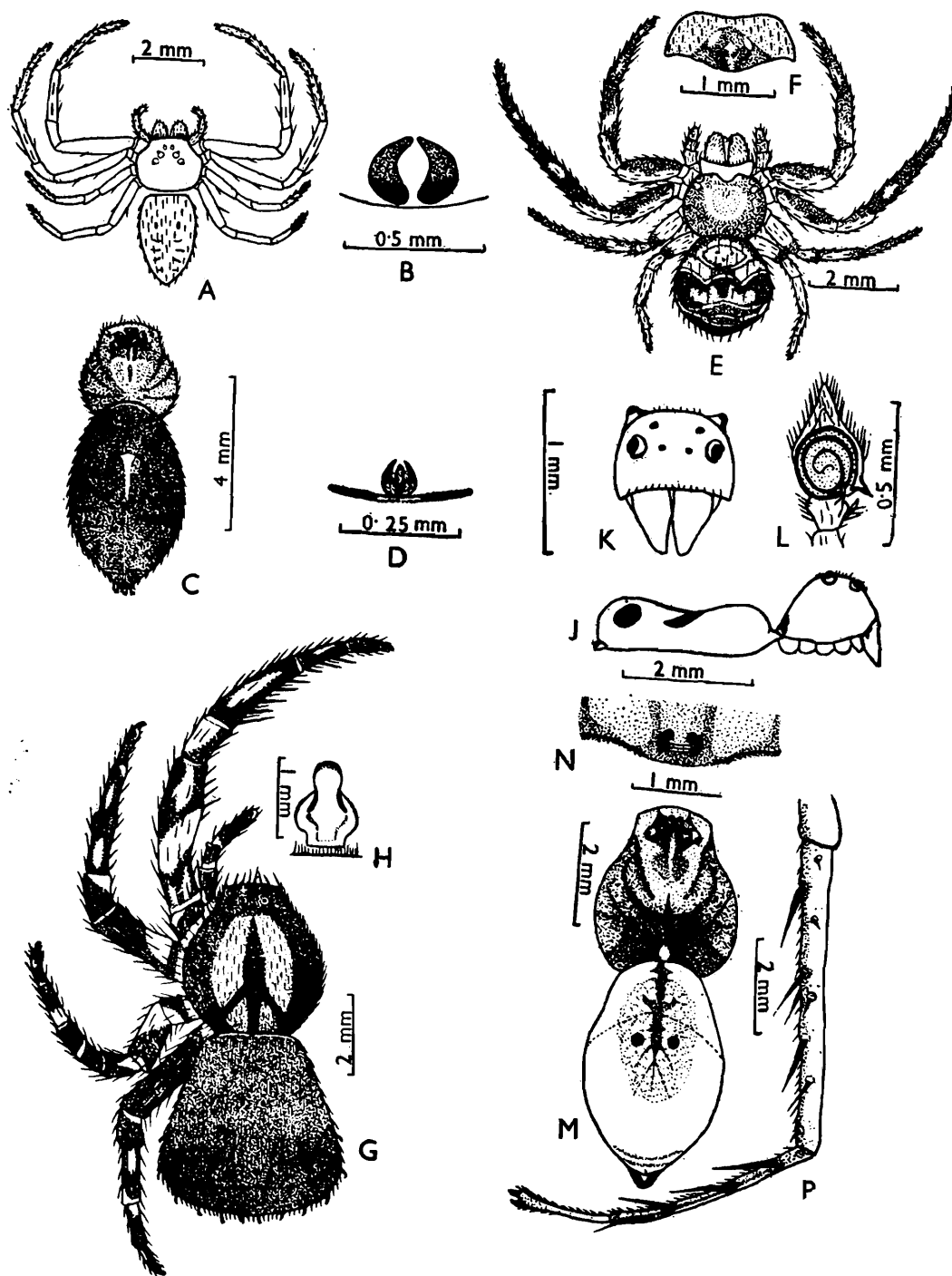
61. **Pasias marathas** Tikader

(Text-fig. 17, C-D)

1965. *Pasias marathas* Tikadar, *Proc. Indian Acad. Sci.*, Bangalore, 61(5), p. 286.

General : Cephalothorax and legs light brown, and abdomen white to dark colour. Total length 6.10 mm. Carapace 2.10 mm. long, 2.20 mm. wide; abdomen 4.30 mm. long, 2.70 mm. wide.

Cephalothorax : Slightly wider than long, clothed with fine hairs; cephalic region slightly higher than behind. Clypeus high, margin provided with five spines directed forward. Eyes round and black, both rows recurved but anterior row more recurved



TEXT-FIG. 17

- A-B. *Pasias puspagiri* Tikader
A—Dorsal view of female with legs. B—Epigyne.
- C-D. *Pasias marathas* Tikader
C—Dorsal view of female, legs omitted. D—Epigyne.
- E-F. *Strigoplus netravati* Tikader
E—Dorsal view of female, with legs. F—Epigyne.
- G-H. *Regillus elephantus* Tikader
G—Dorsal view of female, one side legs omitted. H—Epigyne.
- J-L. *Amyciaea forticeps* (Cambridge)
J—Lateral view of female, legs omitted. K—Frong view of female. L—Male palp.
- M-P. *Platythomisus bazarus* Tikader
M—Dorsal view of female, legs omitted. N—Epigyne. P—Distal end of 1st leg.

than posterior. Lateral eyes situated on elevated confluent tubercles; ocular area much longer than wide and slightly wider in front; both lateral eyes larger and posterior medians smaller than anterior median. Legs I and II longer than III and IV, clothed with hairs and long spines. Tibiae I with two pairs and metatarsi with five pairs of ventral spines; tarsal scopulae not well developed but claw tuft prominent.

Abdomen : Long, cylindrical, narrowed behind and spined. One pair round black spots on the middle of dorsum. Ventral side uniform pale colour. Epigyne text-fig. 17, D.

Type-locality : Poona University Compound, Poona, Maharashtra, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, India.

Genus XV **Strigoplus** Simon

1885. *Strigoplus* Simon, *Bull. Soc. Zool. Fr.*, **10**, p. 444.

1891. *Strigoplus* : Thorell, *K. Sv. V. Akad Handle.*, **21**(2), p. 88.

1895. *Strigoplus* : Simon, *Hist. Nat. Araign*, Paris, **1**, p. 967.

1963. *Strigoplus* : Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **58**(5), p. 252.

Characters : Cephalothorax slightly wider than long, clothed with hairs and spines. Clypeus broad and conspicuously projecting, the sides and middle of the margin concave and provided with one row of small clavate hairs. Eyes round black, both rows recurved, lateral eyes with prominent confluent tubercles. Legs I and II much longer than III and IV, clothed with hairs and spines. Abdomen oval, clothed with hairs and spines.

Type-Species : *Strigoplus albostriatus* Simon.

Distribution : Malayasia, Burma, Java and India.

62. **Strigoplus netravati** Tikader

(Text-fig. 17, E-F)

1963. *Strigoplus netravati* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **58**(5), p. 252.

General : Cephalothorax, legs and abdomen dark. Total length 3.10 mm. Carapace 1.40 mm. long, 1.50 mm. wide; abdomen 1.90 mm. long, 1.90 mm. wide.

Cephalothorax : Slightly wider than long, clothed with hairs and spines; cephalic region wider than behind. Clypeus broad and conspicuously projecting, the sides and middle of the margin concave and provided with one row of small clavate hairs. Eyes round and black, both rows recurved, lateral eyes ringed with dirty-white, confluent tubercles; anterior lateral eyes slightly larger than posterior laterals; medians of both rows nearly the same size; ocular area much wider than long; middle of ocular area provided with small clavate hairs; a broad, whitish, longitudinal patch from margin of clypeus to middle of cephalothorax. Legs I and II much longer than III and IV, but II longer than I, dorsal side of femur and base of tibiae I and II with conspicuous, chalk-white patches. Coxae, trochanters and femora of I and II with black on ventral side, clothed with hairs and spines; femora of III and IV pale white.

Abdomen : Oval, the dorsum spined, slightly overlapping the posterior region of cephalothorax; dorsal surface with transverse, dentate, white bands beautifully coloured with admixture of yellow, dark brown and blue. Ventral side black. Epigyne text-fig. 17, F.

Type-locality : Netravati near Dharmasthala, Dist. South Kanara, Mysore, India.

Holotype : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Chikmagalur district and South Kanara district, Mysore, India.

Genus XVI. **Regillus** Cambridge

1884. *Regillus* Cambridge, *Proc. zool. Soc.*, London, p. 203.

1895. *Regillus* : Simon, *Hist. Nat. Araig.*, Paris, 1, p. 1055.

1966. *Regillus* : Tikader, *Proc. Indian Acad. Sci.*, Bangalore, 64(1), p. 54.

Characters : Cephalothorax longer than wide and narrow in front. Eyes recurved, lateral eyes large and situated on the prominent tubercles. Ocular quad longer than wide. Legs robust with conspicuous spines, I legs very long and robust, anterior half of I femur very wide and inner side provided with four robust spines. Abdomen longer than wide and wider posteriorly, clothed with hairs and spines.

Type-Species : *Regillus asper* Cambridge.

Distribution : Africa, Malayasia and India.

63. **Regillus elephantus** Tikader

(Text-fig. 17, G-H)

1966. *Regillus elephantus* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, 64(1), p. 54.

General : Cephalothorax, legs, abdomen light to deep brown. Total length 8.20 mm. Carapace 4.00 mm. long, 3.30 mm. wide; abdomen 4.20 mm. long, 3.50 mm. wide.

Cephalothorax : Longer than wide nearly flat but cephalic region mid-dorsally provided with high longitudinal ridge and narrow in front. Eyes both rows recurved, lateral eyes large and situated on the prominent tubercles. Ocular quad longer than wide and slightly narrow in front. Clypeus high, margin of clypeus provided with seven spines directed forward. Sternum nearly oval, clothed with hairs and few spines. Legs robust with conspicuous spines, I legs very long and robust than others; anterior half of I femur very wide and inner side provided with four robust spines and tibiae provided with five pairs of long ventral spines and metatarsus with three pairs of spines.

Abdomen : Longer than wide, widest behind the middle, dirty brown colour, clothed with conspicuous blunt spines and base of spines slightly elevated. Ventral side light coloured than dorsal and provided with hairs and spines. Epigyne text-fig. 17, H.

Type-locality : Elephant falls, Upper Shillong, Assam, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Upper Shillong, Mawphlong, Khasi and Jaintia Hills, Assam, India.

Genus XVII. **Amyciaea** Simon

1885. *Amyciaea* Simon, *Bull. Soc. Zool. Fr.*, 1, p. 447.

1895. *Amyciaea* : Simon, *Hist. Nat. Araign.*, Paris, 1, p. 988.

1963. *Amyciaea* : Tikader, *J. Univ. Poona Sci. Tech.*, 24, p. 52.

Characters : Cephalothorax as long as wide, high, cephalic region sloping in front. Eyes round, lateral eyes ringed with prominent tubercles; both rows recurved but posterior row strongly recurved, lateral eyes conspicuously larger than medians. The

spiders of this genus have typically ant-like appearance. Abdomen longer than wide, clothed with fine hairs. Legs not very strong, like ant's legs.

Type-Species : *Amyciaea forticeps* (Cambridge).

Distribution : Africa, Burma, Malayasia; Holland and India.

64. *Amyciaea forticeps* (Cambridge)

(Text-fig. 17, J-L)

1873. *Amycle forticeps* Cambridge, *Proc. zool. Soc.*, London, p. 122.

1885. *Amyciaea forticeps* : Simon, *Bull. Soc. Zool. Fr.*, 1, p. 447.

1895. *Amyciaea forticeps* : Simon, *Hist. Nat. Araig.*, Paris, 1, p. 988.

1963. *Amyciaea forticeps* : Tikader, *J. Univ. Poona Sci. & Tech.*, 24, p. 52.

General : Cephalothorax and legs reddish-brown, abdomen light-brown. Total length 5.50 mm. Carapace 2.00 mm. long, 2.00 mm. wide; abdomen 3.00 mm. long, 2.00 mm. wide.

Cephalothorax : As long as wide, cephalic region high and sloping in front, clothed with hairs. Eyes round, ringed with brown tubercles; both rows recurved but posterior row strongly recurved, lateral eyes conspicuously larger than medians; ocular quad slightly longer than wide; space of the anterior median eyes a little smaller than that of posterior. Legs not very strong, like ant's legs.

Abdomen : More or less elliptical, narrow in front a V-shaped dark brown marking on the anterior half of abdomen; the base of "V" in the anterior end of abdomen and two conspicuous black round spots on the posterior lateral sides of abdomen. Apparently the spider looks like a red ant.

Distribution : India: Poona; Burma and Malayasia.

Genus XVIII. *Platythomisus* Dolesch.

1859. *Platythomisus* Dolesch., *Tweede Bijdr. etc.*, 1, p. 59.

1845. *Thomisus* : Koch, *Ar.*, 12, p. 18.

1895. *Platythomisus* : Simon, *Hist. Nat. Araig.*, Paris, 1, p. 1017.

Characters : Cephalothorax longer than wide, convex, cephalic region slightly high. Eyes black and tuberculated; both rows of eyes nearly straight. Ocular quad longer than wide and narrow in front. Legs long and stout, I and II longer than III and IV; all legs provided with hairs and spines. Tibiae and metatarsi of I and II provided with conspicuous ventral spines.

Type-Species : *Platythomisus octamaculatus* (Koch).

Distribution : Africa, Malayasia and Sikkim, Shillong, India.

65. *Platythomisus bazarus* Tikader

(Text-fig. 17, M-P)

1970. *Platythomisus bazarus* Tikader, *Rec. zool. Surv. India*, Calcutta, 64, p. 50.

General : Cephalothorax and legs light brownish green, abdomen dirty chalk-white. Total length 7.10 mm. Carapace 3.20 mm. long, 2.80 mm. wide; abdomen 4.00 mm. long, 2.80 mm. wide.

Cephalothorax: Longer than wide, cephalic region high. Eyes black with prominent tubercles; both rows straight but posterior row longer, lateral eyes larger; two laterals and posterior median eyes' tubercles contiguous. Ocular quad longer than wide and narrow in front. Sternum heart-shaped. Legs long and stout, I and II longer than III and IV; all legs provided with hairs and conspicuous spines. Tibiae and metatarsi of I and II provided with five and three pairs of ventral robust spines respectively. Tarsal scopulae weakly developed and claw tufts prominent.

Abdomen: Longer than wide, posterior half wide and end tapering, irregular chalk-white small patches all over the dorsum. Mid-dorsally a longitudinal deep brown bar extending from base to behind the middle and two conspicuous reddish-brown dot-like depression in the middle. Epigyne text-fig. 17, N.

Type-locality: Nayabazar, West Sikkim, India. *Holotype*: female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution: Nayabazar, West Sikkim, India.

Subfamily *PHILODROMINAE* (Phil-od-ro-minae)

In this subfamily the tarsi of the first and second pair of legs furnished with scopulae. Legs approximately equal in length; except *Ebo*. The upper margin of the furrow of the chelicerae armed with one or two teeth. These spiders are very active and pursue their prey with great rapidity. Most of the species live on plants; when at rest, the body is closely applied to the supporting object, with the legs stretched out separately or in pairs.

KEY TO GENERA OF THE SUBFAMILY *PHILODROMINAE*

- | | |
|--|---------------------|
| 1. Second pair of legs little longer than the first pair | 2 |
| Second pair of legs very much longer than others | <i>Ebo</i> |
| 2. Posterior eyes nearly equidistant | 3 |
| Posterior eyes not equidistant | 4 |
| 3. Anterior lateral eyes nearer to the anterior median eyes than to the posterior median eyes | <i>Philodromus</i> |
| 4. Posterior eyes strongly recurved | 5 |
| Posterior eyes not strongly recurved | 6 |
| 5. Cephalothorax much longer than wide | <i>Tibellus</i> |
| 6. Posterior lateral eyes far away from median | 7 |
| Posterior lateral eyes not far away from median eyes | 8 |
| 7. Posterior median eyes slightly near to each other than to laterals or equidistant | <i>Thanatus</i> |
| 8. Anterior lateral eyes equidistant from the anterior median and the posterior median, forming with them an equilateral triangle on each side | <i>Apollophanes</i> |

Genus XIX. *Ebo* Keyserling

1884. *Ebo* Keyserling, *Verh. Z.b.G. Wien.*, **33**, p. 678.
 1895. *Ebo*: Simon, *Hist. Nat. Araign.*, Paris, **1**, p. 1063.
 1940. *Ebo*: Comstock, *Spider Book*, New York, p. 560.
 1965. *Ebo*: Schick, *Bull. Amer. Mus. Nat. Hist.*, **129**(1), p. 73-86.
 1965. *Ebo*: Tikader, *Proc. Indian Acad. Sci.*, **61**(5), p. 278.

Characters: Cephalothorax wider than long, flat, clothed with hairs. Legs II pairs conspicuously longer than the others. Eyes two rows, posterior row almost straight. Abdomen nearly round and flat, clothed with hairs.

Type-Species : *Ebo latithorax* Keyserling.

Distribution : America and India.

66. *Ebo bharatae* Tikader

(Text-fig. 18, A-C)

1965. *Ebo bharatae* Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **61**(5), p. 278.

General : Cephalothorax deep brown, abdomen light brown and legs light green. Total length 4.20 mm. Carapace 1.50 mm. long, 2.10 mm. wide; abdomen 2.90 mm. long, 4.50 mm. wide.

Cephalothorax : Wider than long, flat, convex, and cephalic region slightly high, lateral sides with broad deep-brown pigmented patches. Clypeus high, margin provided with long hairs. Eyes black, both rows slightly recurved but posterior row less recurved or nearly straight and longer; posterior median eyes further from each other than from the laterals. Ocular quad longer than wide and narrow in front. Sternum pale with hairs, heart-shaped, pointed behind. Legs relatively long, II legs conspicuously longer than others; clothed with hairs and spines and provided with brown dots.

Abdomen : Wider than long, nearly pentagonal in shape, convex, provided with hairs and pigmented dots. Posterior half wide and this portion laterally provided with two muscular protuberance. Ventral side pale and flat. Epigyne text-fig. 18, B. Male palp text-fig. 18, C.

Type-locality : Poona University Compound, Poona, Maharashtra, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, India.

Genus XX. *Philodromus* Walckenaer

1825. *Philodromus* Walckenaer, *Ent. Fr., Ar.*, p. 86.

1892. *Philodromus* : Simon, *Hist. Nat. Araign.*, Paris, **1**, p. 1063.

1895. *Philodromus* : Thorell, *Spiders of Burma*, London, p. 279.

1940. *Philodromus* : Comstock, *Spiders Book*, New York, p. 556.

1951. *Philodromus* : Locket and Millidge, *British Spiders, Ray Society*, London, **1**, p. 194.

1962. *Philodromus* : Tikader, *J. Linn. Soc.*, London, **44**(300), p. 581.

1962. *Philodromus* : Tikader, *Proc. zool. Soc.*, Calcutta, **15**(1), p. 39.

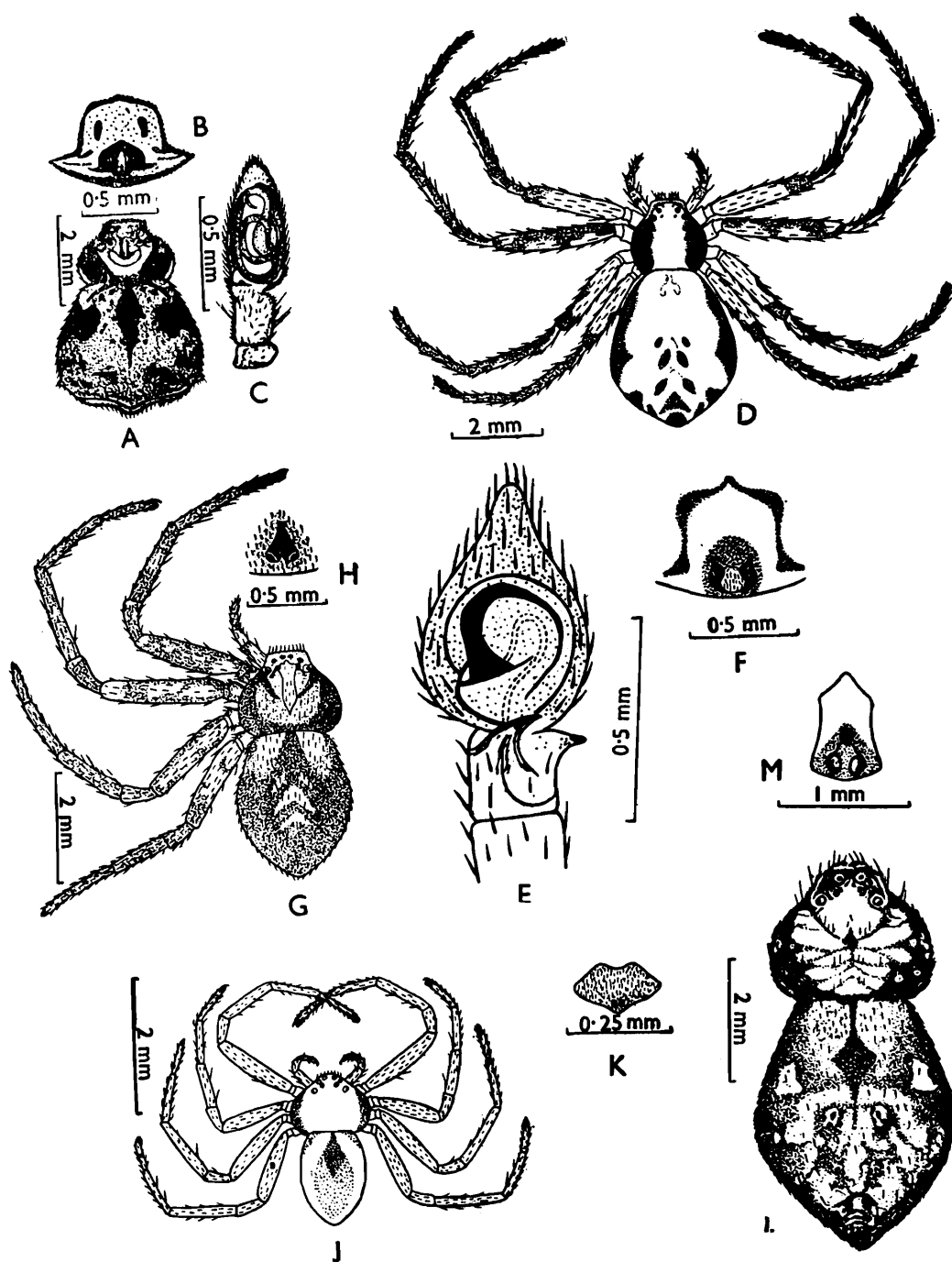
1966. *Philodromus* : Tikader, *Proc. Linn. Soc.*, London, **177**(1), p. 35.

Characters : Cephalothorax broader than long, relatively narrower in front than in genera *Xysticus* and *Oxyptila*. Eyes small and more uniform in size than in genera *Xysticus* and *Oxyptila*. Eyes in a smaller crescent-shaped group with the anterior row shortest, posterior strongly recurved, the medians further from each other than from the laterals. Abdomen usually oval, not appreciably widened or truncated behind. Legs relatively long, II pair of legs generally longer than I pair; III and IV pairs a little shorter than I and II pairs.

Most of the species of the genus occur on plants; but a few are found inside houses and on fencing.

Type-Species : *Philodromus aureolus* Clerck.

Distribution : All over the world.



TEXT-FIG. 18

- A-C. *Ebo bhadatae* Tikader
 A—Dorsal view of female, legs omitted. B—Epigyne. C—Male palp.
- D-F. *Philodromus assamensis* Tikader
 D—Dorsal view of female, with legs. E—Male palp. F—Epigyne.
- G-H. *Philodromus domesticus* Tikader
 G—Dorsal view of female, one side legs omitted. H—Epigyne.
- J-K. *Philodromus shillongensis* Tikader
 J—Dorsal view of female, with legs. K—Epigyne.
- L-M. *Philodromus betrabatai* Tikader
 L—Dorsal view of female, legs omitted. M—Epigyne.

KEY TO SPECIES OF THE GENUS *Philodromus* Walckenaer

1. Posterior half of abdomen with chevrons .	2
Posterior half of abdomen without chevrons .	4
2. Cephalothorax with a hammer-shaped white band	<i>P. domesticus</i>
Cephalothorax without hammer-shaped band	3
3. Abdomen high and with lateral brown patch .	<i>P. assamensis</i>
Abdomen flat and white triangular patch on either side	<i>P. betrabatai</i>
4. Body dorsoventrally compressed, leaf like	5
Body not so much dorsoventrally compressed .	6
5. Lateral margin of cephalothorax with pigmented patch	<i>P. shillongensis</i>
Lateral margin of cephalothorax without pigmented patch	<i>P. kendrabatai</i>
6. Abdomen with longitudinal black band or mark	7
Abdomen without longitudinal black band	8
7. Abdomen with continuous longitudinal black bands	<i>P. devhutai</i>
Abdomen with discontinuous longitudinal black bands or line .	<i>P. manikae</i>
8. Abdomen with irregular chalk-white patch	<i>P. decoratus</i>
Abdomen without chalk-white patch	9
9. Abdomen uniform pale colour and without marking .	<i>P. mohiniae</i>
Abdomen with some black or brown markings .	10
10. Abdomen with irregular deep brown dots	<i>P. bhagirathai</i>
Abdomen with irregular deep brown patches	<i>P. maliniae</i>

67. *Philodromus domesticus* Tikader

(Text-fig. 18, G-H)

1962. *Philodromus domesticus* Tikader, *Proc. zool. Soc.*, Calcutta, 15(1), p. 39.

General : Cephalothorax and legs very dark brown and abdomen darker than cephalothorax. Total length 4.10 mm. Carapace 1.60 mm. long, 1.90 mm. wide; abdomen 2.70 mm. long, 2.10 mm. wide.

Cephalothorax : Depressed but cephalic region high, wider than long, a hammer-shaped, whitish median longitudinal band from the ocular area to almost near the base of cephalothorax, with the head of the hammer pointed forward, clothed with stiff hairs. Clypeus narrow, margin provided with long spine like hairs directed forward. Eyes round and black, both rows recurved, all eyes form a crescent shaped group, the anterior row short, the posterior medians farther from each other than from the laterals. Sternum oval pointed behind, clothed with hairs, yellowish brown margin with black spots close to the coxal base. Legs relatively long, II legs slightly longer than I, clothed with fine hairs. Femora with irregular white patches, tibiae I and II with three pairs of ventral spines, tarsal scopulae well developed and claw tufts prominent. Measurement of legs below:

	I	II	III	IV
	(mm)	(mm)	(mm)	(mm)
Femur	1.90	2.00	1.80	1.70
Patella	0.80	0.90	0.70	0.60
Tibia	1.50	1.70	1.20	1.10
Metatarsus	1.20	1.40	1.00	0.80
Tarsus	0.80	1.00	0.60	0.50
Total	6.20	7.00	5.30	4.70

Abdomen : Longer than wide, depressed, clothed with long hairs, posterior end obtusely pointed, base with pale triangular patch on either side of the median line and faint pale chevrons on the posterior half. Epigyne text-fig. 18, H.

Type-locality : Kench's Trace, Shillong, Assam, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Shillong, Assam, India.

68. *Philodromus assamensis* Tikader

(Text-fig. 18, D-F)

1962. *Philodromus assamensis* Tikader, *J. Linn. Soc.*, London, **44**(300), p. 581.

General : Cephalothorax, legs and abdomen light to deep brown. Total length 4.90 mm. Carapace 1.80 mm. long, 1.80 mm. wide; abdomen 3.20 mm. long, 2.70 mm. wide.

Cephalothorax : Depressed but cephalic region high, as long as wide, a white median longitudinal broad band extends from the ocular area to base of cephalothorax, clothed with fine pubescence. Clypeus high, margin provided with long spine-like hairs directed forward. Eyes round and black, both rows recurved, all eyes forming a crescent-shaped group, the anterior row much shorter than the posterior, the posterior medians farther from each other than from the laterals, posterior laterals slightly larger than others. Sternum oval, very narrowly produced behind, clothed with stiff hairs. Legs relatively long, II legs slightly longer than the I, clothed with hairs. Femora, patella and tibiae with irregular white patches. Tibiae and metatarsi of I and II with two pairs of ventral spines; tarsal scopulae well developed and claw tufts prominent. Measurement of legs below :

	I (mm)	II (mm)	III (mm)	IV (mm)
Femur	2.10	2.40	1.90	1.80
Patella	0.60	0.90	0.70	0.50
Tibia	1.80	2.00	1.50	1.40
Metatarsus	1.80	1.90	1.20	1.10
Tarsus	0.90	1.10	0.90	0.70
Total	7.20	8.30	6.20	5.50

Abdomen : Longer than wide, posterior half wide and end tapering, at the sides with dark brown patches; posterior half of abdomen medially with deep brown chevrons. Epigyne text-fig. 18, F. and Male palp text-fig. 18, E.

Type-locality : Shillong Hills, Shillong, Assam, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Shillong, Assam, India.

69. *Philodromus betrabatai* Tikader

(Text-fig. 18, L-M)

1966. *Philodromus betrabatai* Tikader, *Proc. Linn. Soc.*, London, **177**(1), p. 35.

General : Cephalothorax and legs light yellowish brown, abdomen darker than cephalothorax. Total length 6.00 mm. Carapace 2.20 mm. long, 2.70 mm. wide; abdomen 4.00 mm. long, 3.20 mm. wide.

Cephalothorax : Depressed but cephalic region slightly high, wider than long, narrow in front, lateral margins with pigmented patches, clothed with hairs and a few spines. Ocular area and posterior cephalic ridge provided with pigmented dots. Clypeus narrow, margin provided with hairs and small spines. Eyes round and black, the posterior medians farther from each other than from the laterals. Ocular quad longer than wide and narrow in front, lateral eyes ringed with prominent tubercles. Sternum pale with hairs, heart-shaped, pointed behind. Legs relatively long, II legs slightly longer than I, clothed with fine hairs and provided with brown dots. Femora provided with three conspicuous dorsal spines, tarsal scopulae well developed and claw tufts prominent. Measurements of legs as below :

	I (mm)	II (mm)	III (mm)	IV (mm)
Femur	2.50	4.00	2.50	2.20
Patella	1.00	1.30	1.00	1.00
Tibia	2.20	3.00	1.50	1.30
Metatarsus	2.00	2.70	1.00	0.95
Tarsus	1.10	1.50	0.90	0.85
Total	8.80	12.50	6.90	6.30

Abdomen : Longer than wide, depressed, clothed with hairs, posterior end obtusely pointed; base with pale triangular patch on either side of the median line and faint pale chevrons on the posterior half. Epigyne text-fig. 18, M.

Type-locality : Sinhagad Fort, near Poona City, Maharashtra, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, India.

70. *Philodromus shillongensis* Tikader

(Text-fig. 18, J-K)

1962. *Philodromus shillongensis* Tikader, *Proc. zool. Soc.*, Calcutta, 15(1), p. 41.

General : Cephalothorax light green at lateral margins and whitish centrally; legs greenish, abdomen white with brownish tinge. Total length 2.20 mm. Carapace 0.90 mm. long, 1.20 mm. wide; abdomen 1.40 mm. long, 0.90 mm. wide.

Cephalothorax : Depressed, wider than long, both lateral margins with pigmented patches, posterior region slightly overlapped by the abdomen. Clypeus narrow, margin provided with small hairs directed forward. Sternum oval. Eyes round and black, ringed with white tubercles; anterior row slightly recurved, almost equal in size, posterior longer and somewhat more recurved than the anterior, posterior laterals larger than others; ocular quad longer than wide, space between the anterior medians less than that of posterior medians. Posterior medians further from each other than from the adjacent laterals. Legs relatively long, II legs slightly longer than I, clothed with fine pubescence, dorsal side of I femur with one pair of spines directed outward; tibiae of I and II with two pairs of ventral spines, metatarsi provided with two pairs of ventral

spines, tarsal scopulae not so well developed as in *P. domesticus* Tikader and claw tufts prominent. Measurements of legs as below :—

	I (mm)	II (mm)	III (mm)	IV (mm)
Femur	1.20	1.30	1.10	1.00
Patella	0.40	0.40	0.30	0.20
Tibia	0.80	0.90	—	—
Metatarsus	0.70	0.70	0.70	0.70
Tarsus	0.60	0.60	0.50	0.40
Total	3.70	3.90	2.60	2.30

Abdomen : Longer than wide, depressed, clothed with very fine pubescence, posterior end less obtusely pointed than *P. domesticus* Tikader, dorsum pigmented with irregular brown dots, antero-medially dorsum with a longitudinal spear shaped light brown marking. Ventral side uniform brown. Epigyne text-fig. 18, K.

Type-locality : Kench's Trace, Shillong, Assam, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Shillong, Assam, India.

71. *Philodromus kendrabortai* Tikader

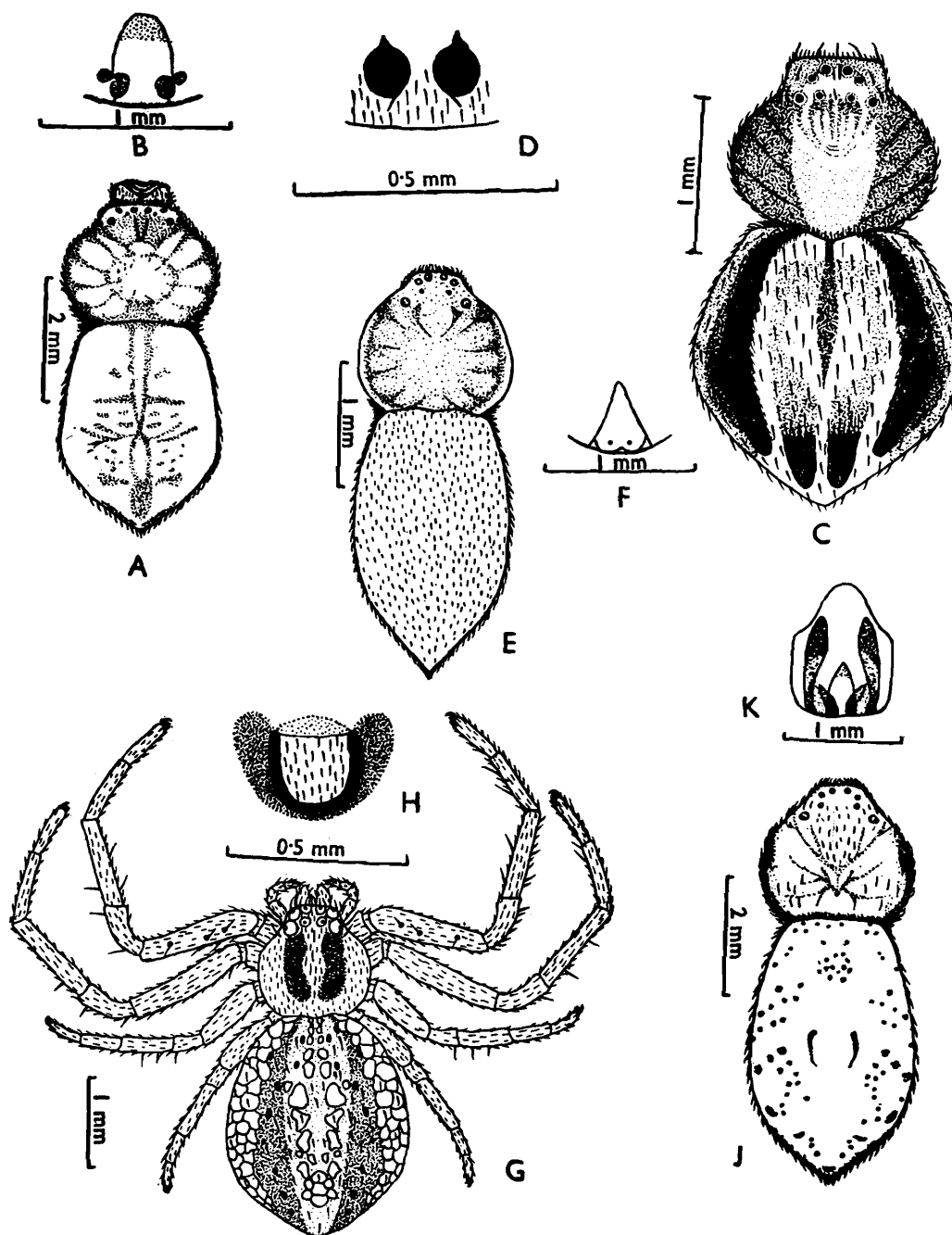
(Text-fig. 19, A-B)

1966. *Philodromus kendrabortai* Tikader, *Proc. Linn. Soc.*, London, 177(1), p. 38-39.

General : Cephalothorax and legs pale greenish, abdomen more light green than cephalothorax. Total length 5.50 mm. Carpace 2.00 mm. long. 2.50 mm. wide; abdomen 4.00 mm. long, 2.50 mm. wide.

Cephalothorax : More depressed than in other Indian species, wider than long, clothed with fine hairs. Clypeus very narrow. Eyes round and black, anterior row a little recurved or straight, posterior row long and more recurved, all eyes provided with tubercles, except posterior medians; the anterior row short, the posterior medians farther from each other than from laterals. Both rows of eyes very close, and eyes do not form a crescent-shaped group. Sternum oval, clothed with fine hairs. Legs relatively long, II legs longer than I, clothed with fine hairs. Tibiae I and II with three pairs of ventral spines and metatarsi with two pairs of ventral spines, tarsal scopulae well developed and claw tufts prominent. Measurements of legs as below :

	I (mm)	II (mm)	III (mm)	IV (mm)
Femur	1.50	2.00	2.70	1.40
Patella	0.40	0.50	0.40	0.30
Tibia	1.10	1.50	1.00	0.90
Metatarsus	1.00	1.30	1.00	0.50
Tarsus	0.50	1.00	0.50	0.20
Total	4.50	6.30	5.60	3.30



TEXT-FIG. 19

- A-B. *Philodromus kendrabatai* Tikader
 A—Dorsal view of female, legs omitted. B—Epigyne.
- C-D. *Philodromus devhutai* Tikader
 C—Dorsal view of female, legs omitted. D—Epigyne.
- E-F. *Philodromus mohinia* Tikader
 E—Dorsal view of female, leg. F—Epigyne.
- G-H. *Philodromus decoratus* Tikader
 G—Dorsal view of female. H—Epigyne.
- J-K. *Philodromus bhagirathae* Tikader
 J—Dorsal view of female, legs omitted. K—Epigyne.

Abdomen : Longer than wide, depressed like cephalothorax, clothed with fine pubescence, posterior end obtusely pointed, two sides of the caudal tip provided with a brown or black line. Epigyne text-fig. 19, B.

Type-locality : Peacock bay, N.D.A. Kharakvasla, Poona, Maharashtra, India.
Holotype : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra and Bangalore, Mysore, India.

72. *Philodromus devhutai* Tikader

(Text-fig. 19, C-D)

1966. *Philodromus devhutai* Tikader, *Proc. Linn. Soc.*, London, 177(1), p. 42-43.

General : Cephalothorax, legs and abdomen light to deep brownish green. Total length 2.90 mm. Carapace 1.20 mm. long, 1.40 mm. wide; abdomen 1.80 mm. long, 1.80 mm. wide.

Cephalothorax : Depressed but cephalic region slightly high, wider than long, narrowing in front, lateral sides of cephalothorax with conspicuous pigmented patches, clothed with fine hairs and few spines. Clypeus medium and margin provided with spines directed forward. Eyes round and black, both rows recurved, all eyes form a crescent-shaped group, the anterior row short, posterior medians farther from each other than from the laterals. Ocular quad longer than wide and narrow in front, eyes ringed with tubercles. Sternum oval, clothed with fine hairs. Legs relatively long, II legs longer than I, clothed with fine hairs, base of tibiae I and II legs with conspicuous black or deep brown patches, and also provided with two pairs of ventral spines, tarsal scopulae well developed and claw tufts prominent. Measurements of legs below :

	I (mm)	II (mm)	III (mm)	IV (mm)
Femur	1.90	2.50	1.50	1.40
Patella	0.60	1.00	0.50	0.40
Tibia	1.00	2.00	0.90	0.80
Metatarsus	1.00	2.00	1.00	0.90
Tarsus	0.50	1.00	0.40	0.30
Total	5.00	8.50	4.30	3.80

Abdomen : As long as wide, not very depressed, clothed with hairs, posterior end obtusely pointed, mid-dorsal of abdomen provided with conspicuous white longitudinal broad patch; lateral sides of this white patch demarcated by very prominent black broad bands; a deep brown longitudinal line on the middle of the anterior half and two deep brown or black lines on the posterior half of abdomen. Ventral side uniform pale colour. Epigyne text-fig. 19, D.

Type-locality : National Chemical Laboratory Compound, Poona, Maharashtra, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, India.

73. *Philodromus manikae* sp. n.

(Text-fig. 22, H-J)

General : Cephalothorax and legs light brownish-green, abdomen greenish-white. Total length 3.60 mm. Carapace 1.50 mm. long, 1.20 mm. wide; abdomen 2.10 mm. long, 1.50 mm. wide.

Cephalothorax : Slightly longer than wide, clothed with fine hairs and spines. Eyes black, with prominent white tubercles, both rows recurved, anterior and postero lateral eyes contiguous with tubercles; lateral eyes larger than the median eyes. Clypeus high, margin provided with seven spines directed forward but the middle one directed upward. Sternum heart-shaped, pointed, behind, clothed with hairs. Legs long and clothed with hairs and spines; I and II pairs longer than III and IV, II pair longest. Measurement of legs below :

	I (mm)	II (mm)	III (mm)	IV (mm)
Femur	1.50	1.60	1.00	1.00
Patella	0.25	0.30	0.20	0.20
Tibia	1.60	1.80	0.80	0.60
Metatarsus	0.80	0.90	0.60	0.50
Tarsus	0.50	0.60	0.30	0.20
Total	4.65	5.20	2.90	2.50

Abdomen : Longer than wide, clothed with fine hairs. Antero-dorsally provided with three pairs of conspicuous longitudinal black lines (text-fig. 22, H) and posterior half also provided with similar black transverse three lines. Ventral side pale white. Epigyne text-fig. 22, J.

Holotype : One female, *paratype* three females in spirit.

Type-locality : Upper Shillong, Assam, India, 13.4.1967. Coll. B. K. Tikader.

This species resembles *Philodromus devhutai* Tikader but it is separated as follows : (i) Cephalothorax uniform brownish-green but in *P. devhutai* cephalothorax with laterals conspicuous pigmented patches. (ii) Abdomen with longitudinal black line but in *P. devhutai* abdomen with only two conspicuous longitudinal black marks. (iii) Epigyne also different structurally.

74. *Philodromus decoratus* Tikader

(Text-fig. 19, G-H)

1962. *Philodromus decoratus* Tikader, *J. Linn. Soc.*, London, 44(300), p. 582.

General : Cephalothorax, legs light brown, abdomen deep brown. Total length 3.60 mm. Carapace 1.20 mm. long, 1.20 mm. wide; abdomen 2.20 mm. long, 2.00 mm. wide.

Cephalothorax : Depressed but cephalic region high and narrow, nearly as long as wide, two kidney-shaped, longitudinal, deep brown broad bands, extending from ocular area to the middle of cephalothorax; clothed with fine pubescence and a few spines. Clypeus high, margin with five long spines directed forward but middle one directed upward. Eyes round and black, ringed with prominent white tubercles both rows recurved, all eyes formed a crescent-shaped group, posterior medians closer to

each other than from the laterals; lateral eyes large and the tubercles contiguous. Sternum heart-shaped, clothed with fine pubescence. Legs relatively long, II slightly longer than the I, clothed with hairs and spines. Femora of I with three strong frontal spines, tibiae with two pairs and metatarsi with three pairs of ventral spines. Tarsal scopulae weakly developed and claw tufts prominent. Measurement of legs below :

	I (mm)	II (mm)	III (mm)	IV (mm)
Femur	1.20	1.40	0.80	0.70
Patella	0.60	0.70	0.40	0.30
Tibia	1.00	1.20	0.60	0.60
Metatarsus	0.80	0.80	0.40	0.30
Tarsus	0.60	0.60	0.30	0.20
Total	4.20	4.70	2.50	2.10

Abdomen : Longer than wide, posterior half wide and end tapering, irregular chalk-white patches all over the dorsum; two longitudinal rows of black or brown spots on either side of median line. Ventral side also with irregular chalk-white patches. Epigyne text-fig. 19, H.

Type-locality : Kench's Trace, Shillong, Assam, India. *Holotype* : female, in the National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Shillong, Mawphlong, Dist. Khasi and Jaintia Hills, Assam, India.

75. *Philodromus mohiniae* Tikader

(Text-fig. 19, E-F)

1966. *Philodromus mohiniae* Tikader, *Proc. Linn. Soc.*, London, 177(1), p. 40-42.

General : Cephalothorax and legs greenish brown, abdomen greenish. Total length 3.30 mm. Carapace 1.10 mm. long, 1.20 mm. wide; abdomen 2.10 mm. long, 1.20 mm. wide.

Cephalothorax : Uniformly depressed, slightly wider than long, lateral margins provided with conspicuous white patch, middle with almost uniform greenish brown, clothed with very fine pubescence. Clypeus very narrow. Eyes round and black provided with tubercles; anterior row short, the posterior medians farther from each other than from laterals. Both rows recurved, all eyes form somehow a crescent-shaped group. Ocular quad longer than wide and narrow in front. Sternum oval, clothed with fine pubescence. Legs relatively long, II legs longer than I, clothed with fine hairs. Tibiae I and II with two pairs of ventral spines, tarsal scopulae not very well developed and claw tufts prominent. Measurements of legs as below :

	I (mm)	II (mm)	III (mm)	IV (mm)
Femur	1.20	1.50	1.15	1.10
Patella	0.20	0.30	0.20	0.15
Tibia	1.30	1.50	1.00	1.00
Metatarsus	0.90	1.00	0.80	0.70
Tarsus	0.50	0.60	0.40	0.30
Total	4.10	4.90	3.55	3.25

Abdomen : Longer than wide, depressed like cephalothorax, clothed with fine pubescence, posterior end obtusely pointed. Ventral side uniform pale green colour. Epigyne text-fig. 19, F.

Type-locality : Peacock bay, N.D.A. Kharakvasla, Poona, Maharashtra, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, India.

76. *Philodromus bhagirathai* Tikader

(Text-fig. 19, J-K)

1966. *Philodromus bhagirathai* Tikader, *Proc. Linn. Soc.*, London, 177(1), p. 36-37.

General : Cephalothorax and legs pale yellow, abdomen yellowish white. Total length 6.70 mm. Carapace 2.00 mm. long, 2.90 mm. wide; abdomen 4.50 mm. long, 3.00 mm. wide.

Cephalothorax : Depressed but cephalic region a little high, wider than long, narrow in front, lateral margins with faint pigmented patches, posterior region slightly overlapped by the abdomen, clothed with fine hairs and a few small spines. Clypeus narrow, margin provided with long spine-like hairs. Eyes round and black provided with tubercles, anterior row slightly recurved and eyes almost equal in size, posterior longer and more recurved than the anterior, posterior laterals larger than others. Posterior medians separated from each other than from the adjacent laterals. Legs relatively long, II legs slightly longer than I, clothed with hairs and a few spines, dorsal side of I femur with three spines directed outwards; tibiae of I and II with three pairs of ventral spines; metatarsi provided with two pairs of ventral spines, tarsal scopulae well developed and claw tuft prominent. Measurements of legs as below :

	I (mm)	II (mm)	III (mm)	IV (mm)
Femur	3.00	4.00	2.50	2.50
Patella	0.90	1.00	0.90	0.90
Tibia	2.50	3.00	2.00	1.90
Metatarsus	1.50	2.10	1.00	1.00
Tarsus	0.50	1.20	1.00	0.90
Total	8.40	11.30	7.40	7.20

Abdomen : Longer than wide, depressed, clothed with fine pubescence, irregular brown dots on the dorsum and lateral sides of the caudal end of the abdomen provided with long continuous brown patches. Ventral side uniform pale colour. Epigyne text-fig. 19, K.

Type-locality : Sangham Ghat, Allahabad, U.P., India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Allahabad, U.P. and Madras, India.

77. *Philodromus maliniaie* Tikader

(Text-fig. 20, A-B)

1966. *Philodromus maliniaie* Tikader, *Proc. Linn. Soc.*, London, 177(1), p. 39-40.

General : Cephalothorax light brown, legs green, abdomen pale brown. Total length 3.10 mm. Carapace 1.20 mm. long, 1.40 mm. wide; abdomen 2.00 mm. long, 1.20 mm. wide.

Cephalothorax : Uniform depressed, slightly wider than long, lateral margins provided with white patch, middle with light brownish colour, provided with irregular deep brown dots; clothed with very fine pubescence. Clypeus very narrow. Eyes round and black, provided with tubercles, anterior row short, posterior medians separated farther from each other than from laterals. Both rows of eyes very close, and eyes not forming a crescent shaped group. Sternum oval, not pointed behind, clothed with very fine pubescence and margin provided with irregular dark brown dots. Legs relatively long, II legs slightly longer than I, clothed with fine hairs. Base of tibiae and metatarsi of all legs provided with conspicuous black patches. Tarsal scopulae not very well developed and claw tufts prominent. Measurements of legs as below :

	I (mm)	II (mm)	III (mm)	IV (mm)
Femur	1.20	1.50	1.00	0.95
Patella	0.50	0.50	0.30	0.20
Tibia	1.20	1.40	1.00	0.95
Metatarsus	1.00	1.20	0.95	0.75
Tarsus	0.60	0.70	0.50	0.45
Total	4.50	5.30	3.75	3.30

Abdomen : Longer than wide, depressed, clothed with fine pubescence, posterior end obtusely pointed. Dorsal side of abdomen provided with white and light brown patches and also with some irregular conspicuous deep brown dots. Ventral side uniform pale brown colour, provided with conspicuous deep brown dots. Epigyne text-fig. 19, B.

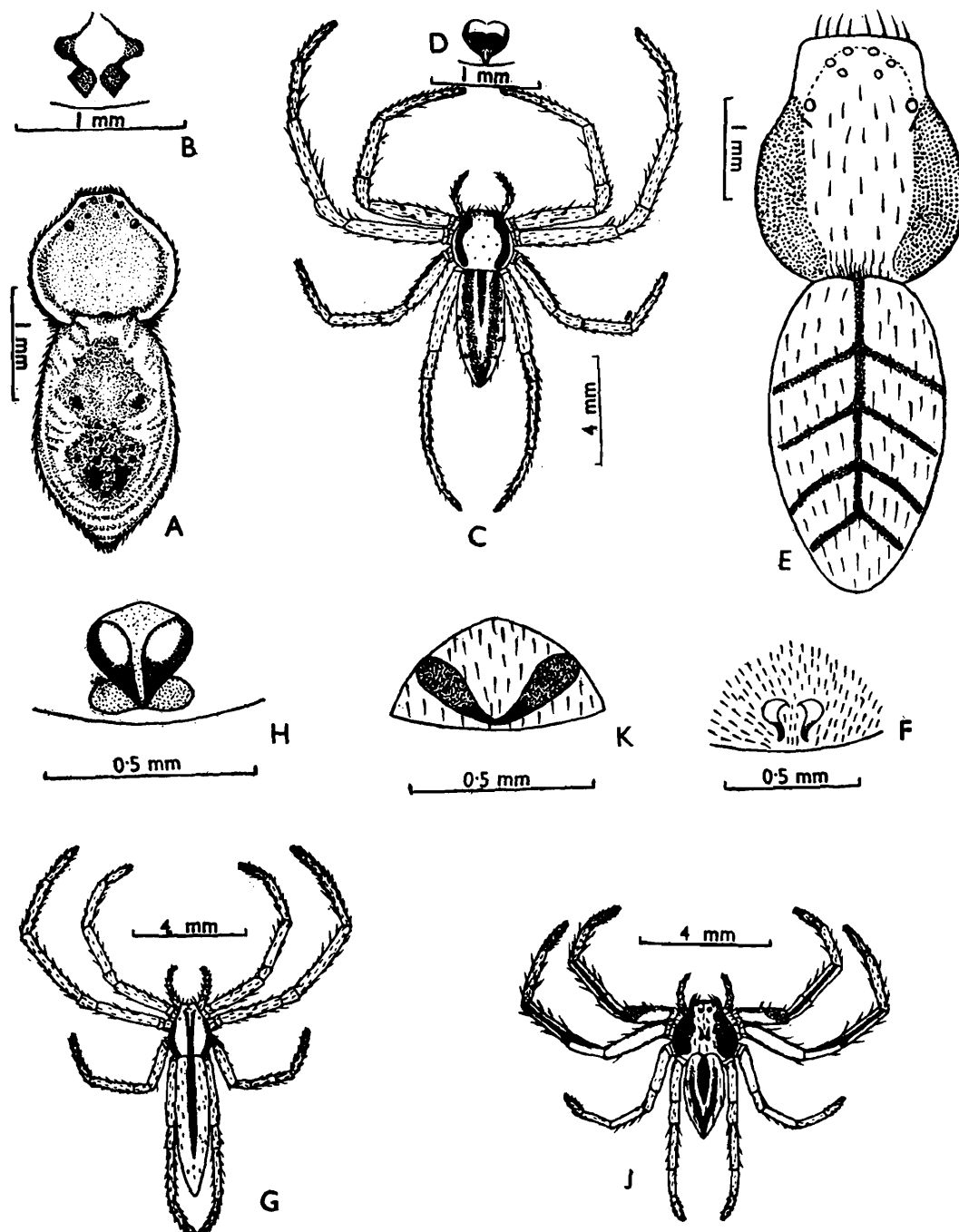
Type-locality : Poona University Compound, Maharashtra, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, India.

Genus XXI. **Tibellus** Simon

- 1895. *Tibellus* Simon, *Ar. Fr.*, **2**, p. 307.
- 1895. *Tibellus* : Simon, *Hist. Nat. Araign.*, Paris, **1**, p. 1065.
- 1940. *Tibellus* : Comstock, *Spider Book*, New York, p. 562.
- 1951. *Tibellus* : Locket and Millidge, *British Spiders*, *Ray. Society*, London, **1**, p. 202.
- 1960. *Tibellus* : Tikader, *J. Bombay nat. Hist. Soc.*, **57**(1), p. 176.
- 1962. *Tibellus* : Tikader, *J. Univ. Poona Sci & Tech.*, **22**, p. 133.
- 1965. *Tibellus* : Schick, *Bull. Amer. Mus. Nat. Hist.*, **129**(1), p. 99.

Characters : Cephalothorax appreciably longer than wide. The change in position of the eyes have gone further than in the genus *Thanatus*, and the eyes of the anterior row, with the posterior median pair, from a small compact hexagonal group from which the posterior laterals are conspicuously removed. Abdomen long and cylindrical or cigar-shaped. Legs relatively long, bearing scopulae on both tarsi and metatarsi. These spiders are found in grass and on bushes; when at rest the legs are stretched out longitudinally, two pairs forward and two pairs backward.



TEXT-FIG. 20

- A-B. *Philodromus malinia* Tikader
 A—Dorsal view of female, legs omitted. B—Epigyne.
- C-D. *Tibellus chaturshingi* Tikader
 C—Dorsal view of female, with legs. D—Epigyne.
- E-F. *Tibellus elongatus* Tikader
 E—Dorsal view of female, legs omitted. F—Epigyne.
- G-H. *Tibellus poonaensis* Tikader
 G—Dorsal view of female, with legs. H—Epigyne.
- J-K. *Tibellus katrajghatus* Tikader
 J—Dorsal view of female, with legs. K—Epigyne.

Type-Species : *Tibellus oblongus* Walckenaer.

Distribution : Europe, America, Africa and Asia.

KEY TO SPECIES OF THE GENUS *Tibellus* Simon

1. Abdomen dorsally with lens-shaped deep brown longitudinal band	2
Abdomen dorsally without lens-shaped band	5
2. Abdomen with irregular tuft of black-hairs on the dorsum	<i>T. chaturshingi</i>
Abdomen without tuft of hairs on the dorsum	3
3. Posterior end of abdomen with two conspicuous small black spots	<i>T. poonaensis</i>
Posterior end of abdomen without black spot	4
4. Posterior end of abdomen with a V-shaped black marking	<i>T. katrajghatus</i>
5. Abdomen with leaf like venation marks	<i>T. elongatus</i>

78. *Tibellus chaturshingi* Tikader

(Text-fig. 20, C-D)

1962. *Tibellus chaturshingi* Tikader, *J. Univ. Poona Sci. and Tech.*, **22**, p. 133.

1963. *Tibellus chaturshingi* : Tikader, *J. Univ. Poona Sci. and Tech.*, **24**, p. 53.

General : Cephalothorax pale greenish, eyes black, legs pale green, abdomen brownish. Total length 6.50 mm. Carapace 2.30 mm. long, 2.20 mm. wide; abdomen 4.20 mm. long, 1.90 mm. wide.

Cephalothorax : Longer than wide, sparsely spined, two longitudinal broad dark brown bands extending from postero lateral eyes to the base of cephalothorax. Clypeus medium, margin of clypeus with six spines directed forward. Anterior row of eyes close, recurved, anterior four eyes and posterior two median eyes form a wide hexagonal area, the postero lateral eyes largest and remote from other eyes. Sternum heart-shaped, pointed behind, clothed with spiny hairs and the pointed end provided with a black spot. Legs long, spined, bearing some black pigmented dots; I II and IV pairs of legs long but I and II pairs longer and robust than IV, tibiae and metatarsi of I and II with two pairs of ventral spines; well developed claw tufts and scopulae present on tarsi and upto the middle of metatarsi.

Abdomen : Long, cylindrical, spined, narrow behind, slightly overlapping the posterior region of cephalothorax in front, irregular tufts of black hairs on the dorsum; two longitudinal broad light brown bands extending from anterior lateral side of abdomen and jointed together at the posterior end of abdomen. Ventral side with four longitudinal light brown bands from epigastric fold to near the spinners. Epigyne text-fig. 20, D.

Type-locality : National Chemical Laboratory Compound, Poona, Maharashtra, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, India.

79. *Tibellus poonaensis* Tikader

(Text-fig. 20, G-H)

1962. *Tibellus poonaensis* Tikader, *J. Univ. Poona Sci. and Tech.*, **22**, p. 135.

1963. *Tibellus poonaensis* : Tikader, *J. Univ. Poona Sci. and Tech.*, **24**, p. 53.

General : Cephalothorax and abdomen pale yellow, eyes black, legs light green. Total length 7.40 mm. Carapace 2.10 mm. long, 1.50 mm. wide; abdomen 5.40 mm. long, 1.20 mm. wide.

Cephalothorax : Longer than wide, narrow in front, sparsely spined, one middle and two lateral longitudinal brown bands extending from ocular area to base of the cephalothorax. Clypeus medium, margin of clypeus with five spines directed forward but middle one directed upward. Anterior row of eyes close, recurved, equal and equidistant; anterior four eyes and posterior two median eyes form a small hexagonal area, the posterior lateral eyes largest and removed from other eyes. Sternum pale and heart-shaped, clothed with hairs. Legs long, spined, I, II and IV pairs of legs long but I and II pairs longer and more robust than IV, tibiae I and II with three pairs and metatarsi with two pairs of ventral spines; well developed claw tufts and scopulae present on tarsi and upto middle of metatarsi.

Abdomen : Long, cylindrical, spined, narrow behind, slightly overlapping the posterior region of cephalothorax in front; anterior mid-dorsally a lens-shaped light brown band and two small black spots on the dorsum near the posterior end of abdomen. Ventral side with light brown broad longitudinal band from epigastric fold to near the spinners. Epigyne text-fig, 20, H.

Type-locality : National Chemical Laboratory Compound, Poona, Maharashtra, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, India.

80. *Tibellus katrajghatus* Tikader

(Text-fig. 20, J-K)

1962. *Tibellus katrajghatus* Tikader, *J. Univ. Poona Sci. and Tech.*, **22**, p. 136.

1963. *Tibellus katrajghatus* : Tikader, *J. Univ. Poona Sci. and Tech.*, **24**, p. 53.

General : Cephalothorax and legs light yellowish green, abdomen brown. Total length 4.10 mm. Carapace 1.90 mm. long, 1.90 mm. wide; abdomen 2.50 mm. long, 1.20 mm. wide.

Cephalothorax : As long as wide, sparsely spined, two lateral broad longitudinal dark brown bands, extending from posterior lateral eyes to the base of cephalothorax; a V-shaped dark brown marking on the centre of the cephalothorax. Clypeus medium, margin of clypeus with seven spines directed forward but middle directed upward. Anterior row of eyes close, recurved, anterior four eyes and posterior two median eyes form a wide hexagonal area, the postero lateral eyes largest and remote from other eyes. Sternum heart shaped, pointed behind, margin provided with black spots. Legs long spined, bearing many black pigmented patches or spots; I, II and IV pairs of legs long but II pairs longer than I, tibiae of I and II with three pairs and metatarsi with two pairs of ventral spines; well developed claw tufts and scopulae present on tarsi.

Abdomen : Long, cylindrical, spined, narrow behind, strongly overlapping the posterior region of cephalothorax in front, a black lens-shaped longitudinal band on the mid-dorsal and a 'V' shaped black marking on the posterior end of abdomen. Ventral side with three longitudinal dark brown bands from epigastric fold to near the spinners. Epigyne text-fig. 20, K.

Type-locality : Katrajghat, Poona, Maharashtra, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, India.

81. **Tibellus elongatus** Tikader

(Text-fig. 20, E-F)

1960. *Tibellus elongatus* Tikader, *J. Bombay nat. Hist. Soc.*, 5(1), p. 177.1963. *Tibellus elongatus* : Tikader, *J. Univ. Poona Sci. and Tech.*, 24, p. 53.

General : Cephalothorax pale-greenish, eyes black, legs pale-green. Clypeus green, abdomen brownish. Total length 8.90 mm. Carapace 4.00 mm. long, 3.50 mm. wide; abdomen 5.00 mm. long, 2.80 mm. wide.

Cephalothorax : Longer than wide, sparsely spined, sides about one fourth portion with dark brown pigmented patches; clypeus medium, margin of clypeus with eight spines directed forward. Anterior row of eyes close, recurved, anterior four eyes and posterior two median eyes form a wide hexagonal area, posterior lateral eyes remote from other eyes and the largest. Legs long, spined, bearing numerous black pigmented dots, I and II pairs of legs longer than the others, tibiae I and II with three pairs of ventral spines in the apical three-fourth of legs.

Abdomen : Long, cylindrical, spined, narrow behind, very slightly overlapping the posterior region of cephalothorax, with a long median black pigmented line from nearly the base to tip of abdomen four pairs of transverse pigmented lines from the median line to the lateral margins these four pairs almost parallel with each other. Epigyne text-fig. 20, F.

Type-locality : Dhakuria (Calcutta), West Bengal, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : West Bengal, Poona, Maharashtra, India.

Genus XXII. **Thanatus** Koch1837. *Thanatus* Koch, *Ueb. Ar. Syst.*, 1, p. 25.1895. *Thanatus* : Simon, *Hist. Nat. Araign.*, Paris, 1, p. 1064.1940. *Thanatus* : Comstock, *Spider Book*, New York, p. 561.1951. *Thanatus* : Locket and Millidge, *British Spiders*, Ray. Soc., London, 1, p. 201.1960. *Thanatus* : Tikader, *J. Bombay nat. Hist. Soc.*, 57(1), p. 177.1965. *Thanatus* : Schick, *Bull. Amer. Mus. Nat. Hist.*, 129(1), p. 92.1966. *Thanatus* : Tikader, *Rec. Indian Mus.*, New Delhi, 40(4), p. 433.

Characters : This genus differs from *Philodromus* in the relative position of the eyes, and in the relative length of the legs. Carapace scarcely longer than wide. Anterior row closer together and both rows recurved and form together a crescent-shaped area; posterior eyes equidistant. Abdomen oval, not appreciably enlarged or truncated behind and abdomen marked with a lens shaped band. Tarsi and metatarsi armed with scopulae.

The spiders live on ground or low plants and high grasses.

Distribution : Europe, America, Africa and Asia.

KEY TO SPECIES OF THE GENUS *Thanatus* Koch

- | | |
|---|-----------------------|
| 1. Posterior end of abdomen with two longitudinal bands | 2 |
| Posterior end of abdomen without band | <i>T. lanceolatus</i> |
| 2. Abdomen dorsal with white irregular shaped patches | <i>T. dhakuricus</i> |
| Abdomen dorsal without any patches | <i>T. mandali</i> |

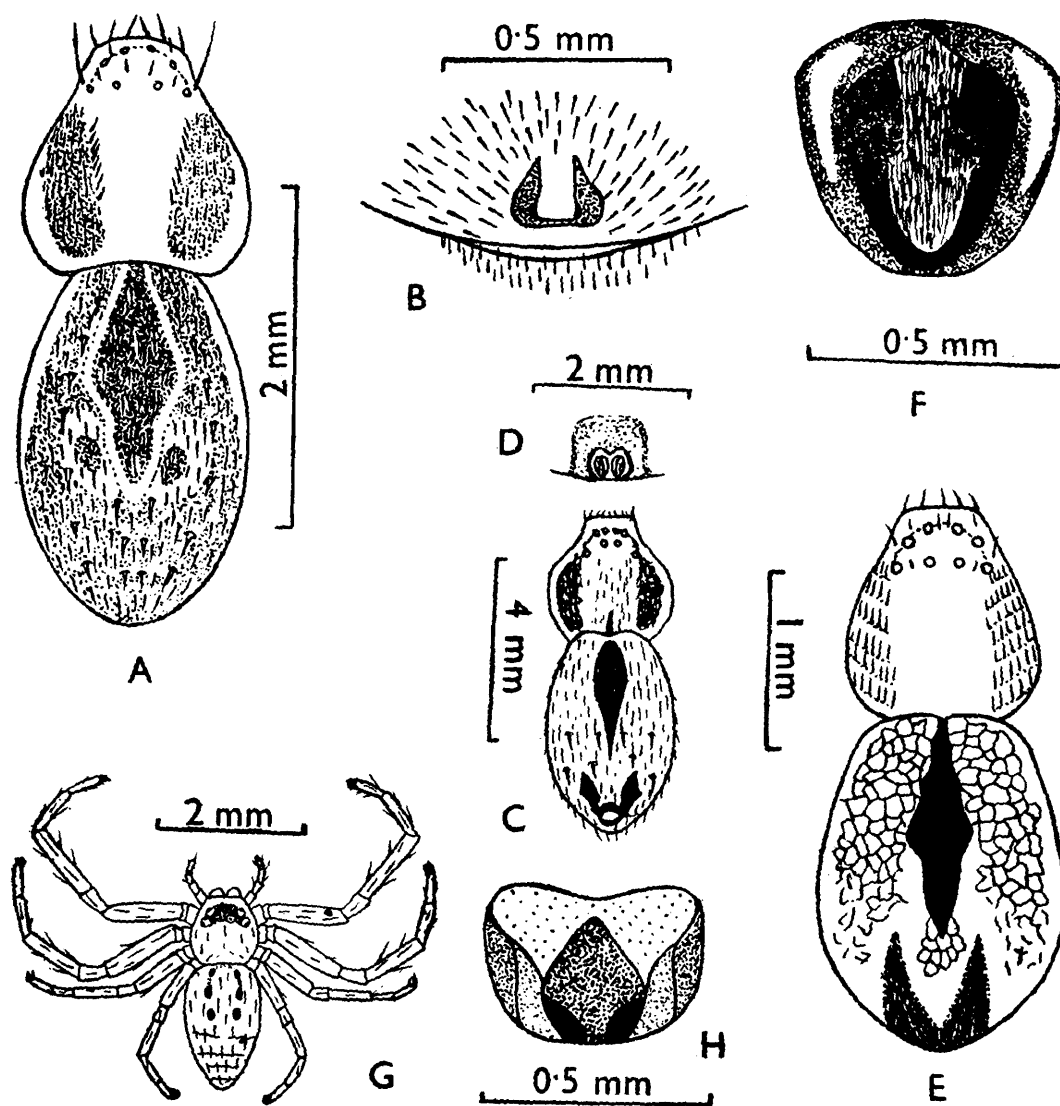
82. *Thanatus lanceolatus* Tikader

(Text-fig. 21, A-B)

1966. *Thanatus lanceolatus* Tikader, *Rec. Indian Mus.*, New Delhi, 49(4), p. 443.

General : Cephalothorax and abdomen dirty-white, eyes black, legs concolours with cephalothorax; clypeus white. Total length 4.60 mm. Carapace 1.60 mm. long, 1.50 mm. wide; abdomen 3.20 mm. long, 2.20 mm. wide.

Cephalothorax : Broader behind narrow in front, clothed with hairs and scanty spines; a pale band encircles almost an entire margin of cephalothorax and oblong dark



TEXT-FIG. 21

- A-B. *Thanatus lanceolatus* Tikader
A—Dorsal view of female, legs omitted. B—Epigyne.
- C-D. *Thanatus mandali* Tikader
C—Dorsal view of female, legs omitted. D—Epigyne.
- E-F. *Thanatus dhakuricus* Tikader
E—Dorsal view of female, legs omitted. F—Epigyne.
- G-H. *Apollophanes bangalores* Tikader
G—Dorsal view of female, with legs. H—Epigyne.

brown broad patches sub-laterally. Eyes black, two rows, both rows recurved, but the posterior row longer, both the rows form a crescent-shaped area. Clypeus long, margin with five spines, directed forward. Sternum pale-white and hairy. Legs long, stout, spined, femora, patella and tibiae with irregular longitudinal dark brown bands.

Abdomen : Oval, clothed with fine hairs, a longitudinal dark brown lens-like spot in front on the middle, two longitudinal light bluish bands on the posterior half of the abdomen, four to six longitudinal rows of spines from the black pigmented spot on the dorsal surface of abdomen. Ventral surface pale white, with numerous irregular brown dots especially on the sides. Epigyne text-fig. 21, B.

Type-locality : Bikaner Town, Rajasthan, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Bikaner, Rajasthan, India.

83. *Thanatus dhakuricus* Tikader

(Text-fig. 21, E-F)

1960. *Thanatus dhakuricus* Tikader, *J. Bombay nat. Hist. Soc.*, **57**(1), p. 177.

1963. *Thanatus dhakuricus* : Tikader, *J. Univ. Poona Sci. and Tech.*, **24**, p. 52.

General : Cephalothorax pale greenish, eyes black, legs green, clypeus concolours like cephalothorax, abdomen green, with white patches. Total length 3.20 mm. Carapace 1.20 mm. long, 1.10 mm. wide; abdomen 2.00 mm. long, 1.50 mm. wide.

Cephalothorax : Broadest behind, narrow in front, maximum width slightly less than length, covered with small hairs, the sides about $\frac{1}{4}$ portion tinted with very light yellowish and ornamented by irregular dark pigmented patches, this area clothed with many small spines. Eyes black, equal size, eight in two rows, both rows recurved but the posterior row longer; both the rows form together a crescent-shaped area. Clypeus long, margin of clypeus with four spines directed forward. Legs relatively short and stout, spined and dark brown pigmented dots.

Abdomen : Oval, clothed with pubescence, with irregular shaped white granular patches; longitudinal brown lens-shaped band anteriorly in the mid-dorsal, two longitudinal deep brown bands on either side of the posterior end. Epigyne text-fig. 21, F.

Type-locality : Dhakuria (Calcutta), West Bengal, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distributions : Calcutta, West Bengal, India.

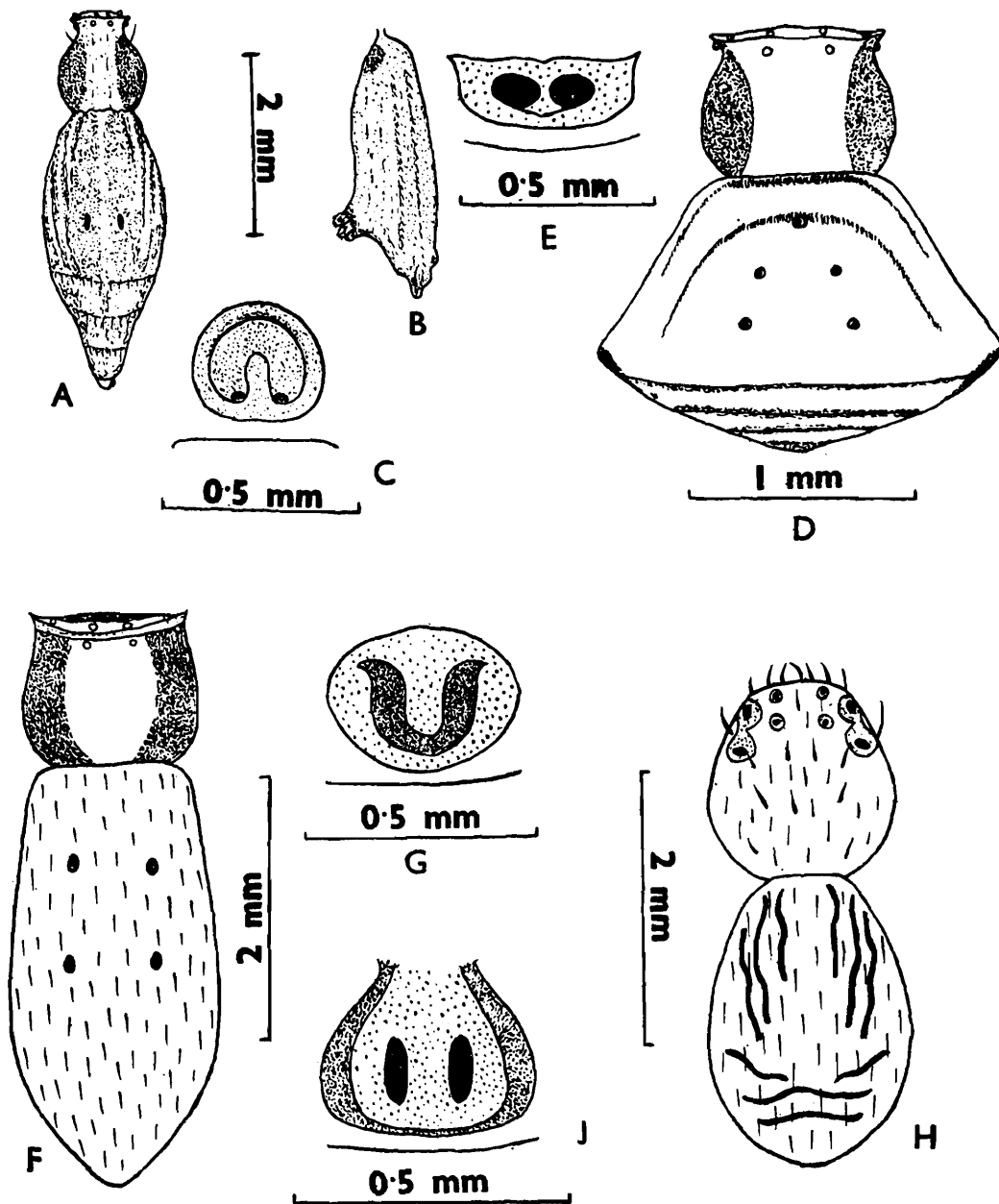
84. *Thanatus mandali* Tikader

(Text-fig. 21, C-D)

1965. *Thanatus mandali* Tikader, *Sci. & Cult.*, Calcutta, **31**, p. 39.

General : Cephalothorax and legs greenish-brown, abdomen brown. Total length 7.10 mm. Carapace 3.50 mm. long, 2.80 mm. wide; abdomen 4.50 mm. long, 3.00 mm. wide.

Cephalothorax : Longer than wide, broadest behind, narrow in front and clothed with hairs and few spines; lateral sides provided with conspicuous longitudinal deep brown patches. Middle of cephalothorax also provided with a thin longitudinal brown line extending from ocular area to base of thorax. Eyes black, eight in two rows both rows recurved but the posterior row longer and more recurved than the anterior row;



TEXT-FIG. 22

- A-C. *Runcinia escheri* Reimoser
 A—Dorsal view of female, legs omitted. B—Latera. view of abdomen. C—Epigyne.
- D-E. *Thomisus pugilis* Stoliczka
 D—Dorsal view of female, legs omitted. E—Epigyne.
- F-G. *Thomisus elongatus* Stoliczka
 F—Dorsal view of female, legs omitted. G—Epigyne.
- H-J. *Philodromus manikae* Tikader
 H—Dorsal view of female, legs omitted. J—Epigyne.

posterior lateral eyes larger than others, both rows of eyes form together a crescent-shaped area. Ocular quad longer than wide and narrowing in front. Clypeus long, margin of clypeus with seven spines directed forward. Sternum heart-shaped, pointed behind, clothed with hairs and brown pigmented dots. Legs long and stout, provided with spines and dark-brown pigmented dots. Metatarsi of I and II with two pairs of ventral spines; tarsal scopulae well developed and claw tufts prominent.

Abdomen : Longer than wide, posterior half wide and end tapering, clothed with hairs and few spines and brown pigmented dots. Anteromid-dorsally provided with a conspicuous deep-brown lens-shaped band and posterior end provided with a V-shaped brown mark. Ventral side pale with some brown pigmented dots or line. Epigyne text-fig. 21, D.

Type-locality : Mukunda Nager, Poona, Maharashtra, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Poona, Maharashtra, India.

Genus XXIII. *Apollophanes* Cambridge

1898. *Apollophanes* Cambridge, *Biol. Centre Amer. Zool.*, **1**, p. 252.
 1900. *Apollophanes* : Cambridge, *Biol. Centre Amer. Zool.*, **2**, p. 131.
 1933. *Apollophanes* : Gertsch, *Amer. Mus. Novitates*, no. **593**, p. 13.
 1940. *Apollophanes* : Comstock, *Spiders Book*, New York, p. 558.
 1963. *Apollophanes* : Tikader, *Proc. Indian Acad. Sci.*, Bangalore, **58**(5), p. 260.
 1965. *Apollophanes* : Schick, *Bull. Amer. Mus. Nat. Hist.*, **129**(1), p. 86.

Characters : Cephalothorax as long as broad or slightly longer than broad; posterior row of eyes more strongly recurved than in *Philodromus*; the eyes of the posterior row are equidistant. The anterior lateral eyes equidistant from the anterior medians and the posterior medians, forming with them an equilateral triangle on each other side. Legs clothed with hairs and spines; tarsi with well developed claw tufts and scopulae.

Type-Species : *Apollophanes punctipes* (Cambridge).

Distribution : America and Asia.

85. *Apollophanes bangalores* Tikader

(Text-fig. 21, G-H)

1963. *Apollophanes bangalores* Tikader, *Proc. Indian Acad. Sci.*, **58**(5), p. 260.

General : Cephalothorax pale yellowish-green, eyes black, legs pale green, abdomen more light green than cephalothorax. Total length 2.70 mm. Carapace 1.00 mm. long, 0.90 mm. wide; abdomen 1.80 mm. long, 1.00 mm. wide.

Cephalothorax : Almost circular, sparsely spined; clypeus median high, margin with seven spines directed forward but the median directed upward. Eyes round, lateral, ringed with dirty-brown tubercles, entire ocular area with a deep brown crescent-shaped patch. Anterior row of eyes close, recurved; anterior four eyes and posterior median eyes forming a wide hexagonal area; posterior row longer than the anterior row. The anterior lateral eyes equidistant from the anterior median and the posterior median, forming with them an equilateral triangle on each side. Legs long, spined, I and II each with two pairs of ventral spines; tarsi with well-developed claw tufts and scopulae.

Abdomen : Long, cylindrical, spined, narrow behind, very slightly overlapping the posterior region of cephalothorax; three pairs of round black spots on the dorsum, arranged longitudinally on the anterior half of abdomen; posterior half provided with four transverse, zigzag, black lines. Epigyne text-fig. 21, H.

Type-locality : Lalbagh (Botanical Garden), Bangalore City, Mysore, India. *Holotype* : female, in National Zoological Collections, Zoological Survey of India, Calcutta.

Distribution : Bangalore, Mysore, India.

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- 1964. Spiders from South New Guinea, VI. *Nova Guinea Zool.*, **29**, p. 87-104.
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