A REVISION OF THE AUSTRALASIAN SPECIES OF THE GENUS TETRAGNATHA (ARANEAE, TETRAGNATHIDAE)

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A REVISION OF THE AUSTRALASIAN SPECIES OF THE GENUS *TETRAGNATHA* (ARANEAE, TETRAGNATHIDAE)*

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Abstract

The Australasian species of the genus *Tetragnatha* are revised based on the specimens from Australia, New Guinea and neighboring islands. Thirty-one species are recognized. New species, new synonymies and new records of distribution are as follows :

*T. **amoena*** sp. nov. from New Guinea.
T. biseriata Thorell, 1881.
= *T. anirensis* Strand, 1914. New synonymy.
= *T. valoka* Chrysanthus, 1975. New synonymy.
New record from Australia.
T. bituberculata L. Koch, 1867.
= *T. heatwolei* Chrysanthus, 1975. New synonymy.
T. ceylonica Cambridge, 1869.
= *T. eitapensis* Strand, 1913. New synonymy.
T. chauliodus (Thorell, 1890).
New record from New Guinea.
T. demissa L. Koch, 1871.
= *T. quadridens* Dondale, 1966. New synonymy.
T. eumorpha sp. nov. from New Guinea.
T. gressittorum sp. nov. from New Guinea.
T. hirashimai sp. nov. from New Guinea.
T. insularis sp. nov. from Lord Howe Is.
T. insulicola sp. nov. from Lord Howe Is.
T. jaculator Tullgren, 1910.
= *T.* sp. B (Okuma 1968 & 1981).
New record from New Guinea.
T. monticola sp. nov. from New Guinea.
T. nana sp. nov. from New Guinea.
T. oreobia sp. nov. from New Guinea.
T. priamus sp. nov. from Solomon Is.
T. serra Doleschall, 1857.
New record from New Guinea.
T. signata sp. nov. from New Guinea.

* Contribution from the Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka (Ser. 3, No. 220).

The genus *Tetragnatha* Latreille, 1804 has been known from 56 species in the Australasian region (Roewer, 1942 ; Brignoli 1983). However, no detailed study of the genus has been made in this vast geographical region. Recently I was able to study the Australasian tetragnathid spiders based on the collection of the several museums and institutions. As a result 31 species were recognized from Australia, New Guinea and neighboring islands. Of these, 3 species are already known as the cosmopolitan species (Okuma, 1983). The present paper gives the descriptions of 11 new species and the redescriptions of 17 known species. Illustrations of important characters as well as measurements of the relative lengths of legs of the 31 species are also presented.

The number of materials examined, and the abbreviations of the museums and the institutions are as follows :

BMH : Bernice P. Bishop Museum, Honolulu, 356 specimens.
AMS : Australian Museum, Sydney, 181 specimens.
NSMT : National Science Museum, Tokyo, 17 specimens.
KUF : Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka, 72 specimens.

Terminology of the cheliceral armature of *Tetragnatha* was established by Wiehle (1939). Later, Locket & Millidge (1953) adopted his terminology and translated it in English in their book, *British Spiders*. In the present paper, the terms are used according to Locket & Millidge. In addition, some new terms are provided. These are summarized as follows (an asterisk shows a new term) :

a : An apophysis, used for locking the female's fang during copulation.
*Gu : The guide tooth of upper row.
*Gl : The guide tooth of lower row.
*e : An extra tooth found between (Gu) and (T) in the female of some species.
T : The first (largest) tooth of the row proper.
*rsu : The upper row of small teeth.
*rsl : The lower row of small teeth.
*U2 : The next tooth of (Gu).
*L2 : The next tooth of (Gl).
*s : A spur or prominence, present in the female of some species.
t : A tooth or prominence, found in the male of some species.
sl : A tooth which usually slopes towards the base of the segment in the male of some species.
*AXu : An auxiliary guide tooth of upper row, present in some species.
*AXl : An auxiliary guide tooth of lower row, present in some species.
EX : An excrescence found on the outer edge of the fang, near its base, in some species.

Acknowledgement

I wish to express my hearty thanks to Dr. JoAnn Tenorio of the B. P. Bishop Museum, Honolulu, Dr. M. R. Gray of the Australian Museum, Sydney, Dr. H. Ono of the National Science Museum, Tokyo and Dr. Y. Nishikawa of the Ohtemon Gakuin University, Osaka for the loan of many valuable specimens. My hearty thanks are due to Prof. Y. Hirashima of Kyushu University for his helpful suggestion and encouragement throughout the course of this work. I am also grateful to Assoc. Prof. K. Morimoto and Dr. 0. Tadauchi for their kindness in many ways.

KEY TO THE SPECIES-GROUPS OF THE AUSTRALASIAN *Tetragnatha*

1. Posterior row of eyes evidently narrower than anterior row of eyes .....

— Posterior row of eyes not narrower than anterior row of eyes 6
2. Male chelicera as long as or longer than carapace ..... *rubriventris*-group
— Male chelicera shorter than carapace 3
3. Lateral eyes more separated than median eyes 4
— Lateral eyes as close as or closer than median eyes 8
4. Abdomen without a tail ..... jaculator-group
— Abdomen with a tail overhanging spinnerets 5
5. Male chelicera with (a), (AXu), (sl) and (T) ..... *caudifera*-group
— Male chelicera without (AXu) and (sl) ; abdomen elongate ..... *micrura*-group
6. Posterior row of eyes wider than anterior row of eyes .....
— Two rows of eyes equal or subequal in width 8
7. Lateral eyes closer than median eyes, situated on a tubercle ..... *bituberculata*-group
— Lateral eyes not as above 8
8, Abdomen about 2.0–2.5 times as long as broad ..... ***radiata-group***
— Abdomen more than 3 times as long as broad 9
9. Abdomen more than 6 times as long as broad ..... cylindm'ca-group
— Abdomen about 3-5 times as long as broad 10
10. Female chelicera with (s) near outer apex ..... *serra*-group
— Female chelicera without (s) 11
11. Male 12
— Female 16
12. Chelicera with (sl) between (Gu) and (T) ..... *valida*-group
— Chelicera not as above 13
13. Chelicera with three strong upper apical teeth ..... nitens-group
— Chelicera not as above 14
14. (a) bifurcated at tip ..... ***maxillosa-group***
— (a) not bifurcated at tip 15
15. Tip of (a) prolonged and sickle-like (Fig. 29, A & B) ..... ***papuana-group***
— Tip of (a) simply pointed ..... *mandibulata*-group
16. Chelicera with very strong (AXl) and (Gl) ..... ***mandibulata-group***
— Chelicera not as above ***17***
17. Chelicera with somewhat strong (AXl) and small (Gl) : fang with strong (EX) ..... ***nitens-group***
— Chelicera not as above 18
18. Chelicera without (T) ..... *papuana*-group
— Chelicera with (T) 19
19. Chelicera with (e) between (Gl) and (T) ..... *valida*-group
— Chelicera without (e) ..... *maxillosa*-group

The rubriventris-group

Diagnosis. Posterior row of eyes evidently narrower than anterior row of eyes ; male chelicera as long as or longer than carapace.

KEY TO THE SPECIES

1. Lateral eyes more separated than median eyes in both sexes ..... *rubriventris*
— Lateral eyes as close as median eyes in both sexes 2
2. Female chelicera without (s) ..... *phaeodactyla*

— Female chelicera with small (s) near outer apex ..... .

3. Teeth on female chelicera irregularly arranged as shown in Fig. 3, A & B ..... *amoena* sp. nov.

— Teeth on female chelicera rather regularly arranged as shown in Fig. 4, G & H .....
..... *eumorpha* sp. nov.

Tetragnatha rubriventris Doleschall, 1857

Tetragnatha rubriventris Doleschall, 1857, Naturk. Tijdschr. Neel. Ind., 13 : 410 ; Thorell, 1878, Ann. Mus. Civ. Genova, 13 : 105 ; Thorell, 1881, Ann. Mus. Civ. Genova, 17 : 131; Simon, 1894, Hist. Nat. Araign., 1 (3) : 718 ; Hogg, 1915, Trans. 2001. Soc. Lond., 20 (14) : 454 ; Gravely, 1921, Rec. Ind. Mus., 22 : 432 ; Roewer, 1942, Katalog der Araneae, 1: 985 ; Chrysanthus, 1975, Zool. Verhandl., 140 : 11.

Tetragnatha lupata L. Koch, 1871, Arachn. Austral., 1 : 170.

Eugnatha rubriventris Keyserling, 1887, Arachn. Austral., 2 : 225.

Male. Body length, exclusive of chelicerae, 9.5-14.5 mm ; carapacial length 2.8-4.3 mm, width 1.6-2.4 mm ; abdominal length 6.7-10.3 mm, width 1.3-1.7 mm ; cheliceral length 2.6-5.0 mm.

Eyes. Anterior row of eyes occupying full width of head ; posterior row of eyes considerably narrower than anterior one (68-78 : 100) ; viewed from above, anterior row moderately recurved, posterior row somewhat strongly recurved, so that lateral eyes more separated than median eyes; central ocular quadrangle nearly square ; ratio of diameter of AME : ALE : PME : PLE as 88 : 75 : 75 : 75 (μ).

Chelicerae. Long, basal segment as long as or slightly longer than carapace; (a) simple, not bifurcated at tip, (t) and (sl) absent ; (Gu) present, (U2) long and somewhat curved forward, (rsu) 6-8 in number ; (rsl) 4-6 in number ; two additional teeth present inside of fang furrow on distal portion ; fang long, unarmed.

Legs. Leg formula 1. 2. 4. 3 ; all legs with many and rather short spines, first femora with about 20 spines ; relative lengths of legs as shown in Table 1.

Palpi. Paracymbium long, bluntly rounded at distal end; both conductor and embolus nearly straight and hook-shaped at their tips.

Abdomen. Long, about 5 - 6 times as long as broad ; distal end of abdomen somewhat overhanging spinnerets.

Color in alcohol. Considerably variable, but generally light yellowish brown to dark reddish brown ; some specimens with a reddish dorsal marking from head to thorax and abdomen,

Female. Body length, exclusive of chelicerae, 9.8-16.0 mm ; carapacial length 3.3-4.4 mm ; width 1.6-2.5 mm ; abdominal length 6.8-12.0 mm, width 1.3-2.5 mm ; cheliceral length 1.9-4.3 mm.

Eyes. Nearly as in male.

Chelicerae. Basal segment as long as or slightly shorter than carapace, with small (s) at outer side near apex ;(Gu) larger than (U2), (rsu) 6-7 in number ;(Gl) normal, (rsl) 8-10 in number ; fang unarmed.

Legs. Nearly as in male ; relative lengths of legs as shown in Table 1.

Abdomen. Similar to male ; genital fold as shown in Fig. 1, I.

Color in alcohol. Nearly as in male.

Specimens examined : NEW GUINEA (IRIAN JAYA) : 1♀, Fak fak, 1. VI. 1959, J. L. Gressitt (BMH) ;1♂, Miwri, 16. II. 1943, T. Niimura (NSMT-Ar. 1086) ;1♂, Anggaki, 23. IV. 1943, T. Niimura (NSMT-Ar. 552) ;1♂, Anggaki, Yamor, 29. IV. 1943, T. Niimura (NSMT-Ar. 551) ; lb, Sinimi, Yamor, 30. IV. 1943, T. Niimura (NSMT-Ar. 555). NEW GUINEA (PNG) : 19, Biake, West Sepik, 16. VII. 1957, D. Elmo Hardy (BMH) ;1♂,2♀, Brown River, Central Prov., 2. IX. 1959, T. Maa (BMH) ;

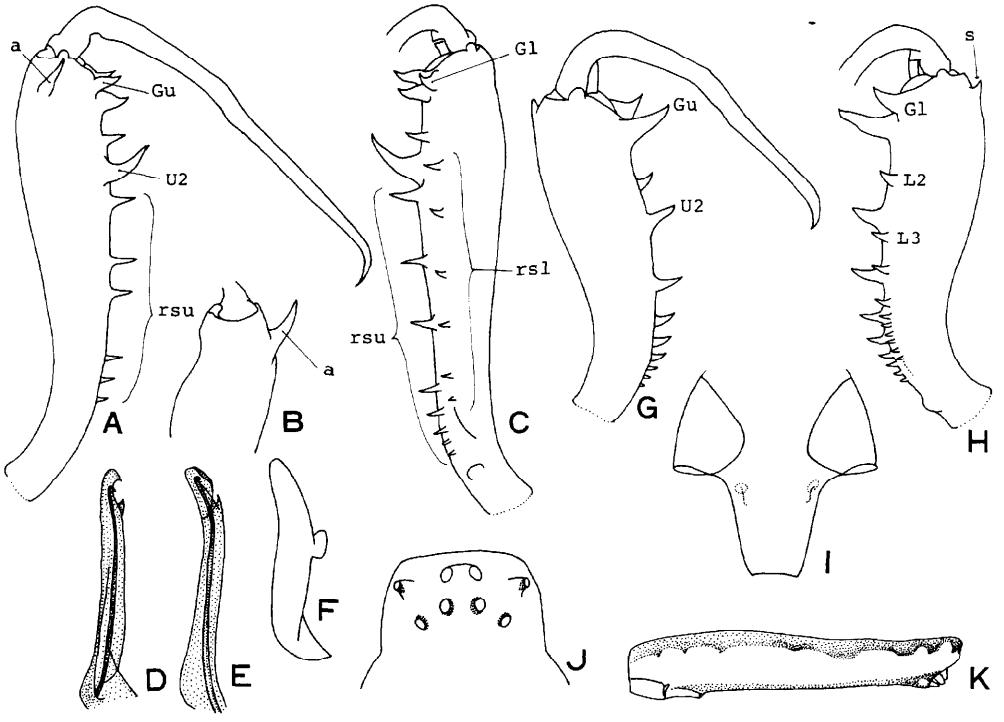

Fig. 1. *Tetragnatha rubriventris* Doleschall. A : Left chelicera of male, upper view. B : Ditto, lateral view. C : Ditto, lower view. D and E : Distal portion of conductor and embolus of male. F : Paracymbium of male. G : Left chelicera of female, upper view. H : Ditto, lower view. I : Genital fold of female. J : Eye group of female. K : Abdomen of female, lateral view.

1♀, Cape Rodney, Central Prov., 2. XI. 1960, J. L. Gressitt (BMH) ;1♀, Central Prov., 1. VII. 1962, J. L. Gressitt (BMH) ;1♀, Rouna 300-500 m, Central Prov., XI. 1968. N. L. H. Krauss (BMH). AUSTRALIA :1♀, Helenvale, N. QLD, XI. 1975, M. Gray (AMS-KS 0419) ;1♀ (AMS-KS 5346) ;1♂2♀ (AMS-KS 12830) ;1♀, Edmonton, N. Q., 14. IX. 1969, N. C. Coleman (AMS-KS 14079) ;1♀ (AMS-KS 14095) ; 1♀ (AMS-KS 14118) ; 1♂ 49 (AMS-KS 14126) ;1♂1♀, Gordon Vale, N. Q. (AMS-KS 14127) ; 1♀, Edmonton, N. Q. (AMS-KS 14139) ;1♂, Edmonton, N. Q., 28. VIII. 1976, R. Mascord (AMS-KS 14140) ; 29, Edmonton, N. Q., 16. IX. 1976, R. Mascord (AMS-KS 14141) ; 19, Edmonton, N. Q., 18. IX. 1971, R. Mascord (AMS-KS 14142) ;1♀, Edmonton, N. Q., 17. IX. 1971, R. Mascord (AMS-KS 14156) ; 1♂ (AMS-KS 14209) ;1♀, Strat food, Cairns, 20. IV. 1974, Y. Nishikawa (NSMT-Ar 1088) ;2♀, NE of Mooroobal Peak, 19. IV. 1974, Y. Nishikawa (NSMT-Ar 1087 & 1089).

Distribution *: New* Guinea and Australia.

Note : This species is related to *T. phaeodactyla* Kulczynski, *T. amoena* sp. nov. and *T. eumorpha* sp. nov., but it may be easily distinguished from them by the arrangement of eyes, i. e., the lateral eyes more separated than median eyes (lateral eyes as close as median eyes in *phaeodactyla* and others). The shapes of chelicerae in both sexes are also different from those of the latters.

Tetragnatha phaeodactyla Kulczynski, 1911

Tetragnatha phaeodactyla Kulczynski, 1911, Nova Guinea, 9 : 115 ; Roewer, 1942, Katalog der

Araneae, 1: **987.**

Male. Body length, exclusive of chelicerae, 6.6-8.6 mm ; carapacial length 2.3-2.7 mm, width 1.3-1.4 mm ; abdominal length 4.3-6.0 mm, width 1.1-1.2 mm ; cheliceral length 2.6-3.4 mm.

Eyes. Anterior row of eyes occupying full width of head ; posterior row of eyes evidently narrower than anterior one (82-83 : 100) ; viewed from above, two rows nearly parallel and recurved ; central ocular quadrangle with posterior ocular width (measured from outer margins) smaller than anterior ocular width (84-87 : 100), and nearly equal to antero-posterior ocular length (measured from outer margins) ; ratio of diameter of AME : ALE : PME : PLE as 150 : 75 : 95 : 95 (μ).

Chelicerae. Long and slender, basal segment somewhat longer than carapace; (a) small and simple, not bifucated at tip ; (Gu) and (U2) somewhat long, (rsu) 6-8 in number ;(Gl) present, (L2) and (L3) more separated than (Gl) and (L2), (rsl) 4-5 in number ; fang long, unarmed.

Legs. Injured.

Palpi. Paracymbium bluntly rounded at tip ; conductor somewhat spiraloid and the tip extended as a terminal hook.

Abdomen. Long, 4-5 times as long as broad ; distal end of abdomen slightly overhanging spinnerets.

Color in alcohol. Somewhat variable ; legs, carapace, sternum and mouth parts pale yellowish brown to brown ; legs in some specimens with dusky rings on distal part of each segment or irregular flecks on femora ; dorsal abdominal markings absent.

Female. Body length, exclusive of chelicerae, 8.0-11.0 mm ; carapacial length 2.2-3.1 mm, width 1.1-7.7 mm ; abdominal length 5.6-7.8 mm, width 1.0-1.9 mm ; cheliceral length 1.5-2.6 mm.

Eyes. Nearly as in male.

Chelicerae. Basal segment about 0.6-0.7 times as long as carapace, somewhat swollen at the middle ; without (s) on the outer side near apex ; (Gu) as long as or slightly shorter than (U2), (rsu) 6-9 in number ;(Gl) very small, (rsl) 6-9 in number ; fang unarmed.

Legs. Leg formula 1. 2. 4. 3; all legs with spines, somewhat fewer and longer than those of

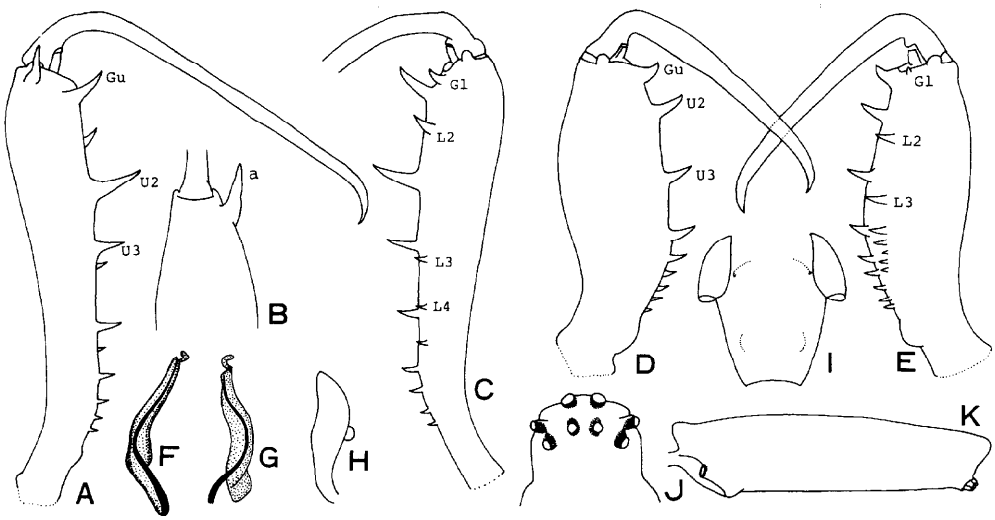

Fig. 2. *Tetragnatha phaeodactyla* Kulczynski. A : Left chelicera of male, upper view. B : Ditto, lateral view. C : Ditto, lower view. D : Left chelicera of female, upper view. E : Ditto, lower view. F and G : Distal portion of conductor and embolus of male. H : Paracymbium of male. I : Genital fold of female. J : Eye group of female. K : Abdomen of female, lateral view.

rubriventris, first femora with 10–16 spines ; relative lengths of legs as shown in Table 2.

Abdomen. Similar to male ; genital fold as shown in Fig. 2, I.

Color in alcohol. Nearly as in male.

Specimens examined : NEW GUINEA (IRIAN JAYA) : 1♀. Fak fak, Bomberi, 6-8. VI. 1959, T. Maa (BMH) ; 1♂, Oransbar, N. W. Geelying Bay sealevel, 10. XI. 1963, J. Sedlacek (BMH). NEW GUINEA (PNG) : 1♀, Bubia, Markham, 50 m, Morobe Prov., 17. IX. 1955, J. L. Gressitt (BMH) ; 16, Daradai, nr. Javarere, Mosgrove R. 100 m, C. P., 5. X. 1958, J. L. Gressitt (BMH) ; 1♂, Bisianum to Catalina, Central Prov., 3. IX. 1959, T. Maa (BMH) ; 26 29, Daradai Plantation, Central Prov., 4-7. IX. 1959, T. Maa (BMH) ; 1♀, Cape Redney, Central Prov., ‘2. Xl. 1960, J. L. Gressitt (BMH) ; 1♀, Oriomo, West District, 29. X. 1960, J. L. Gressitt (BMH) ; 1♀, Wisselmeren Moanemani, Kamo, 1,500 m, 14. VIII. 1965, J. Sedlacek (BMH) ; 1♀, Wau 1,100–1,200 m, Morobe Prov., V. 1968, N. L. H. Krauss (BMH).

Distribution : New Guinea.

Tetragnatha amoena sp. nov.

Female. Body length, exclusive of chelicerae, 9.4-10.3 mm ; carapacial length 2.8-3.1 mm, width 1.4-1.65 mm ; abdominal length 6.6-7.5 mm, width 1.5-2.0 mm ; cheliceral length 2.1-2.6 mm.

Eyes. Anterior row of eyes occupying full width of head ; posterior row of eyes evidently narrower than anterior one (85 : 100) ; viewed from above, two rows nearly parallel and moderately recurved ; central ocular quadrangle nearly square ; ratio of diameter of AME : ALE : PME : PLE as 125 : *100:* 100 : 100 (μ).

Chelicerae. Well developed. Basal segment about 0.7 times as long as carapace ; (s) present at lower outer side near apex, very small ; (Gu) and (U2) nearly equal in size, close together near distal end which are widely separated from (US), (rsu) 6-9 in number ; (Gl) very small, (L2) very long, widely separated from (Gl), (L3) close to (L2), which are widely separated from (L4), (rsl) 6-7 in number ; fang long, slightly sinuous, unarmed.

Legs. Leg formula 1. ‘2.4.3 ; all legs with many and rather short spines, first femora with about 15 spines; relative length of legs as shown in Table 3.

Abdomen. Moderately long, about 4 times as long as broad ; genital fold as shown in Fig. 3, D ; distal end of abdomen somewhat overhanging spinnerets.

Color in alcohol. Legs pale yellowish brown with dusky rings near distal parts of each segment ; sternum and maxillae pale yellowish brown ; carapace, chelicerae and fangs light yellowish brown to light brown; abdomen pale gray and covered with many small whitish yellow spangles ; dorsal abdominal markings absent.

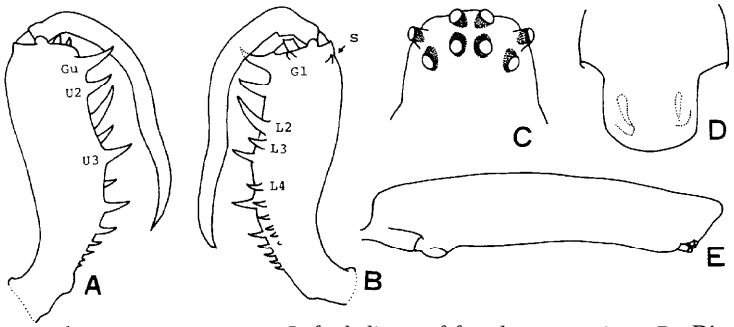

Fig. 3. *Tetragnatha amoena* sp. nov. A : Left chelicera of female, upper view. B : Ditto, lower v
C: Eye group of female. D : Genital fold of female. E : Abdomen of female, lateral view.

Type material : Holotype ♀ (BISHOP 13631) NEW GUINEA (PNG), Kassam, E. Highlands, 1-9. XI. 1959, T. Maa and J. L. Gressitt (BMH). Paratypes : NEW GUINEA (PNG) :1♀ (12. XII. 1961), 1♀ (29. X. 1964) and 1♀ (23. VI. 1965), Wau 1,200 m, Morobe Prov., J. Sedlacek (BMH) ;1♀, Bulolo, Morobe Prov., 24. VIII. 1965, J. Sedlacek (BMH).

Type depository : The holotype is preserved in the collection of BMH.

Distribution : New Guinea.

Note : This new species is related to *T. rubriventris* Doleschall, *T. phaeodactyla* Kulczynski and *T. eumorpha* sp. nov., but it may be easily distinguished from them by the characteristic arrangement of teeth on the female chelicera as shown in Fig. 3, A & B.

Tetragnatha eumorpha sp. nov.

Male. Body length, exclusive of chelicerae, 10.5 mm ; carapacial length 2.8-3.1 mm, width 1.4-1.7 mm ; abdominal length 7.5 mm, width 1.2 mm ; cheliceral length 4.0-4.4 mm.

Eyes. Anterior row of eyes occupying full width of head ; posterior row of eyes evidently narrower than anterior one (93 : 100) ; viewed from above, two rows nearly parallel and recurved ; central ocular quadrangle with posterior ocular width smaller than anterior ocular width (79 :100), and smaller than antero-posterior ocular length (80 :100), ratio of diameter of AME : ALE : PME : PLE as 200 : 95 : 125 : 95 (μ).

Chelicerae. Long and slender, basal segment about 1.4 times as long as carapace ; (a) situated near apex, small and simple, not bifurcated at tip ; (Gu) very long, about 2 times as long as (U2), slightly directed backward, (rsu) 778 in number ;(Gl) very small, (L2) very long, about equal to (Gu), slightly directed forward, (rsl) 3-4 in number ; fang long, slightly sinuous, unarmed.

Legs. Leg formula 1.2. 4.3 ; all legs with many and rather short spines, first femora with about 15 spines ; relative lengths of legs as shown in Table 4.

Palpi. Paracymbium bluntly rounded at tip ; both conductor and embolus long ; conductor bird head-shaped at its distal end.

Abdomen. Long, nearly 6 times as long as broad ; distal end of abdomen slightly overhanging spinnerets.

Color in alcohol. Considerably variable ; legs, carapace, sternum and mouth parts light yellowish brown to dark brown ; abdomen, generally, pale gray and covered with many small whitish yellow spangles ; abdominal markings absent.

Female. Body length, exclusive of chelicerae, 9.0-10.5 mm ; carapacial length 2.8-3.4 mm, width 1.5-1.9 mm ; abdominal length 6.1-7.3 mm, width 1.3-1.8 mm ; cheliceral length 2.4-3.1 mm.

Eyes. Nearly as in male.

Chelicerae. Basal segment as long as or slightly shorter than carapace, (s) very small, on lower outer side near apex ; (Gu) robust and largest, (rsu) 8-10 in number ;(Gl) small, (rsl) 8-10 in number ; fang long, unarmed.

Legs. Nearly as in male ; relative lengths of legs as shown in Table 4.

Abdomen. Similar to male ; genital fold as shown in Fig. 4, I.

Color in alcohol. Nearly as in male.

Type material : Holotype ♂ (BISHOP 13632) NEW GUINEA (IRIAN JAYA), Hollandia-Binnen 50 m, 12. VII. 1957, D. Elmo Hardy (BMH). Paratypes : NEW GUINEA (IRIAN JAYA) :2♀, same data as holotype ;1♀, Cyclops 150-250 m, 17. IV. 1959, J. L. Gressitt (BMH) ;1♀, Obone Ifar 400-900 m, J. L. Gressitt (BMH). NEW GUINEA (PNG) :1♂1♀, Wanuma 800-1,000 m, Adelbert Mts., Madang Prov., 24, 25. X. 1958, J. L. Gressitt (BMH) ;1♀, Angoran, Madang Prov., 14-16. VIII. 1969, Y. Hirashima (KUF) ;1♀, Madang, Madang Prov., 17-18. IX. 1969, Y. Hirashima (KUF).

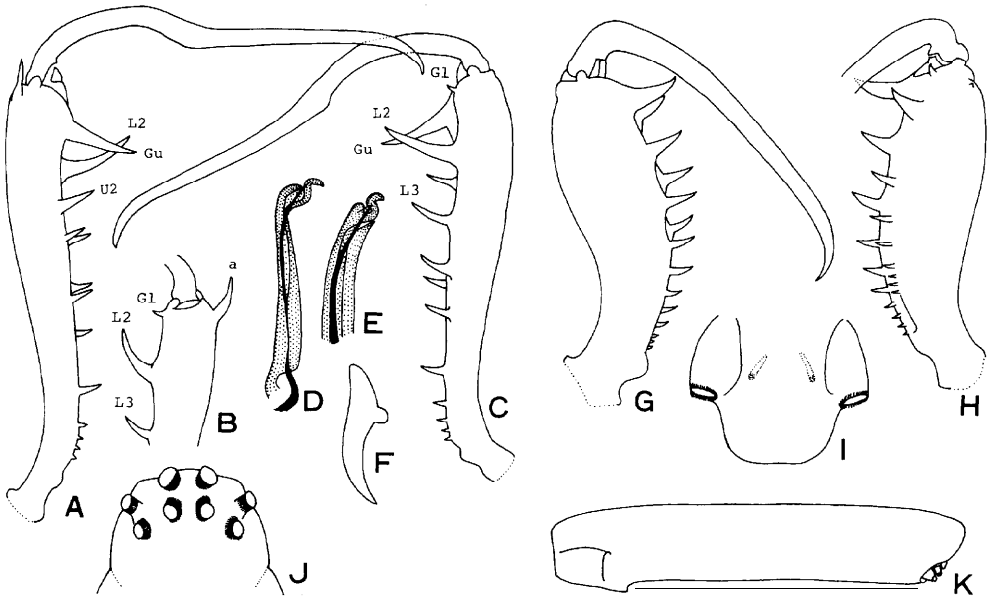

Fig. 4. *Tetragnatha eumorpha* sp. nov. A : Left chelicera of male, upper view. B : Ditto, lateral view. C: Ditto, lower view. D and E : Distal portion of conductor and embolus of male. F : Paracymbium **of** male. G : Left chelicera of female, upper view. H : Ditto, lower view. I : Genital fold of female. J : Eye group of male. K : Abdomen of female, lateral view.

Type depository : The holotype is preserved in the collection of BMH.

Distribution : New Guinea.

Note : This new species is related to *T. rubriventris* Doleschall, *T. phaeodactyla* Kulczynski and *T.* ***amoena*** sp. nov., but it may be easily distinguished from them by the very long (Gu) and the very long (L2) in male chelicera. The shapes of male conductor and female genital fold are also different from those of the latters.

The bituberculata-group

Diagnosis. Posterior row of eyes wider than anterior row of eyes ; lateral eyes closer than median eyes, situated on a tubercle ; antero-median eyes closer than postero-median eyes ; male chelicerae with (a), (t), (sl) and (T) ; female chelicera with (e) between (Gu) and (T).

KEY TO THE SPECIES

Male 2
Female 6
Tip of conductor twisted, broadened ..... *demissa*
Tip of conductor twisted, crescent-shaped or very narrowed .....
Paracymbium with tip pointed, and subapical margin serrate ..... ***ceylonica***
Paracymbium with tip rounded, and subapical margin entire 4
(sl) and (T) near apex of upper margin of fang furrow ..... *priamus* sp. nov.

— (sl) and (T) widely separated from apex of upper margin of fang furrow .....
5. Chelicera about 0.5 times as long as carapace ; (sl) small and directed forward ..... *yalom*
— Chelicera about 0.6-0.8 times as long as carapace ; (sl) long, and its tip directed backward ..... *bituberculata*
6. (AXl) large and thick, and its tip rounded ..... *oreobia* sp. nov.
— (AXl) small or absent 7
7. (e) large and thick, and its tip rounded ..... *priamus* sp. nov.
— (e) simple, and its tip pointed 8
8. (Gu) large, and its tip directed backward ; (e) smaller than (T) ..... *bituberculata*
— (Gu) not as above ; (e) not smaller than (T) 9
9. (Gu) larger than (e), and its tip directed forward ; small (AXl) present ..... *ceylonica*
— (Gu) smaller than (e), and its tip directed forward ; (AXl) absent ..... *demissa*

Tetragnatha bituberculata L. Koch, 1867

Tetragnatha bituberculata L. Koch, 1867, Verh. Zool.-Bot. Ges. Wien, 17: 184 ; **L.** Koch, 1871, Arachn. Austral., 1: 183 ; Keyserling, 1887, Arachn. Austral., 2 : 220 ; Roewer, 1942, Katalog der Araneae, 1: *985*.

Tertragnatha heatwolei Chrysanthus, 1975, Zool. Verhandl., 140 : 13. New **synonymy.**

Male. Body length, exclusive of chelicerae, 5.9-8.3 mm ; carapacial length 2.1-2.8 mm, width 1.3-1.7 mm ; abdominal length 3.8-5.5 mm, width 0.9-1.4 mm ; cheliceral length 1.3-2.5 mm.

Eyes. 'Viewed from above, posterior row of eyes wider than anterior row of eyes (111-115 : 100) ; postero-median eyes more separated than antero-median eyes, and lateral eyes closer than median eyes, situated on a tubercle ; central ocular quadrangle with posterior ocular width larger than anterior ocular width (122-152 : 100), and larger than antero-posterior ocular length (127-144 : 100) ; ratio of diameter of AME : ALE : PME : PLE as 120 : 63 : 88 : 100 (μ).

Chelicerae. Basal segment about 0.6-0.8 times as long as carapace ; (a) bifurcated at tip ; (t), (sl) and (T) present, (rsu) 4-7 in number ; (AXl) and (Gl) present, (rsl) 4-7 in number ; fang unarmed.

Legs. Leg formula 1. 2. 4. 3 ; all legs with somewhat long spines, first femora with about 6 spines ; relative lengths of legs as shown in Table 8.

Palpi. Paracymbium rather slender, bluntly rounded at distal end ; distal end of conductor of embolus attenuated and twisted.

Abdomen. Moderately long about 4 times as long as broad, not extended posteriorly to spinnerets.

Color in alcohol. Chelicerae, carapace, sternum, maxillae, labium and legs brown, fang of chelicerae somewhat dark ; abdomen generally grayish brown, with indistinct dusky markings and covered with dusky silvery spangles dorsally ; with a central dark gray stripe ventrally.

Female. Body length, exclusive of chelicerae, 6.4-10.3 mm ; carapacial length 2.0-3.1 mm, width 1.2-1.9 mm ; abdominal length 4.4-7.6 mm, width 0.9-2.6 mm ; cheliceral length 1.4-2.0 mm.

Eyes. Nearly as in male.

Chelicerae. Basal segment, 0.5-0.7 times as long as carapace ; (Gu) large, its point directed somewhat backward, (e) smaller than (T) ; (rsu) 4-7 in number ; (AXl) absent ; (rsl) 4-7 in number ; fang robust, with (EX) on outer side near base.

Legs. Nearly as in male ; relative lengths of legs as shown in Table 8.

Abdomen. Moderately long, about 3 times as long as broad ; dorsum in some specimens (full grown ?) gibbous at the middle ; not extended posteriorly to spinnerets ; genital fold as shown in

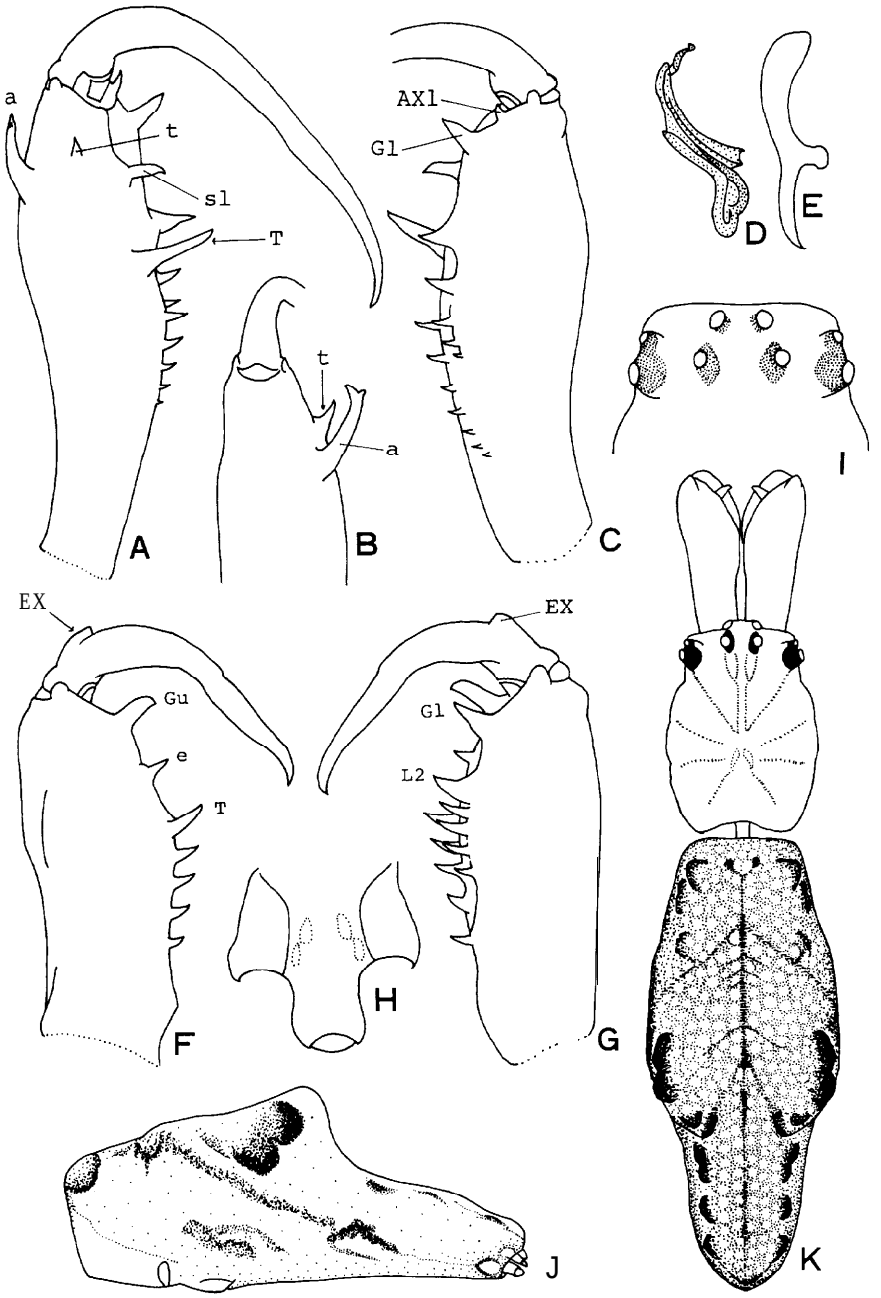

Fig. 5. *Tetragnatha bituberculata* L. Koch. A : Left chelicera of male, upper view. B : Ditto, lateral view. C : Ditto, lower view. D : Distal portion of conductor and embolus of male. E : Paracymbium of male. F : Left chelicera of female, upper view. G : Ditto, lower view. H : Genital fold of female. I : Eye group of male. J : Abdomen of female, lateral view. K : Female, dorsal view.

Fig. 5, H.

Color in alcohol. Generally paler than male ; abdomen with more conspicuous markings as shown in Fig. 5, J & K.

Specimens examined : AUSTRARIA :1♂ (AMS-KS 12831) ;1♀ (AMS-KS 8909) ;1♂ (AMS-KS 9475) ;2♀ (AMS-KS 12831); 1♀ (AMS-KS 14102) ; 20 (AMS-KS 14103); 1♀ (AMS-KS 14104) ;1♀, Gordon Vale, N. Q. (AMS-KS 14129) ;1♂ (AMS-KS 14174); 1♀ (AMS-KS 14177) ;1♂ (AMS-KS 14210) ;1♀(AMS-KS 14215) ;1♀, Lizard I., 27-29. IX. 1967, H. Heatwole (AMS-KS 0025).

Distribution : Australia and neighboring Islands.

Note: This species was described from Queensland and New South Wales, and has been recorded only from Australia. All the specimens mentioned above very well agree with L. Koch's descriptions and figures. *T. heatwolei* Chrysanthus, 1975 from Lizard I. (holotype, ♀, (AMS-KS 0025)) is identical with this species. The eyes of *T. heatwolei* figured by the original author do not agree with those of the holotype.

Tetragnatha ceylonica Cambridge, 1869

Meta gracilis Stoliczka, 1869, Journ. Asiat. Soc. Bengal, 38 : 244.

Tetragnatha ceylonica Cambridge, 1869, Journ. Linn. Soc. Zool., 10 : 394 ; Roewer, 1942, Katalog der Araneae, 1: 984 ; Okuma, 1968, Mushi, 42 : 99 ; Chu and Okuma, 1970, Mushi, 44 : 73.

Tetragnatha latifrons Thorell, 1877, Ann. Mus. Civ. Genova, 10 : 434.

Tetragnatha fronto Thorell, 1890, Ann. Mus. Civ. Genova, 28 : 214.

Tetragnatha tridens Thorell, 1898, Ann. Mus. Civ. Genova, 39 : 328.

Tetragnatha gracilis Pocock, 1900, Faun. Brit. Ind. Arachn., : 214 ; Merian, 1911, 2001. Jahrb. Syst., 31 (2) : 181 ; Gravely, 1921, Rec. Ind. Mus., 22 : 427, 436.

Tetragnatha eitapensis Strand, 1913, Archn. Naturg., 79 : 115 ; Strand, 1914, Abh. Senckenbg. Ges., 36 (2) : 196 ; Chrysanthus, 1975, 2001. Verhandl., 140 : 6. New **synonymy.**

Male. Body length, exclusive of chelicerae, 7.2-7.6 mm ; carapacial length 2.5-2.7 mm, width 1.5-1.6 mm ; abdominal length 4.7-5.0 mm, width 1.4 mm ; cheliceral length 1.6-2.3 mm.

Eyes, Viewed from above, posterior row of eyes wider than anterior row of eyes (114-115 : 100) ; postero-median eyes more separated than antero-median eyes ; lateral eyes closer than median eyes, situated on a tubercle; central ocular quadrangle with posterior ocular width larger than anterior ocular width (139-144 : 100), and larger than antero-posterior ocular length (132-144 : 100) ; ratio of diameter of AME : ALE : PME : PLE as 150 : 75 : 125 : 125 (μ).

Chelicerae. Basal segment, about 0.6-0.8 times as long as carapace ; (a) obliquely truncate at its tip ; (t), (sl) and (T) present, (t) comparatively large, (sl) situated subapical end of upper margin of fang furrow, (rsu) 5-6 in number ;(AXl) and (Gl) present, (Gl) considerably large, (rsl) 4-5 in number ; fang unarmed.

Legs. Leg formula 1.2.4.3 ; all legs with many and somewhat long spines, first femora with about 10 spines; relative lengths of legs as shown in Table 9.

Palpi. Paracymbium terminated in a unique curved process and with a serrate margin near apex (Fig. 6, H) ; distal end of conductor of embolus attenuated and twisted.

Abdomen. Moderately long, about 3.5 times as long as broad, not extended posteriorly to spinnerets.

Color in alcohol. Somewhat variable ; carapace, sternum and chelicerae light brown to dark brown ; legs yellowish brown ; abdomen with indistinct dusky markings and covered with sparse dusky silvery spangles dorsally, with a central dark gray stripe ventrally.

Female. Body length, exclusive of chelicerae, 6.8-11.8 mm ; carapacial length 2.3-3.0 mm, width

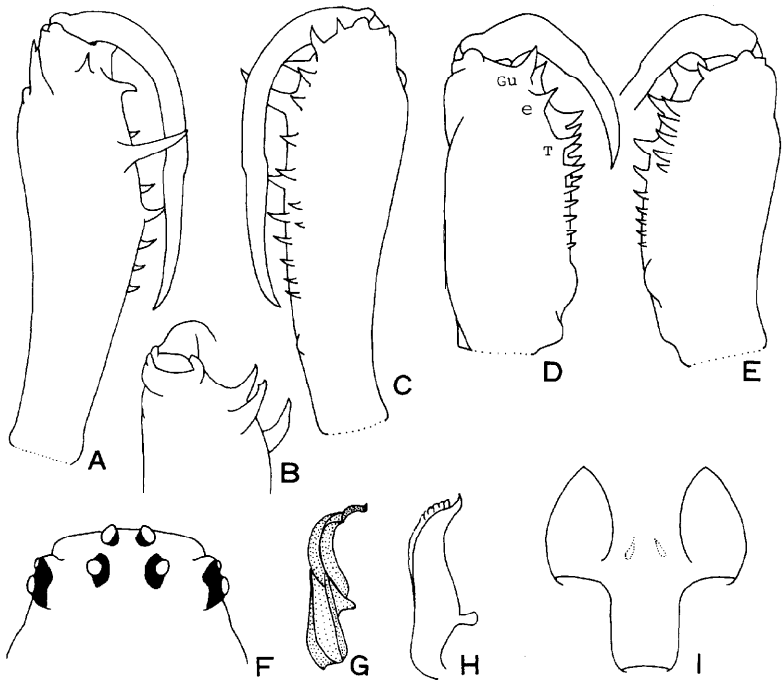

Fig. 6. *Tetragnatha ceylonica* Cambridge. A : Left chelicera of male, upper view. B : Ditto, lateral view. C : Ditto, lower view. D : Left chelicera of female, upper view. E : Ditto, lower view. F : Eye group of male. G : Distal portion of conductor and embolus of male. H : Paracymbium of male. I : Genital fold of female.

1.5-2.0 mm ; abdominal length 4.5-9.0 mm, width 1.2-3.0 mm ; cheliceral length 1.2-1.8 mm.

Eyes. Nearly as in male.

Chelicerae. Basal segment about 0.5-0.7 times as long as carapace ; (Gu) somewhat robust, and its tip directed forward, (rsu) 6-7 in number ; (AXl) present, (rsl) 5-7 in number ; fang robust, (EX) absent in New Guinean specimens, present (although very variable in size, often only a mark) in S. E. Asian specimens.

Legs. Nearly as in male ; relative lengths of legs as shown in Table 9.

Abdomen. Moderately long, about 3 times as long as broad ; not extended posteriorly to spinnerets ; genital fold as shown in Fig. 6, I.

Color in alcohol. Similar to male but abdomen with more conspicuous markings as usual for the group.

Specimens examined : NEW GUINEA (PNG) : 1♀, Adelbert Mts., Madang Prov., 23. X. 1958, J. L. Gressitt (BMH) ; 1♀, Wau, 1,200 m, Morobe Prov., 16. XII. 1961, J. H. Sedlacek (BMH). NEW BRITAIN : 1♂, Nakanai Mts., 28. VII. 1956, J. L. Gressitt (BMH) ; 1♂, Mt. Kobugan, Bangao, 15. II. 1957, Y. Kondo (BMH). ADMIRALTY Is.: 1♀, Rossen, Manus I., 29. VI. 1959, J. L. Gressitt (BMH) ; 1♂, Kairiru I. (AMS-KS 7971).

Distribution : South East Asia and New Guinea.

Note : This species is related to T. *bituberculata* L. Koch, *T. demissa* L. Koch and *T. priamus* sp. nov., but it is separable from them by the shape of the male palpal paracymbium, i. e., the presence of the unique curved process on the apex and the margin near its apex is serrate. *T. eitapensis* Strand,

1913 from New Guinea is undoubtedly identical with this species, and is synonymized with *T. ceylonica* in the present paper. And *T. crassichelate* Chrysanthus, 1975 from New Guinea and T. *earmra* Levi, 1981 from Florida may be synonyms of this species.

Tetragnatha demissa L. Koch, 1871

Tetragnatha demissa L. Koch, 1871, Arachn. Austral., 1 : 185 ; Keyserling, 1887, Arachn. Austral., 2 : 221 ; Roewer, 1942, Katalog der Araneae, 1 : *985*.

Tetragnatha quadridens Dondale, 1966, Aust. J. Zool., 14 : 1157 New **synonymy.**

Male. Body length, exclusive of chelicerae, 4.7-8.1 mm ; carapacial length 1.8-2.8 mm, width 1.0-1.6 mm ; abdominal length 2.9-5.3 mm, width 0.8-1.4 mm ; cheliceral length 1.3-2.3 mm.

Eyes. Viewed from above, posterior row of eyes slightly wider than anterior row of eyes (107-110 : 100) ; postero-median eyes more separated than antero-median eyes ; lateral eyes closer than median eyes, situated on a tubercle ; central ocular quadrangle with posterior ocular width larger than anterior ocular width (115-120 :100), and larger than antero-posterior ocular length in nearly same ratio as the latter ; ratio of diameter of AME : ALE : PME : PLE as 125 : 63 : 75 : 75 (μ).

Chelicerae. Basal segment about 0.6-0.8 times as long as carapace ; (a) bifurcated at tip ; (t), (sl) and (T) present, (rsu) 6-9 in number ; (AXl) and (Gl) present, (rsl) 4-7 in number ; fang unarmed.

Legs. Leg formula 1.2.4. 3 ; all legs with many spines, first femora with about 11 spines ; relative lengths of legs as shown in Table 10.

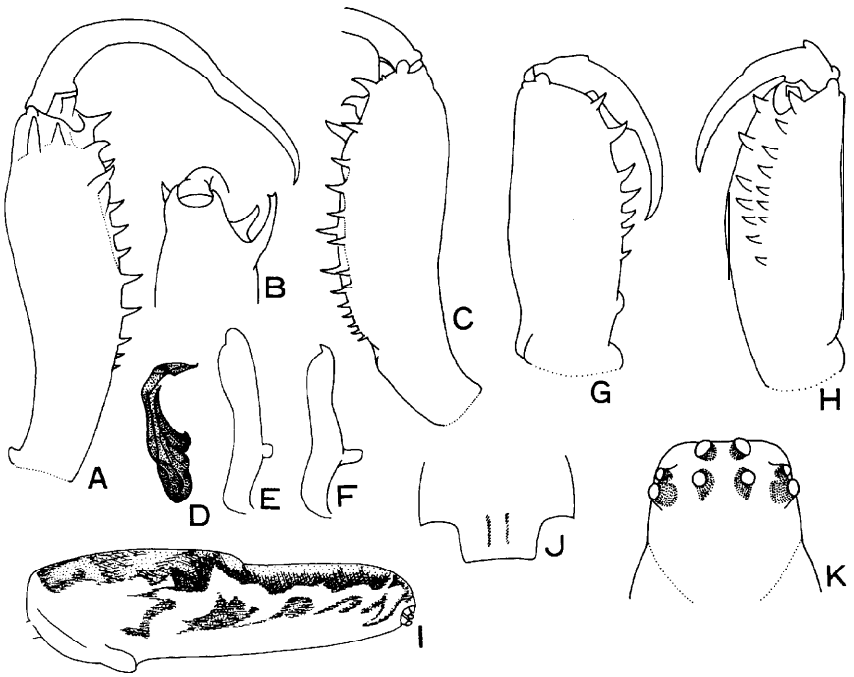

Fig. '7. *Tetragnatha demissa* L. Koch. A : Left chelicera of male, upper view. B : Ditto, lateral view. C : Ditto, lower view. D : Distal portion of conductor and embolus of male. E and F : Paracymbium of male. G : Left chelicera of female, upper view. H : Ditto, lower view. I : Abdomen of female. lateral view. J : Genital fold of female. K : Eye group of male.

Palpi. Paracymbium rather long, in some specimens with a beaked projection at its tip, or rounded inwardly at tip ; tip of conductor twisted, broadened.

Abdomen, Moderately long, about 4-5 times as long as broad, not extended posteriorly to spinnerets.

Color in alcohol. Somewhat variable ; generally light grayish brown to yellowish brown ; mouth parts somewhat dark ; legs with small flecks at base of each spine ; abdomen with indistinct dusky markings dorsally, with a central dark gray stripe ventrally.

Female. Body length, exclusive of chelicerae, 6.5-8.3 mm ; carapacial length 2.1-2.6 mm, width 1.4-1.6 mm ; abdominal length 4.8-6.0 mm, width 1.2-1.6 mm ; cheliceral length 1.1-1.5 mm.

Eyes. Nearly as in male.

Chelicerae. Basal segment about 0.5 times as long as carapace ; (Gu) smaller than (e), (rsu) 5-6 in number ;(AXl) absent, (rsl) 5-6 in number ; fang with (EX) on outer side near base.

Legs. Nearly as in male ; relative lengths of legs as shown in Table 10.

Abdomen. Moderately long, about 4 times as long as broad ; not extended posteriorly to spinnerets ; genital fold as shown in Fig. 7, J.

Color in alcohol. Similar to male, but abdomen with more conspicuous markings as shown in Fig. 7, I.

Specimens examined : AUSTRALIA: 1♂ (AMS-KS 6690) ;1♀ (AMS-KS 6691) ;3♀ (AMS-KS 14081) ; 26 (AMS-KS 14098) ;1♂2♀ (AMS-KS 14105) ;1♀ (AMS-KS 14106) ;1♂ (AMS-KS 14153) ; 1♂(AMS-KS 14173) ;1♀, Queensland, 20. IV. 1974, Y. Nishikawa (NSMT-Ar. 1090) ; 19, Queensland, 19. IV. 1974, Y. Nishikawa (NSMT-Ar. 1091). GILBERT & ELLJCE Is. :1♀, 16. V. 1972, P. D. Manser (BMH). TONGA :1♀ (other data lost) (BMH) ;

Distribution : Australia and neighboring Islands.

Note : This species was described in 1871 from Australia based on a female specimen, but in 1887 Keyserling redescribed based on many specimens in Godeffroy Museum. In 1966, Dondale described a new species, ***Tetragnatha quadridens,*** from Australia. However, I have convinced that ***quadridens*** is a synonym of ***demissa.*** In addition ***T.*** *marginata* (Thorell, 1890) from S. E. Asia and ***T.*** *latro* Tullgren, 1910 from Africa may be synonymous with T. ***demissa.*** This species is related to ***T.*** *bituberculata* L. Koch, 1867 known also from Australia but is separable from the latter by the male palpal conductor and paracymbium and the female (Gu) on the chelicera. The relative lengths of legs are also somewhat different each other (Tables 8 & 10).

It is worthwhile to note that Keyserling (1887) incorrectly figured the chelicera and palpus of ***demissa*** and the chelicera of *protensa*. Namely, the one shown in Taf. XX, Fig. 3 as ***demissa*** is ***protensa,*** and the other one shown in Fig. 4 in the same plate as ***protensa*** is *demissa*.

Tetragnatha oreobia sp. nov.

Female. Body length, exclusive of chelicerae, 10.7-12.5 mm ; carapacial length 3.0 mm, width 1.9-2.0 mm ; abdominal length 7.7-9.5 mm, width 1.7-2.4 mm ; cheliceral length 1.9 mm.

Eyes. Viewed from above, posterior row of eyes slightly wider than anterior row of eyes (103-107 : 100) ; postero-median eyes more separated than antero-median eyes ; lateral eyes closer than median eyes, situated on a tubercle; central ocular quadrangle with posterior ocular width larger than anterior ocular width (147-153 :100), and larger than antero-posterior ocular length (131-135 : 100) ; ratio of diameter of AME : ALE : PME : PLE as 150 : 50 : 100 : 100 (μ).

Chelicerae. Basal segment about 0.6 times as long as carapace, robust, somewhat swollen in the middle, somewhat gibbous on upper-apical outer side ;(AXu) present, (rsu) 6-8 in number ;(AXl) very robust, its tip rounded, (rsl) 5-7 in number; fang robust, unarmed.

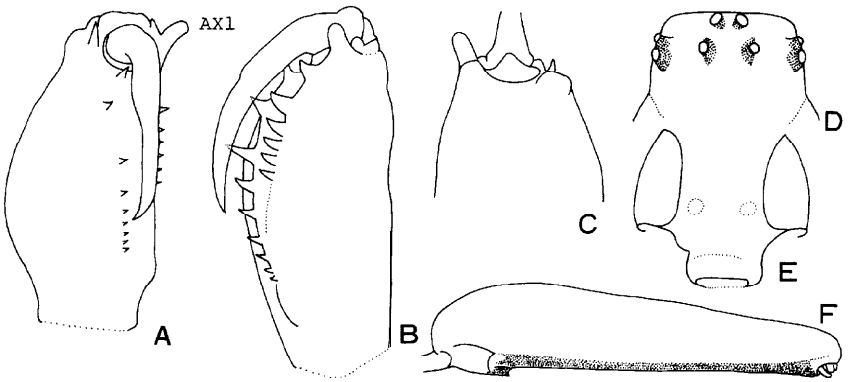

Fig. 8. *Tetragnatha oreobia* sp. nov. A : Left chelicera of female, upper view. B : Ditto, lower view. C : Ditto, lateral view. D : Eye group of female. E : Genital fold of female. F : Abdomen of female, lateral view.

Legs. Leg formula 1.4.2.3 ; all legs with many and somewhat long spines, first femora with about 7-9 spines ; relative lengths of legs as shown in Table 11.

Abdomen. Moderately long, about 4 times as long as broad, not extended posteriorly to spinnerets ; genital fold as shown in Fig. 8, E.

Color in alcohol. Legs, carapace and chelicerae yellowish brown ; lip, sternum, fang and teeth somewhat dark ; abdomen covered with many dusky yellowish silvery spangles and dorsal cardiac area has a transparent stripe ; venter somewhat dark.

Type material : Holotype, ♀ (BISHOP 13633) NEW GUINEA (PNG), Kundiawa, 1,400-1,500 m, Chimbu Prov., XI. 1971, N. L. H. Krauss (BMH). Paratype : NEW GUINEA (PNG), 1♀, Wau, 1,100-1,200 m, Morobe Prov., V. 1968, N. L. H. Krauss (BMH).

Type depository : The holotype is preserved in the collection of BMH.

Distribution : New Guinea.

Note : This new species is related to *T. ceylonica* Cambridge, *T. bituberculata* L. Koch, *T. demissa* L. Koch and *T. priamus* sp. nov., but it is separable from them in the shape of female chelicera, i. e., a blunt prominence situated on the lower-apical portion is very striking.

Tetragnatha priamus sp. nov.

Male. Body length, exclusive of chelicerae, 7.6 mm ; carapacial length 2.2 mm, width 1.3 mm ; abdominal length 5.4 mm, width 0.9 mm ; cheliceral length 1.7-1.8 mm.

Eyes. Viewed from above, posterior row of eyes slightly wider than anterior one (107-112 : 100) ; postero-median eyes more separated than antero-median eyes ; lateral eyes closer than median eyes, situated on a tubercle ; central ocular quadrangle with posterior ocular width larger than anterior ocular width (131 :100), and larger than antero-posterior ocular length in nearly same ratio as the latter ; ratio of diameter of AME : ALE : PME : PLE as 125 : 55 : 125 : 125 (μ).

Chelicerae. Conspicuously developed, basal segment about 0.8 times as long as carapace ; (a) robust, obliquely truncate at tip ; (sl) and (T) contiguosly situated near apex of upper margin of fang furrow, (t) present between (a) and (T) ; (rsu) 5-6 in number ; (AXl) present, (Gl) considerably long, (rsl) 4-5 in number; fang slightly sinuous, unarmed.

Legs. Leg formula 1.2.4.3 ; all legs with many spines, first femora with about 10 spines ; relative lengths of legs as shown in Table 12.

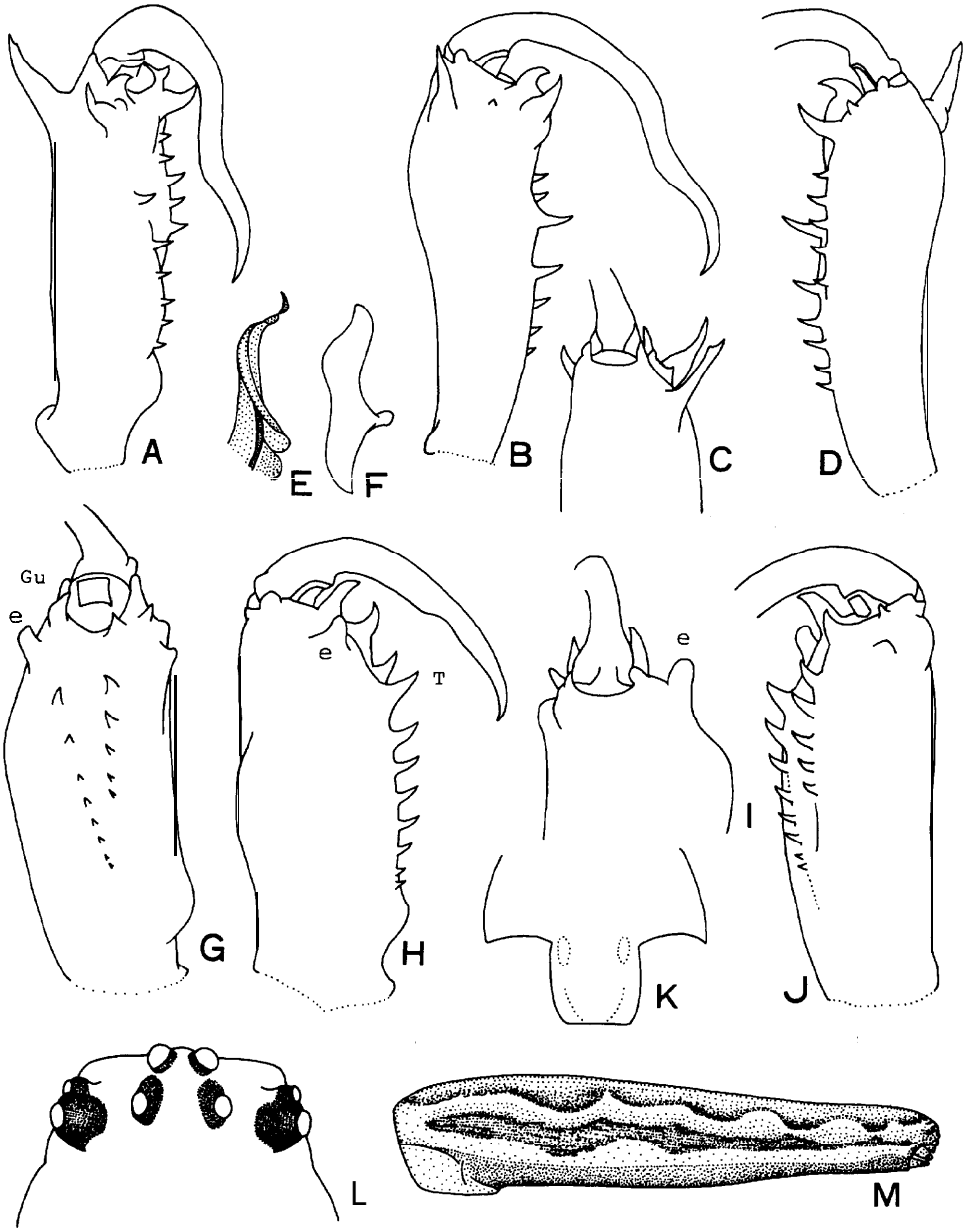

Fig. 9. *Tetragnatha priamus* sp. nov. A and B : Left chelicera of male, upper view. C : Ditto, lateral view. D : Ditto, lower view. E : Distal portion of conductor and embolus of male. F : Paracymbium of male, G : Left chelicera of female, inner view. H : Ditto, upper view. I : Ditto, lateral view. J : Ditto, lower view. K : Genital fold of female. L : Eye group of male. M : Abdomen of female, lateral view.

Palpi. Paracymbium not acuminated at tip ; conductor of embolus attenuated and twisted at tip.

Abdomen. Moderately long, about 6 times as long as broad, not extended posteriorly to spinnerets.

Color in alcohol. Carapace and chelicerae brown ; legs, sternum, maxillae and lip yellowish brown ; abdomen generally pale grayish brown, with indistinct dusky markings and covered with dusky silvery spangles dorsally, with a central dark gray stripe ventrally.

Female. Body length, exclusive of chelicerae, 8.2-9.6 mm, carapacial length 2.5-2.9 mm, width 1.6-1.9 mm ; abdominal length 5.6-6.8 mm, width 1.2-2.0 mm ; cheliceral length 1.7-2.0 mm.

Eyes. Nearly as in male.

Chelicerae. Basal segment about 0.7 times as long as carapace ; basal segment large, robust, somewhat swollen in the middle, somewhat gibbous on subapical lower side and outer side ; (Gu) and (T) nearly equal in size, (Gu) directed somewhat backward, (e) robust, its tip rounded, (rsu) 7-10 in number ; (AXl) present, (rsl) 6-7 in number ; fang unarmed.

Legs. Nearly as in male ; relative lengths of legs as shown in Table 12.

Abdomen. Moderately long, about 4 times as long as broad, not extended posteriorly to spinnerets ; genital fold as shown in Fig. 9, K.

Color in alcohol. Similar to male but abdomen with more conspicuous markings as usual for the group.

Type material : Holotype, ♂ (BISHOP 13634) Solomon Is., Kundurumbangara 60 m, 15. XI. 1963, J. L. Gressitt. Paratypes : SOLOMON Is. : 1♀, Bougainville (S.), 12. VI. 1956, E. J. Ford, Jr. ; 2♀, Kolombangara I., 11-18. VII. 1959, J. L. Gressitt ; 1♀, Buka I., 3-10. XII. 1959, T. Maa ; 1♀, Kundurumbangara 80 m, P. Shanahan ; 1♂, Kolombangara I., 15. I. 1964, P. Shanahan (all BMH).

Type depository : The holotype is preserved in BMH.

Distribution : Solomon **Is.**

Note : This new species is related to *T. ceylonica* Cambridge, *T. bituberculata* L. Koch, and *T. demissa* L. Koch, but it is separable from them by the shape of male chelicera, particular-y the (sl) and (T) which are nearly coalescent at the base in this species. And the female chelicera is provided with (e) which is robust, and rounded at tip in this species.

Tetragnatha yalom Chrysanthus, 1975

Tetragnatha yalom Chrysanthus, 1975, 2001. Verhandl., 140 : 18.

Male. Body length, exclusive of chelicerae, 5.3-6.2 mm ; carapacial length 1.7-2.1 mm, width 1.1-1.2 mm ; abdominal length 3.6-4.1 mm, width 0.9-1.0 mm ; cheliceral length 0.9-1.1 mm.

Eyes. Viewed from above, posterior row of eyes slightly wider than anterior row of eyes (114-116 : 100) ; postero-median eyes more separated than antero-median eyes ; lateral eyes closer than median eyes, situated on a tubercle ; central ocular quadrangle with posterior ocular width larger than anterior ocular width (128 :100), and larger than antero-posterior ocular length in nearly same ratio as the latter ; ratio of diameter of AME : ALE : PME : PLE as 100 : 50 : 75 : 75 (μ).

Chelicerae. Basal segment about 0.5 times as long as carapace, obliquely truncate at apex ; (a), (t), (sl) and (T) present, (rsu) 4 in number ; (AXl) absent, (Gl) somewhat long, (rsu) 4-6 in number ; fang unarmed.

Legs. Leg formula 1.2.4.3 ; all legs with many spines, first femora with 7-8 spines ; relative lengths of legs as shown in Table 13.

Palpi. Paracymbium rather robust, bluntly rounded at tip ; distal end of conductor similar to that of *T. ceylonica* or *T. bituberculata*.

Abdomen. Moderately long, about 4 times as long as broad, not extended posteriorly to

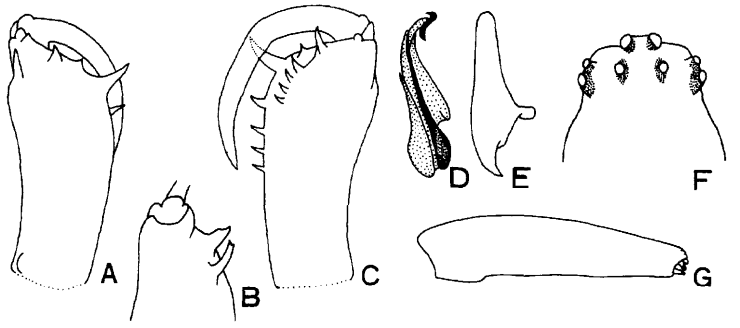

Fig. 10. *Tetragnathu yalom* Chrysanthus. A : Left chelicera of male, upper view. B : Ditto, lateral view. C : Ditto, lower view. D : Distal portion of conductor and embolus of male. E : Paracymbium of male. F : Eye group of male. G : Abdomen of male, lateral view.

spinnerets.

Color in alcohol. Carapace, chelicerae and legs yellowish brown ; maxillae, labium and sternum brown; abdomen greyish yellow with some darker irregular longitudinal lines; underside greyish brown; venter with a central dark gray stripe.

Female unknown.

Specimens examined : NEW GUINEA (PNG) : 1♂, J. L. Gressitt (BMH) ; 1♂, Gent River, 7. VIII. 1983, 0. Tadauchi (KUF). AUSTRALIA : 1♂, N. QLD, XI. 1975, M. Gray (AMS-KS 0420).

Distribution : New Guinea and Australia.

Note : This species is related to *T. ceylonica* Cambridge and T. *bituberculata* L. Koch, but it is separable from them by the shape of male chelicera, i. e., the basal segment obliquely truncated in this species as shown in Fig. 10, A & C.

The jaculator-group

Diagnosis. Posterior row of eyes evidently narrower than anterior row of eyes ; lateral eyes more separated than median eyes ; cheliceral length shorter than carapace in both sexes ; distal end of abdomen slightly overhanging spinnerets.

Tetragnatha jaculator Tullgren, 1910

Tetragnatha jacukztor Tullgren, 1910, Sjöstedt Kilimand. Exped., 3: 150 ; Lawrence, 1936, Ann. Transv. Mus., 17 (2) : 152 ; Roewer, 1942, Katalog der Araneae, 1: 978 ; Okuma, 1984, Esakia, (22) : 87.

Tetragnatha sp. B. Okuma, 1968, Mushi, 42 : 103 ; Okuma, 1981, Jap. J. Appl. Ent. Zool., 25 : 297.

Male. Body length, exclusive of chelicerae, 4.5-8.1 mm ; carapacial length 1.7-2.4 mm, width 1.0-1.4 mm ; abdominal length 2.8-5.8 mm, width 0.7-1.2 mm ; cheliceral length 1.0-1.6 mm.

Eyes. Anterior row of eyes occupying full width of head ; posterior row of eyes somewhat narrower than anterior one (90-97 : 100) ; viewed from above anterior row moderately recurved, posterior row somewhat strongly recurved, so that lateral eyes more separated than median eyes; central ocular quadrangle with posterior ocular width larger than anterior ocular width (123 : 100) and slinghtly larger than antero-posterior ocular length (107 : 100) ; ratio of diameter of AME : ALE : PME : PLE as 113 : 55 : 75 : 75 (μ).

Chelicerae. Basal segment, about 0.6 times as long as carapace ; (AXu), (a), (t), (sl) and (T) present, (AXu) variable in size, (rsu) 4-5 in number ; (AXl) present, (Gl) somewhat long, (rsl) 6-8 in number ; fang unarmed.

Legs. Leg formula 1.2.4.3 ; all legs with spines, first femora with about 6-9 spines ; relative lengths of legs as shown in Table 5.

Palpi. Paracymbium somewhat cubical and complicated as shown in Fig. 11, G ; distal end of conductor and embolus simple ; spherical tegulum distinctly large, oval and slanting.

Abdomen. Moderately long, about 4 times as long as broad ; distal end of abdomen somewhat overhanging spinnerets.

Color in alcohol. Legs, carapace and chelicerae generally yellowish brown ; maxillae, lip, and sternum somewhat dusky brown ; abdomen generally gray, covered with yellowish silvery spangles dorsally, and gray ventrally.

Female. Body length, exclusive of chelicerae, 6.1-9.7 mm ; carapacial length 1.8-2.7 mm, width 1.1-1.5 mm ; abdominal length 4.2-7.1 mm ; width 1.2-1.8 mm ; cheliceral length 0.8-1.4 mm.

Eyes. Nearly as in male.

Chelicerae. Basal segment about 0.5 times as long as carapace ; (AXu) present, (rsu) 4-5 in number ; (rsl) 6-7 in number ; fang unarmed.

Legs. Nearly as in male ; relative lengths of legs as shown in Table 5.

Abdomen. Moderately long, about 3.5 times as long as broad ; distal end of abdomen slightly

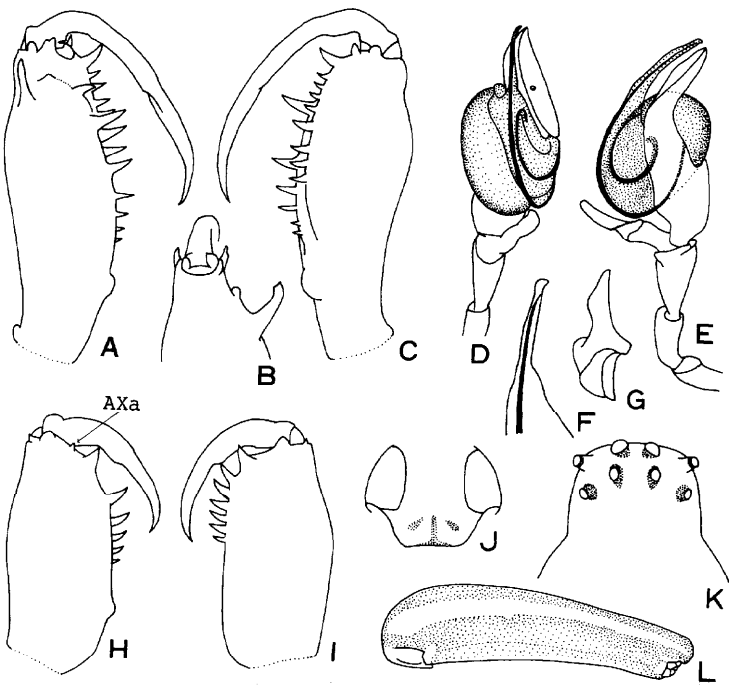

Fig. 11. *Tetragnatha jaculator* Tullgren. A : Left chelicera of male, upper view. B : Ditto, lateral view. C : Ditto, lower view. D and E: Left palpus of male. F : Distal portion of conductor and embolus of male. G : Paracymbium of male. H : Left chelicera of female, upper view. I : Ditto, lower view. J : Genital fold of female. K : Eye group of female. L : Abdomen of female, lateral view.

overhanging spinnerets; genital fold as shown in Fig. 11, J.

Color in alcohol. Similar to male, but abdomen with silvery lateral stripes as shown in Fig. 11, L.

Specimens examined : NEW GUINEA (IRIAN JAYA): 2♂ 29, Vogelkop, Sururai Vil. 1 area, W. shore Lake Angi Giji, 1,850 m, 26. VII. 1957, D. Elmo Hardy (BMH) ; 16, Vogelkop, Sucumi Camp, nr. head of Sucumi R., 6. VIII 1975, D. Elmo Hardy (BMH) ; 20 1♀, Enaratoli, 4. VII, 1962, N. Wilson (BMH) : NEW GUINEA (PNG) : 176 139, Myola 2,000–2,800 m, Central Prov., 1-5. XI. 1984, Y. Hirashima (KUF).

Distribution : Africa, S. E. Asia and New Guinea (new record).

Note : This species was described from Kilimanjaro, Africa. A careful comparison of the above mentioned specimens from New Guinea with a male specimen from Africa and Tullgren's description and figures has convinced me that they belong to the one species, *T. jaculator*. *Tetragnatha* sp. B (Okuma, 1968 and 1981) from S. E. Asia is undoubtedly identical with this species. And *T. argyroides* Mello-Leitao, 1945 from Argentina may be a synonym of this species.

The caudifera-group

Diagnosis. Posterior row of eyes evidently narrower than anterior row of eyes ; lateral eyes more separated than median eyes; chelicera shorter than carapace in both sexes; a small tail present behind spinnerets; male chelicera with (a), (AXu), (sl) and (T).

Tetragnatha caudifera (Keyserling, 1887)

Eucta caudifera Keyserling, 1887, Arachn. Austral., 2 : 225 ; Roewer, 1942, Katalog der Araneae, 1 : 973.

Male. Body length, exclusive of chelicerae, 6.1-8.9 mm ; carapacial length 2.6-3.4 mm, width 1.9 mm ; abdominal length 3.5-5.5 mm, width 1.6 mm ; cheliceral length 1.9-2.3 mm.

Eyes. Anterior row of eyes occupying full width of head ; posterior row of eyes slightly narrower than anterior one (88-93 : 100) ; viewed from above anterior row moderately recurved, posterior row somewhat strongly recurved, so that lateral eyes more saparated than median eyes; central ocular quadrangle with posterior ocular width larger than anterior ocular width (130 :100), and larger than antero-posterior ocular length (115 : 110) ; ratio of diameter of AME : ALE: PME : PLE as 113 : 75 : 100 : 100 (*μ*).

Chelicerae. Basal segment about 0.7 times as long as carapace ; (a) bifurcated at tip ; (AXu), (sl) and (T) present, (rsu) 5-6 in number ; (AXl) present, (Gl) considerably long, (rsl) 6-7 in number ; fang unarmed.

Legs. Leg formula 1. 2. 4. 3 ; all legs with spines, first femora with about 5-9 spines ; relative lengths of legs as shown in Table 6.

Palpi. Paracymbium somewhat bifurcated at tip; conductor and embolus simple.

Abdomen. Moderately long, 3-4 times as long as broad, with a small tail behind spinnerets.

Color in alcohol. Legs, carapace and chelicerae generally yellowish or light brown ; maxillae, lip and sternum somewhat dusky brown ; abdomen generally yellowish brown, covered with dusky silvery spangles dorsally, and with a central dark gray stripe ventrally.

Female. Body length, exclusive of chelicerae, 10.3-10.5 mm ; carapacial length 2.8-2.9 mm, width 1.7 mm ; abdominal length 7.6-8.5 mm, width 1.8-2.0 mm, cheliceral length 1.7 mm.

Eyes. Nearly as in male.

Chelicerae. Basal segment about 0.6 times as long as carapace ; (Gu), (e) and (T) present, (rsu)

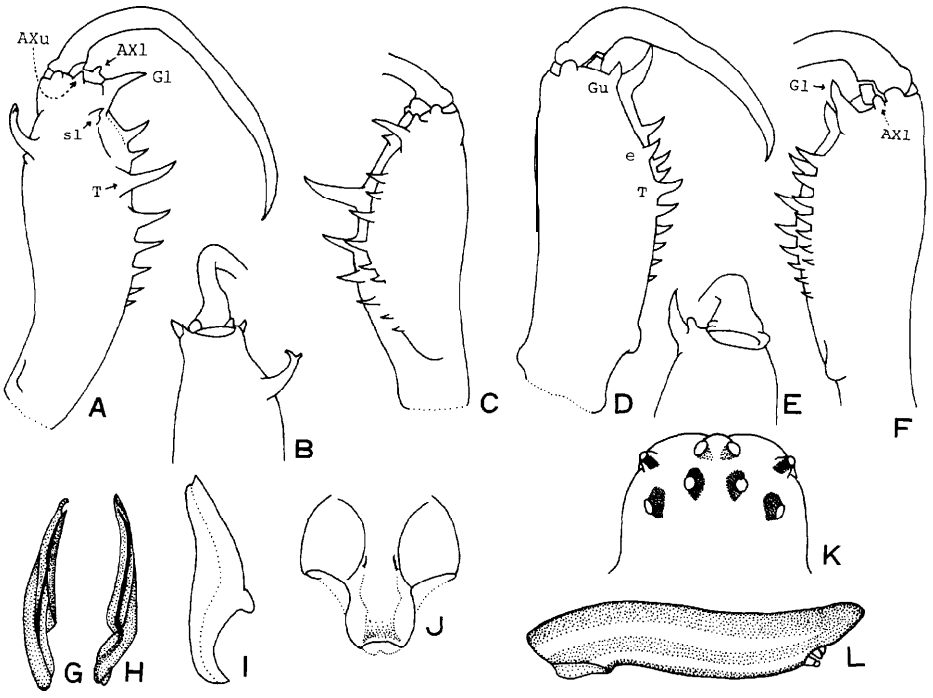

Fig. 12. *Tetragnatha caudifera* (Keyserling). A : Left chelicera of male, upper view. B : Ditto, lateral view, C : Ditto, lower view. D : Left chelicera of female, upper view. E : Ditto, lateral view. F : Ditto, lower view. G and H : Distal portion of conductor and embolus of male. I : Paracymbium of male. J : Genital fold of female. K : Eye group of female. L : Abdomen of female, lateral view.

6-7 in number ; (AXl) and (Gl) present, (Gl) robust and largest, (rsl) 6-7 in number ; fang unarmed.

Legs. Nearly as in male; relative lengths of legs as shown in Table 6.

Abdomen. Moderately long, more than 4 times as long as broad, with a small tail behind spinnerets ; genital fold as shown in Fig. 12, J.

Color in alcohol. Similar to male, but abdomen with silvery lateral stripes as shown in Fig. 12, L.

Specimens exmined : AUSTRALIA : 1♂, W. of Welshpool, H. Way (AMS-KS 9088) ; 1♂, W. of Welshpool, H. Way (AMS-KS 9098) ; 29, N. S. W., 17-22. I. 1936, K. C. Mckoown (AMS-KS 14165).

Distribution : Australia.

Note : This species was described from New South Wales, in 1887. Since then, no record has been made. The present specimens well agree with Keyserling's descriptions and figures. This species is readily separated from other Australian ***Tetragnatha*** by the shorter abdomen (about 3-4 times as long as broad) and the presence of the tail behind the spinnerets; This species is similar to ***T. caudicula*** (Karsch, 1879) from Japan and ***T. caudata*** Emerton, 1884 from America by the shape of abdomen, but it may be easily distinguished from them by the simple conductor of the male (distinctly modified in *caudicula* and ***caudata).*** The shape of chelicerae of both sexes is also different from the latter-s.

The micrura-group

Diagnosis. Posterior row of eyes evidently narrower than anterior row of eyes ; lateral eyes more

separated than median eyes; chelicera shorter than carapace in both sexes ; male chelicera without (t), (AXu), (Gu) and (sl) ; abdomen elongate, with a small tail behind spinnerets in both sexes.

Tetragnatha micrura Kulczynski, 1911

Tetragnatha micrura Kulczynski, 1911, Nova Guinea, 5 (Zool. 3) : 450 ; Roewer, 1942, Katalog der Araneae, 1 : 987 ; Chrysanthus, 1975, 2001. Verhandl., 140 : 6.

Male. Body length, exclusive of chelicerae, 11.5-14.7 mm ; carapacial length 2.5-3.2 mm, width 1.4-1.6 mm ; abdominal length 9.0-11.5 mm, width 1.0 mm ; cheliceral length 2.0-2.4 mm.

Eyes. Anterior row of eyes occupying full width of head ; posterior row of eyes evidently narrower than anterior one (77-78 : 100) ; viewed from above, anterior row moderately recurved, posterior row somewhat strongly recurved, so that lateral eyes more separated than median eyes ; central ocular quadrangle nearly square ; ratio of diameter of AME : ALE : PME : PLE as 175 : 113 : 113 : 113 (μ).

Chelicerae. Basal segment about 0.8 times as long as carapace ; (t), (AXu), (Gu) and (sl) absent, (a) obliquely truncate at tip ; (T) moderately long, (rsu) 6-7 in number ; (AXl) absent, (Gl) large and robust, (rsl) 9-10 in number; fang with a small inner cusp near base.

Legs. Leg formula 1.4.2.3 ; all legs with many and rather short spines, first femora with about 20 spines; relative lengths of legs as shown in Table 7.

Palpi. Paracymbium relatively short and broad except terminal ; most part of conductor somewhat broad and straight, the tip small, twisted.

Abdomen, Elongate, 9-12 times as long as broad, with a small tail behind spinnerets.

Color in alcohol. Generally yellowish pale brown ; fangs and teeth reddish brown ; abdomen covered with yellowish silvery spangles dorsally ; in some specimens abdomen with pale grayish dots dorso-laterally.

Female. Body length, exclusive of chelicerae, 11.8-14.7 mm ; carapacial length 2.6-3.7 mm, width 1.2-1.7 mm ; abdominal length 9.2-11.5 mm, width 1.1-1.4 mm ; cheliceral length 1.4-1.9 mm.

Eyes. Nearly as in male.

Chelicerae. Basal segment about 0.5 times as long as carapace ; (Gu) small, (e) and (T) subequal in size, (rsu) 4-5 in number ; (Gl) present, (rsl) 7-10 in number ; fang unarmed.

Legs. Nearly as in male ; relative lengths of legs as shown in Table 7.

Abdomen. Very long, more than 8 times as long as broad, with a small tail behind spinnerets ; genital fold as shown in Fig. 13, I.

Color in alcohol. Similar to male.

Specimens exmined : NEW GUINEA (PNG) : 1♀, VII-VIII. 1959, T. C. Maa (BMH) ; 19, Sogeri, Central Prov., 24. VIII. 1982, Y. Hirashima (KUF). NEW BRITAIN : 1♂, Gazelle Peninsula, 9. IX. 1955, J. L. Gressitt (BMH) ; 1♂, Keravat, 22-25. VI. 1959, T. Maa (BMH) ; 19, Gazelle Peninsula, 19-28. X. 1962, J. Sedlacek (BMH) ; 1♀, Gazelle Peninsula, Mt. Sinewit 900 m, 5-14. XI. 1962, J. Sedlacek (BMH). SOLOMON Is.: lb, Vella Lavella, Kundurumbangara 80 m, P. Shanahan (BMH) ; 1♀, Big Nggela, C. W. O'Brien (BMH). BUKA I.: 1♀, Ag. Station, 3-10. XII. 1959, T. Maa (BMH). NEW IRELAND : 1♀, Ridge above Camp Bishop 20 km up 150-300 m, 8. VII. 1956, J. L. Gressitt (BMH).

Distribution : New Guinea and neighboring Islands.

Note : This species is readily separated from all other species in the genus by the elongate abdomen ending in a small tail, and the male chelicera lacking (t), (AXu), (Gu) and (sl). The female is recorded and described for the first time.

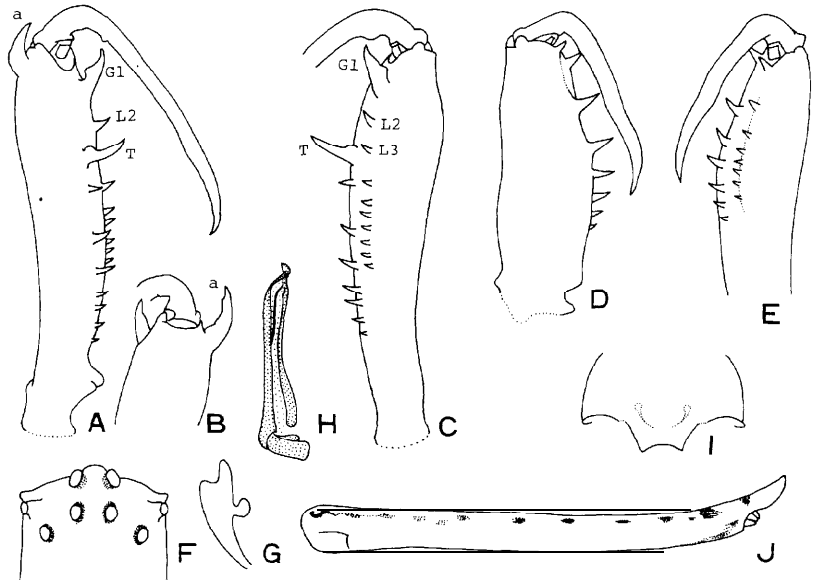

Fig. 13. *Tetragnatha micrura* Kulczynski. A : Left chelicera of male, upper view. **B** : Ditto, lateral view. C : Ditto, lower view. D : Left chelicera of female, upper view. E : Ditto, lower view. F : Eye group of male. G : Paracymbium of male. H : Distal portion of conductor and embolus of male. I : Genital fold of female. J : Abdomen of male, lateral view.

The cylindrica-group

Diagnosis. Anterior and posterior rows of eyes equal or subequal in width; abdomen very long, about 6-10 times as long as broad, tail absent.

KEY TO THE SPECIES

1. Male 2
   Female .....
2. Chelicera with (a), (t), (sl) and (T) 3
   Chelicera without (t) 4
3. Lateral eyes more separated than median eyes, (sl) directed forward; (L2) directed backward ..... *cylindrica*
   Lateral eyes as close as median eyes ; (sl) directed backward ; (L2) directed forward ..... *macilenta*
4. Paracymbium slender, pointed at tip ; distal end of conductor bird head-shaped ..... *nana* sp. nov.
   Paracymbium not slender, not pointed at tip 5
5. Paracymbium bifurcated at tip ..... *insularis* sp. nov.
   Paracymbium rounded at tip ..... *biseriata*
6. Fang with (EX) and an inner cusp .....
   Fang unarmed 8
7. Chelicera shorter than one-half of carapace ; (EX) situated on upper side ..... *gressittorum* sp. nov.

Chelicera about 0.6 times as long as carapace ; (EX) situated on lower side ..... *chauliodus*

8. Chelicera with (s) near outer apex ..... *biseriata*
   Chelicera without (s) 9
9. (Gl) rounded at tip; lower margin of fang furrow with a remarkable prominence subbasally ..... *macilenta*
   (Gl) pointed at tip ; fang furrow usually without above prominence 10
10. Lateral eyes more separated than median eyes ..... *cylindrica*
— Lateral eyes as close as median eyes 11
11. Genital fold somewhat long, ratio of width and length as about 1: 1 ..... *nana* sp. nov.
— Genital fold somewhat short, ratio of width and length as about 2 : 1 ..... *insularis* sp. nov.

Tetragnatha cylindrica Walckenaer, 1841

Tetragnatha cylindrica Walckenaer, 1841, Hist. Nat. Ins. Apt., 2 : 210 ; Keyserling, 1865, Verh. Zool.-Bot. Ges. Wien, 15 : 842 ; L. Koch, 1871, Arachn. Austral., 1 (1) : 181 ; Roewer, 1942, Katalog der Araneae, 1: **985.**

Eugnatha cylindracea Keyserling, 1887, Arachn. Austral., 2 : 224.

Eugnatha cylindrica Keyserling, 1887, Arachn. Austral., 2 : 226.

Male. Body length, exclusive of chelicerae, 6.1-7.3 mm ; carapacial length 1.9-2.2 mm, width 0.9-1.1 mm ; abdominal length 4.1-5.3 mm, width *0.5-0.7* mm ; cheliceral length 1.1-1.5 mm.

Eyes. Anterior row of eyes occupying full width of head ; posterior row of eyes slightly narrower than anterior one (93-98 : 100) ; viewed from above, anterior row moderately recurved, posterior row somewhat strongly recurved, so that lateral eyes more separated than median eyes ; central ocular quadrangle nearly square; ratio of diameter of AME : ALE : PME : PLE as 95 : 58 : 70 : 70 (μ).

Chelicerae. Basal segment about 0.6-0.7 times as long as carapace ; (a) bifurcated at tip ; (t), (sl) and (T) present, (sl) directed forward, (rsu) 4-5 in number ; (Gl) slightly directed forward, (L2) directed backward, (rsl) 4-5 in number ; fang unarmed.

Legs. Leg formula 1.4.2.3 ; all legs with several spines, first femora with about 5 spines ; relative lengths of legs as shown in Table 14.

Palpi. Paracymbium rather slender, moderately curved and somewhat pointed at tip ; conductor and embolus subspiral at the middle.

Abdomen. Very long, about 8 times as long as broad, not continued behind to spinnerets.

Color in alcohol. Legs, carapace and chelicerae generally yellowish brown ; maxillae, lip, and sternum somewhat dusky brown ; abdomen generally pale gray, covered with yellowish silvery spangles dorsally, somewhat dusky brown ventrally.

Female. Body length, exclusive of chelicerae, 10.2 mm ; carapacial length 2.3 mm, width 1.1 mm ; abdominal length 8.0 mm, width 1.0 mm ; cheliceral length 0.9 mm.

Eyes. Nearly as in male.

Chelicerae. Basal segment about 0.4 times as long as carapace ; (Gu) and (T) present, (rsu) 4 in number ; (AXl) absent, (Gl) present, (rsl) 4 in number ; fang unamed.

Legs. Nearly as in male ; relative lengths of legs as shown in Table 14.

Abdomen. Very long about 8 times as long as broad, not continued behind to spinnerets ; genital fold as shown in Fig. 14, I.

Color in alcohol. Similar to male, but abdomen with silvery lateral stripes as shown in Fig. 14, **K.**

Specimens examined : NEW GUINEA (PNG) : lb, Brown River, Central Prov., 21. V. 1956, J. Ford, Jr. (BMH). AUSTRALIA : 2♂, Mount Garnet, N. Q., 23. II. 1972, N. C. Coleman (AMS-KS 14158 and 14161) ; 1♀, Bellangray, SE NSW (AMS-KS 9690).

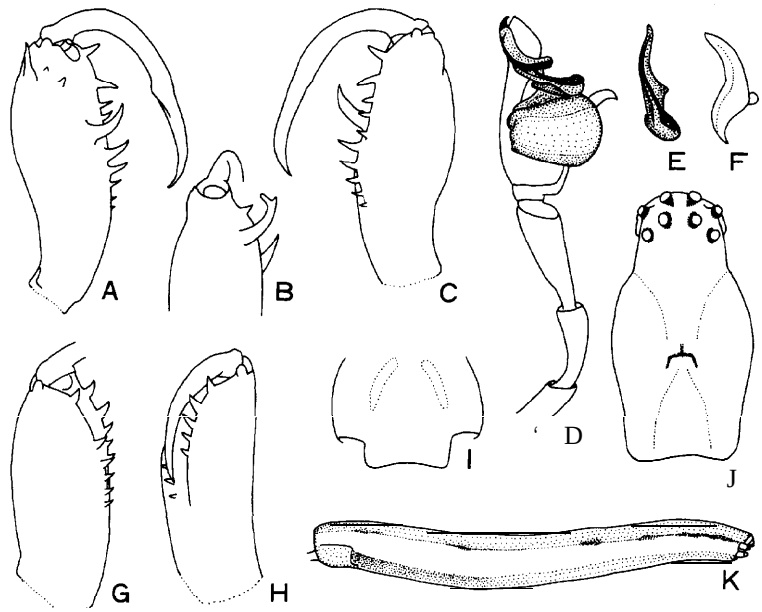

Fig. 14. *Tetragnatha cylindrica* Walckenaer. A : Left chelicera of male, upper view. B : Ditto, lateral view. C: Ditto, lower view. D : Left palpus of male. E : Distal portion of conductor and embolus of male. F : Paracymbium of male. G : Left chelicera of female, upper view. H : Ditto, lower view. I : Genital fold of female. J : Carapace of male. K : Abdomen of female, lateral view.

Distribution : New Guinea, Australia, Fiji and Lord Howe Is.

Note : This species was described from New Guinea and has been recorded from Australia and neighboring islands. The present specimens well agree with the original description and figures. This species is related to *T. macilenta* L. Koch and *T. biseriata* Thorell, but it may be easily distinguished from them by the arrangement of eyes, i. e., lateral eyes more separated than median eyes. And also the shape of male palpus is evidently different from those of *macilanta* and *biseriata*.

Tetragnatha chauliodus (Thorell, 1890)

Limoxere chauliodus Thorell, 1890, Ann. Mus. Civ. Geneva, 30 : 292.

Tetragnatha chauliodus Gravely, 1921, Rec. Ind. **Mus.,** 22 : 425 ; Roewer, 1942, Katalog der Araneae, 1 : 981.

Female. Body length, exclusive of chelicerae, 8.2-12.7 mm ; carapacial length 2.2-2.8 mm, width 1.0-1.3 mm ; abdominal length 6.0-10.0 mm, width 0.9-1.4 mm ; cheliceral length 1.2-1.7 mm.

Eyes. Anterior row of eyes occupying full width of head, posterior row of eyes about as wide as anterior one ; viewed from above, two rows nearly parallel and moderately recurved ; central ocular quadrangle with posterior ocular width slightly larger than anterior ocular width (103-108 :100), and slightly larger than antero-posterior ocular length in nearly same ratio as the latter; ratio of diameter of AME : ALE : PME : PLE as 125 : 93 : 100 : 100 (μ).

Chelicerae. Basal segment about 0.6 times as long as carapace ; (Gu) and (T) present, (rsu) 5-6 in number ; (AXl) absent, (Gl) present, (rsl) 7-9 in number ; fang robust, armed with (EX) on lower side, and long inner tooth at about 1/3 from base.

Legs. Leg formula 1. 4. 2. 3 ; all legs with a few spines, first femora with **I-3** spines ; relative lengths of legs as shown in Table 15.

Abdomen. Very long, about 6.5-7.0 times as long as broad, not extended posteriorly to spinnerets; genital fold as shown in Fig. 15, D.

Color in alcohol. Generally light brown ; abdomen light gray, with dusky spots dorso-laterally.

Specimens examined : NEW GUINEA : 2♀, Hollandia-Binnen 50 m, 12. VII. 1957, D. Elmo Hardy (BMH).

Distribution: Burma, Malaysia, Singapore and New Guinea (new record).

Note: This species is related to *T. macilenta* L. Koch and *T. biseriata* Thorell, but it may be easily distinguished from them by the female cheliceral fang which is armed with (EX) and an additional inner tooth (female fang of *macilenta* and that of *biseriata* unarmed).

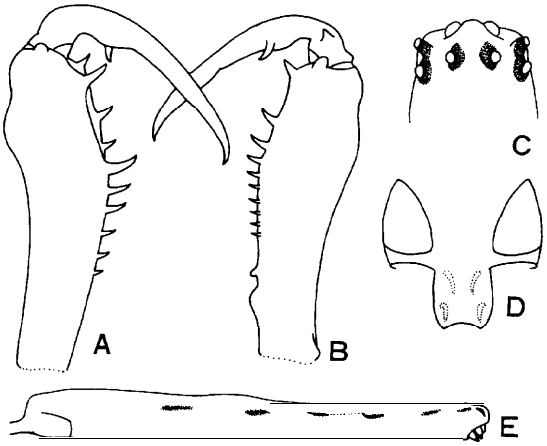

Fig. 15. *Tetragnatha chauliodus* (Thorell). A : Left chelicera of female, upper view. B : Ditto, lower view. C : Eye group of female. D : Genital fold of female. E : Abdomen of female, lateral view.

Tetragnatha macilenta L. Koch, **1871**

Tetragnatha macilen ta L. Koch, 1871, Arachn. Austral., l(1) : 192 ; Berland, 1929, Insect Samoa, 8(2) : 60 ; Roewer, 1942, Katalog der Araneae, 1: 986 ; Chrysanthus, 1975, Zool. Verhandl., 140 : 10.

Male. Body length, exclusive of chelicerae, 6.5-9.1 mm; carapacial length 1.8-2.4 mm, width 0.8-0.9 mm ; abdominal length 4.7-7.1 mm, width 0.5-0.8 mm ; cheliceral length 1.0-1.3 mm.

Eyes. Anterior row of eyes occupying full width of head, posterior row of eyes about as wide as anterior one ; viewed from above, two rows nearly parallel and moderately recurved ; central ocular quadrangle nearly square ; ratio of diameter of AME : ALE : PME : PLE as 105 : 63 : 88 : 63 (μ).

bifurcated at tip ; (t) small ; (sl) situated near distal end of upper margin of fang furrow, directed backward ; (T) somewhat robust, (rsu) 4-5 in number ; (Gl) and (L2) somewhat robust, (rsl) 5-6 in number ; fang slightly sinuous, unarmed.

Legs. Leg formula 1. 4. 2.3 ; all legs with only a few spines, first femora with l-2 spines ; relative lengths of legs as shown in Table 16.

Abdomen. Very long, about 10 times as long as broad, not extended posteriorly to spinnerets.

Color in alcohol. Chelicerae, carapace and legs yellowish brown, labium and sternum somewhat

dusky brown ; abdomen generally grayish brown, covered with small yellowish silvery spangles dorsally, grayish brown ventrally.

Female. Body length, exclusive of chelicerae, 7.8-12.5 mm ; carapacial length 2.1-2.7 mm, width 1.0-1.2 mm ; abdominal length 5.7-9.8 mm, width 0.8-1.3 mm ; cheliceral length 1.0-1.6 mm.

Eyes. Nearly as in male.

Chelicerae. Basal segment about 0.5-0.6 times as long as carapace ; (Gu) acuminated at tip, (rsu) 5-7 in number; (Gl) variable in size, but its tip usually bluntly rounded, (rsl) 7-9 in number, lower margin of fang furrow with a remarkable prominence subbasally ; fang slightly sinuous, unarmed.

Legs. Nearly as in male ; relative lengths of legs as shown in Table 16.

Abdomen. Very long, about 7 times as long as broad, not extended posteriorly to spinnerets ; genital fold as shown in Fig. 16, I.

Color in alcohol. Similar to male.

Specimens examined : NEW GUINEA (PNG) :1♀, Minj 1,700 m, 1. VII. 1975, D. Elmo Hardy (BMH) ;1♀, W. Highlands, Goiburung, E. of Korn Farm 1,560-1,650 m, 16. X. 1958, J. L. Gressitt (BMH) ;1♀, Bisianumu, 3. IX. 1959, T. Maa (BMH) ;1♂ 19, E. Highlands, Kassam, l-9. XI. 1959, T. Maa & J. L. Gressitt (BMH) ; 1♀, Goroka 1,550 m, 10. VI. 1965, J. L. Gressitt (BMH). ADMIRALTY Is. :2♂, Manus I., Lorengau, 27. VI. 1959, J. L. Gressitt (BMH); 1♀, Manus I., 29. VI. 1959, J. L. Gressitt (BMH). SOLOMON Is. :1♀, Malaita, 21. IX. 1957, J. L. Gressitt (BMH) ; 29, Munda, 20. VII. 1959, J. L. Gressitt (BMH) ;1♀ Guadalcanal I., 15. V. 1960, C. W. O'Brien (BMH) ;1♀, Guadalcanal I., 5. V. 1964, J. H. Sedlacek (BMH) ; 49, Santa Isabel, Buala, O-100 m, XII. 1971, N. L. H. Krauss (BMH). SAMOA :1♀, Upolu I., II. 1955, N. L. H. Krauss (BMH). TONGA :1♂1♀, Eua I. (BMH) ;1♂ 29, VaVau I. (BMH) ;1♀, Nuku Alofa I. FIJI :1♂, Viti Levu I. (BMH). NEW BRITAIN :3♂2♀, 28, 29.

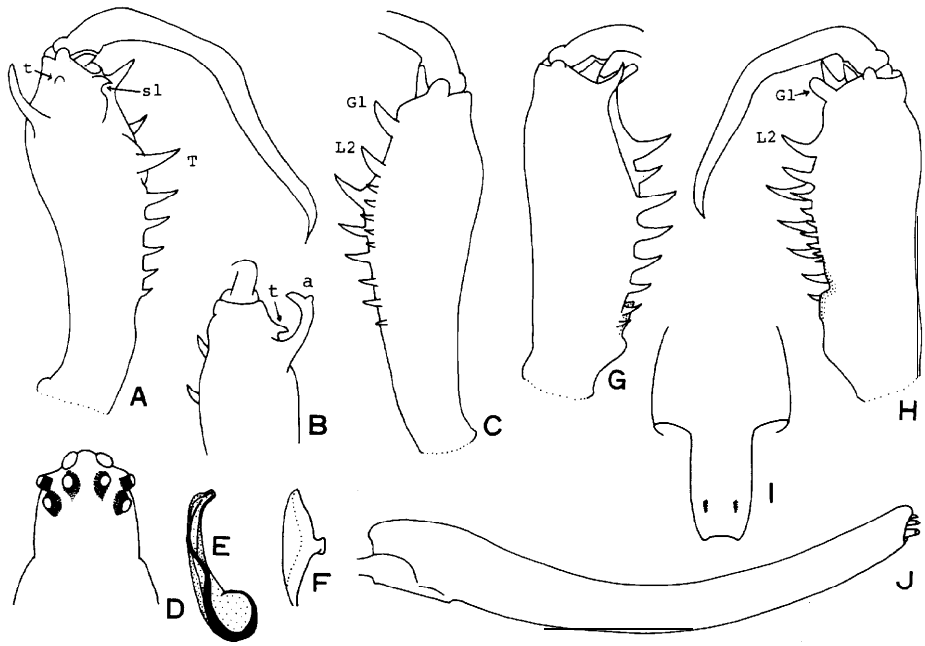

Fig. 16. *Tetragnatha macilenta* L. Koch. A : Left chelicera of male, upper view. B : Ditto, lateral view. C : Ditto, lower view, D : Eye group of male. E : Distal portion of conductor and embolus of male. F : Paracymbium of male. G : Left chelicera of female, upper view. H : Ditto, lower view. I : Genital fold of female. J : Abdomen of female, lateral view.

X. 1984, Y. Hirashima (KUF). AUSTRALIA : 1♂1♀, Queensland, 20. IV. 1974, Y. Nishikawa (NSMT-Ar. 553).

Distribution : Norfolk I., Samoa, Marianas, Tonga, Hawaii, Marquesas I., Solomon Is., New Guinea and Australia.

Note : This species is related to *T. cylindrica* Walckenaer and *T. biseriata* Thorell, but it may be easily distinguished from them by the shape of chelicera in both sexes. And the shapes of male palpal conductor and embolus are also different from those of *cylindrica* and *biseriata*.

Tetragnatha gressitorum sp. nov.

Female. Body length, exclusive of chelicerae, 6.0-7.7 mm ; carapacial length 1.8-2.0 mm ; width 0.7-0.9 mm ; abdominal length 5.9-6.5 mm, width 1.0 mm ; cheliceral length 0.7-0.8 mm.

Eyes. Anterior row of eyes occupying full width of head, posterior row of eyes about as wide as anterior one ; viewed from above, two rows nearly parallel and moderately recurved ; central ocular quadrangle with posterior ocular width slightly larger than anterior ocular width (118 : 100), and slightly larger than antero-posterior ocular length (113 : 100) ; ratio of diameter of AME : ALE : PME : PLE as 88 : 63 : 88 : 75 (μ).

Chelicerae. Basal segment about 0.4 times as long as carapace ; (Gu), and (T) present, (rsu) 4-5 in number; (Gl) present, (rsl) 3-4 in number and additional minute denticles present on its basal margin ; fang armed with (EX) on upper side, and a small inner prominence present at about one-half from base.

Legs. Leg formula 1.2-4.3 ; all legs without spines except a faint spine on distal end of each patella ; relative lengths of legs as shown in Table 17.

Abdomen. Long, about 6.0-6.5 times as long as broad, not extended posteriorly to spinnerets ; genital fold as shown in Fig. 17, E.

Color in alcohol. Legs, carapace and chelicerae generally light yellowish brown ; labium and sternum somewhat dark ; abdomen generally pale grayish brown, covered with small silvery spangles dorsally.

Type material : Holotype ♀ (BISHOP 13635), NEW GUINEA (IRIAN JAYA), Enaratoli, 1,800-1,900 m, 26. VII. 1962, J. Sedlacek (BMH). Paratype : 1♀, Enaratoli, 1,800 m, 2. VIII. 1955, J. L. Gressitt (BMH).

Type depository : The holotype is preserved in the collection of the BMH.

Distribution : New Guinea (Irian Jaya).

Note : This new species is related to *T. biseriata* Thorell, *T. insularis* sp. nov. and *T. nana* sp. nov. but it may be easily distinguished from them by the fang armature.

The species is named in honor of the late Dr. and Mrs. J. L. Gressitt.

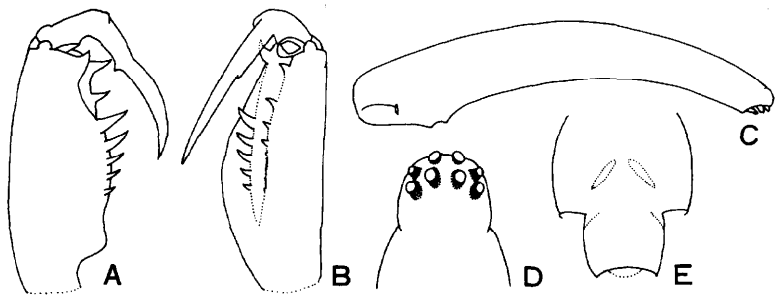

Fig. 17. *Tetragnatha gressittorum* sp. nov. A : Left chelicera of female, upper view. B : Ditto, lower view. C : Abdomen of female, lateral view. D : Eye group of female. E : Genital fold of female.

Tetragnatha biseriata Thorell, 1881

Tetragnatha biseriata Thorell, 1881, Ann. Mus. Civ. Genova, 17 : 139 ; Gravely, 1921, Rec. Ind. **Mus.,** *22* : *424* ; Roewer, 1942, Katalog der Araneae, 1 : 985 ; Chrysanthus, 1975, Zool. Verhandl., 140 : 4.
Tetragnatha modica Kulczynski, 1911, Nova Guinea, 5 (2001. 3) : *449.*
Tetragnatha anirensis Strand, 1914, Abh. Senckenbg. Ges., 36 (2) : 196. New **synonymy.**
Tetragnatha valoka Chrysanthus, 1975, Zool. Verhandl., 140 : 17. New **synonymy.**

Male. Body length, exclusive of chelicerae, 7.0-10.7 mm ; carapacial length 1.9-2.8 mm, width 1.1-1.2 mm ; abdominal length 5.0-8.1 mm, width 0.7-0.9 mm ; cheliceral length 1.5-2.0 mm.

Eyes. Anterior row of eyes occupying full width of head, posterior row of eyes about as wide as anterior one ; viewed from above, two rows nearly parallel and moderately recurved ; central ocular quadrangle nearly square ; ratio of diameter of AME : ALE : PME : PLE as 138 : 75 : 100 : 88 (μ).

Chelicerae. Basal segment about 0.7 times as long as carapace ; (a) bifurcated at tip ; (sl) not sloping, directed forward, (T) moderately large, (rsu) 4-5 in number ; (Gl) directed forward, (L2) large, directed somewhat backward, (rsl) 5-8 in number ; fang unarmed.

Legs. Leg formula 1. 4.2.3 ; all legs with only a few spines, first femora with about 5 spines ; relative lengths of legs as shown in Table 19.

Palpi. Paracymbium broad, bluntly rounded at tip ; both conductor and embolus gently twisted ; embolus variable in shape (Fig. 18, D & E), often the tip broken off during copulation (cf. Chrysanthus, 1975).

Abdomen. Very long, about 6-8 times as long as broad, not extended posteriorly to spinnerets.

Color in alcohol. Legs, carapace and chelicerae yellowish brown to light brown ; fang, labium and sternum somewhat dark ; abdomen generally pale grayish brown, covered with small silvery spangles dorsally, with a central dark gray strip ventrally ; in some specimens, abdomen with pale blackish longitudinal lines dorso-laterally.

Female. Body length, exclusive of chelicerae, 9.2-15.0 mm ; carapacial length 2.4-3.6 mm, width 1.3-1.9 mm ; abdominal length 7.0-12.2 mm, width 1.1-1.6 mm ; cheliceral length 1.4-1.8 mm.

Chelicerae. Basal segment about 0.5-0.6 times as long as carapace ; (s) present on outer side of subapex ; small obtuse tubercle present on lower side of subapex ; (Gu) and (T) present, (rsu) 4-5 in number ; (Gl) present, (rsl) 4-6 in number ; fang unarmed.

Legs. Nearly as in male ; relative lengths of legs as shown in Table 19.

Abdomen. Very long, about 7.0-9.0 times as long as broad, not extended posteriorly to spinnerets ; genital fold as shown in Fig. 18, I.

Color in alcohol. Similar to male but abdomen with more conspicuous lines as shown in Fig. 18,K.

Specimens examined : NEW GUINEA : A total of 490 and 90♀, (all BMH). AUSTRALIA : 1♀ (AMS-KS 0418) ; 2♀ (AMS-KS 0468) ; 2♀ (AMS-KS 14094); 1♀ (AMS-KS 14146) ; 1♀, N. Q., 30. IX. 1971, R. E. Mascord (AMS-KS 14159) ; 19, N. Q., III. 1979, W. D. Campbell (AMS-KS 14172) ; 1♂ 39, N. E. of Mooroobool peak, W. of Cairns, QSL, 19. IV. 1974, Y. Nishikawa (NSMT-Ar. 1093).

Distribution : New Guinea, Aru I. and Australia (new record).

Note : This species seems to be common in New Guinea. This is related to T. *cylindrica* Walckenaer and *T. macilenta* L. Koch, but it may be easily distinguished from them by the female chelicera which is provided with a small (s), and the shapes of male palpal conductor and embolus are also different from those of *cylindrica* and *macilenta*. *T. anirensis* Strand, 1914 and T. valoka Chrysanthus, 1975 are undoubtedly identical with this species, and are synonymized with *biseriata* in the present paper.

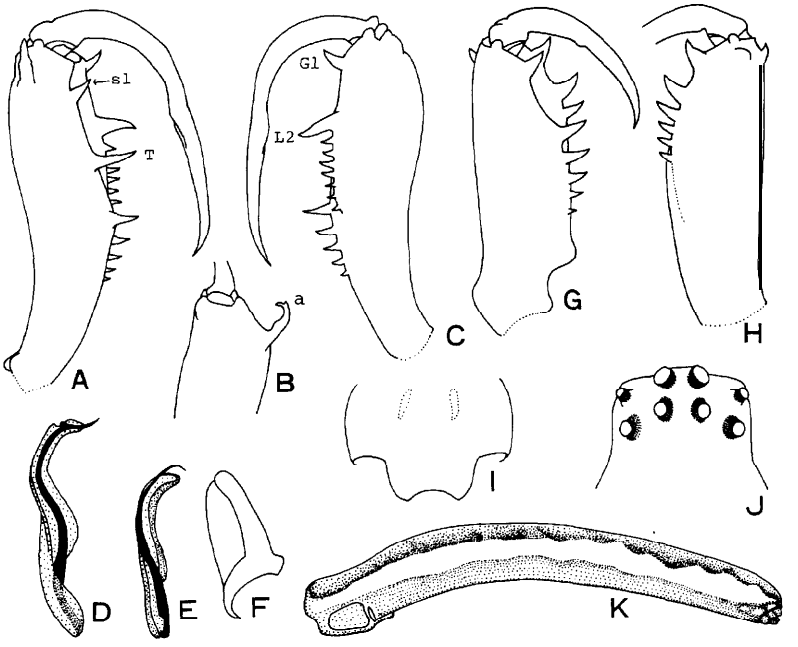

Fig. 18. *Tetragnatha biseriata* Thorell. A : Left chelicera of male, upper view. B : Ditto, lateral view, C: Ditto, lower view. D and E : Distal portion of conductor and embolus of male. F: Paracymbium of male. G : Left chelicera of female, upper view. H : Ditto, lower view. I : Genital fold of female. J : Eye group of female. K : Abdomen of female, lateral view.

Tetragnatha insularis sp. nov.

Male. Body length, exclusive of chelicerae, 5.2-6.8 mm ; carapacial length 1.5-1.9 mm, width 0.8-1.0 mm ; abdominal length 3.5-4.7 mm, width 0.5-0.8 mm ; cheliceral length 0.7-1.0 mm.

Eyes. Anterior row of eyes occupying full width of head, posterior row of eyes about as wide as anterior one ; viewed from above, two rows nearly parallel and moderately recurved ; central ocular quadrangle nearly square ; ratio of diameter of AME : ALE : PME : PLE as 113 : 75 : 88 : 88 (μ).

Chelicerae. Basal segment slightly longer than one-half of carapace ; (a) not bifurcated at tip ; (sl) directed forward, (T) not so large, (rsu) 3-4 in number ; (Gl) directed forward, (L2) directed backward, (rsl) 5 in number ; fang unarmed.

Legs. Leg formula 1.4-2.3 ; all legs without spines except a faint spine at distal end of patella (absent in some specimens) ; relative lengths of legs as shown in Table 20.

Palpi. Paracymbium broad, slightly curved, largely bifurcated at tip ; both conductor and embolus twisted as shown in Fig. 19, D.

Abdomen. Very long, about 6-7 times as long as broad, not extended posteriorly to spinnerets.

Color in alcohol. Legs, carapace and chelicerae generally light yellowish brown ; abdomen generally pale grayish yellow, covered with silvery spangles dorsally, with pale blackish longitudinal lines and spots laterally, and with a central dark gray stripe ventrally.

Female. Body length, exclusive of chelicerae, 6.5-8.9 mm ; carapacial length 1.7-2.2 mm, width 0.8-1.2 mm ; abdominal length 4.7-6.8 mm, width 0.5-1.1 mm ; cheliceral length 0.5-0.8 mm.

Eyes. Nearly as in male.

Chelicerae. Basal segment about 0.3 times as long as carapace ; (Gu), (e) and (T) present, (rsu) 4 in number ; (Gl) present, (rsl) 4 in number ; fang unarmed.

Legs. Nearly as in male ; relative lengths of legs as shown in Table 20.

Abdomen. Very long, about 6-9 times as long as broad, not extended posteriorly to spinnerets ; genital fold as shown in Fig. 19, I.

Color in alcohol, Similar to male but abdomen in some specimens with silvery stripe laterally as usual for the group.

Type material : Holotype 1♂ (AMS-KS 14025) Lord Howe Is., Grass 650-800 m. Paratypes : 30 2♀, same data as holotype ; 2♂1♀ (AMS-KS 14190) ; 1♂ (AMS-KS 14191) ; 1♀ (AMS-KS 14194) ; 19 (AMS-KS 14195) ; 2♂ (AMS-KS 14196) ; 1♂1♀ (AMS-KS 14197) ; 1♂ (AMS-KS 14199) ; 1♂ (AMS-KS 14201) ; 1♀ (AMS-KS 14202) ; 1♀ (AMS-KS 14203) all specimens collected from Lord Howe Is.

Type depository : The holotype is preserved in the collection of AMS.

Distribution : Lord Howe Is.

Note : This new species is related to *T. biseriata* Thorell but it may be easily distinguished from the latter by the characteristic male palpal conductor and embolus as shown in Fig. 19, D.

Tetragnatha nana sp. nov.

Male. Body length, exclusive of chelicerae, 6.2-7.5 mm ; carapacial length 1.8-2.0 mm, width 0.8 mm ; abdominal length 4.3-5.8 mm, width 0.55 mm ; cheliceral length 1.0-1.1 mm.

Eyes. Anterior row of eyes occupying full width of head, posterior row of eyes about as wide as anterior one ; viewed from above, two rows nearly parallel and somewhat strongly recurved ; central ocular quadrangle with posterior ocular width slightly larger than anterior ocular width (109-113 : 100), and nearly equal to antero-posterior ocular length ; ratio of diameter of AME : ALE : PME : PLE as 100 : 55 : 100 : 75 (μ).

Chelicerae. Basal segment slightly longer than one-half of carapace ; (a) not bifurcated at tip ; (Gu) present, (sl) and (T) nearly equal in size, slightly directed forward, (rsu) 3 in number ; (Gl) somewhat robust, (rsl) 4 in number; fang unarmed.

Legs. Leg formula 1. 4-2.3 ; all legs without spines ; relative lengths of legs as shown in Table 18.

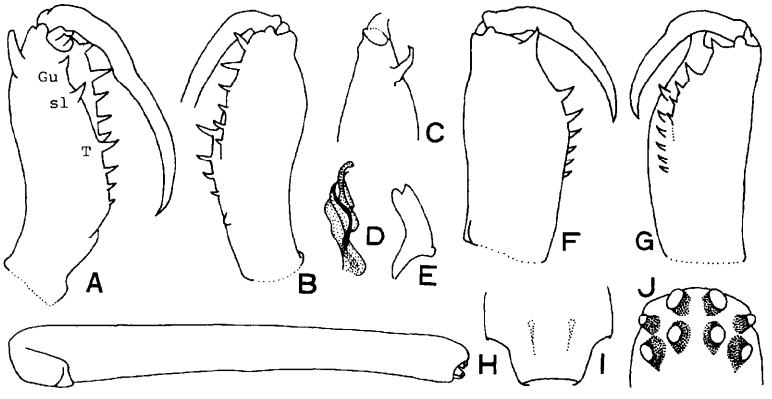

Fig. 19. *Tetragnatha insularis* sp. nov. A : Left chelicera of male, upper view. B : Ditto, lower view. C : Ditto, lateral view. D : Distal portion of conductor and embolus of male. E : Paracymbium of male. F : Left chelicera of female, upper view. G : Ditto, lower view. H : Abdomen of male, lateral view. I : Genital fold of female. J : Eye group of male.

Palpi. Paracymbium slender, straight and pointed at tip; conductor and embolus unique, as shown in Fig. 20, F & G.

Abdomen. Very long, about 10 times as long as broad, not extended posteriorly to spinnerets.

Color in alcohol. Generally pale grayish brown, without any markings.

Female. Body length, exclusive of chelicerae, 9.0-9.3 mm ; carapacial length 2.0-2.4 mm, width 0.9-1.0 mm ; abdominal length 6.5-7.0 mm, width 0.8-0.9 mm ; cheliceral length 0.8-1.0 mm.

Eyes. Nearly as in male.

Chelicerae. Basal segment slightly shorter than one-half of carapace ; (Gu), (e) and (T) present, (rsu) 3-4 in number ; (Gl) present, (rsl) 8-10 in number ; fang unarmed.

Legs. Nearly as in male ; relative lengths of legs **as** shown in Table 18.

Abdomen. Very long, about 7.5 times as long as broad, not extended posteriorly to spinnerets ; genital fold as shown in Fig. 20, I.

Color in alcohol. Similar to male.

Type material : Holotype ♂ (BISHOP 13636), NEW GUINEA (IRIAN JAYA), Fak fak Bombarai, 6-8. VI. 1959, T. Maa (BMH). Paratypes : 2♂ 79, same data as holotype. NEW GUINEA (PNG) : 1♂, Murua, Gulf Prov., 18. XII. 1964, J. L. Gressitt (BMH).

Type depository : The holotype preserved in the collection of BMH.

Distribution : New Guinea.

Note : This new species is related to *T. biseriata* Thorell and *T. insularis* sp. nov. but it may be

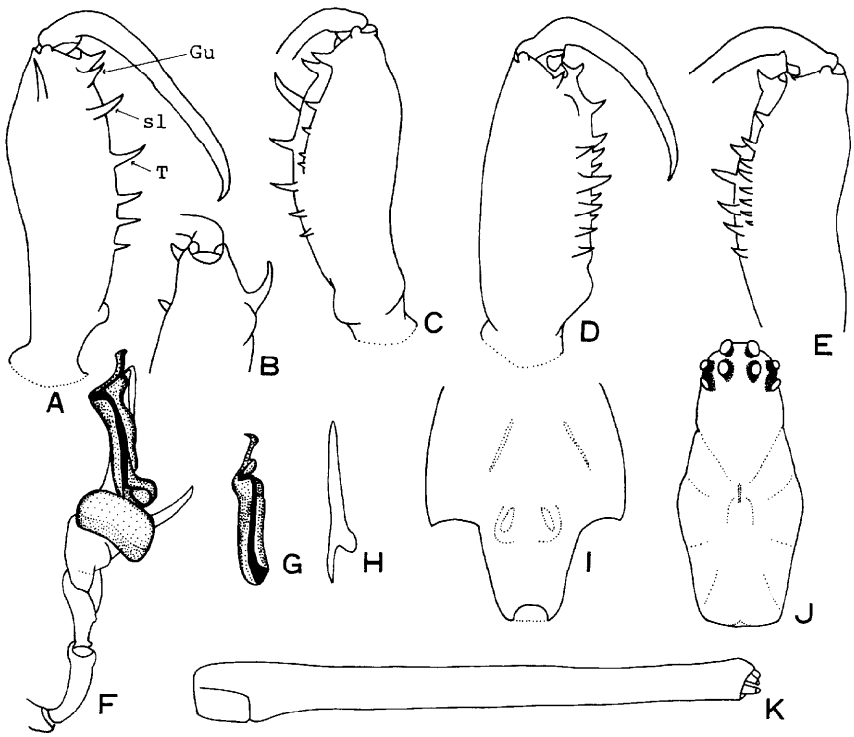

Fig. 20. *Tetragnatha nana* sp. nov. A : Left chelicera of male, upper view. B : Ditto, lateral view. C : Ditto, lower view. D : Left chelicera of female, upper view. E : Ditto, lower view. F : Left palpus of male. G : Distal portion of conductor and embolus of male. H : Paracymbium of male. I : Genital fold of female. J : Carapace of male. K : Abdomen of male, lateral view.

easily distinguished from them by the characteristic male palpal conductor and paracymbium as shown in Fig. 20, F, G and H.

The radiata-group

Diagnosis. Posterior row of eyes about as wide as or slightly narrower than anterior row of eyes ; lateral eyes as close as median eyes ; cheliceral length shorter than carapace in both sexes ; abdomen oval, with white markings. This group is composed of three species which are very distinctive in the genus.

KEY TO THE SPECIES

1. Color generally light brown to grayish brown ; abdominal white markings interrupted and indistinct ..... *radiata*
— Color generally glossy brown, abdominal white markings distinct, entire or interrupted 2
2. Abdomen with elongate markings (stripes) entire ..... *monticola* sp. nov.
— Abdomen with elongate markings interrupted in the middle ..... *signata* sp. nov.

Tetragnatha radiata Chrysanthus, 1975

Tetragnatha radiata Chrysanthus, 1975, Zool. Verhandl., 14 : 15.

Male. Body length, exclusive of chelicerae, 3.4-3.7 mm ; carapacial length 1.6-1.8 mm, width 1.2-1.3 mm ; abdominal length 2.0-2.1 mm, width 1.0-1.2 mm ; cheliceral length 1.0 mm.

Eyes. Anterior row of eyes occupying full width of head, posterior row of eyes about as wide as or slightly narrower than anterior one (95-102 : 100) ; viewed from above, anterior row somewhat strongly recurved and posterior row somewhat gently recurved, so that lateral eyes somewhat closer than median eyes ; central ocular quadrangle with posterior ocular width slightly larger than anterior ocular width (118 :100), and nearly equal to antero-posterior ocular length ; ratio of diameter of AME : ALE : PME : PLE as 75 : 63 : 75 : 70 (μ).

Chelicerae. Basal segment about 0.6 times as long as carapace ; (a) acuminated at tip, conspicuously robust at base, with a small basal tubercle as shown in Fig. 21, A, B and C ; (sl) slightly directed forward, (T) somewhat large, (rsu) 3-4 in number ; (Gl) normal, (L2) slightly curved backward, (rsl) 4 in number ; fang unarmed.

Legs. Leg formula 1. 2.4.3 ; all legs with spines, first femora with about 6 spines ; relative lengths of legs as shown in Table 21.

Palpi. Paracymbium not bifurcated at tip ; conductor and embolus considerably complicated in structure ; conductor twisted and spatulate at tip as shown in Fig. 21, E, F and G.

Abdomen. Not long, about 2 times as long as broad, not extended posteriorly to spinnerets.

Color in alcohol. Chelicerae reddish brown ; median part of carapace reddish brown to brown, radiated as shown in Fig. 21, D, lateral margins yellowish white ; maxillae, labium and sternum dusky brown ; abdomen generally grayish brown, covered with dusky silvery spangles dorsally, and with indistinct white markings dorso- and ventro-laterally.

Female. Body length, exclusive of chelicerae, 3.6-5.0 mm ; carapacial length 1.5-1.9 mm, width 1.4 mm ; abdominal length 2.0-3.4 mm, width 1.4-1.8 mm ; cheliceral length 0.8-1.1 mm.

Eyes. Nearly as in male.

Chelicerae. Basal segment about 0.6 times as long as carapace ; (Gu) and (T) present, (rsu) 4 in

number ;(Gl) present, (rsl) 3-4 in number, (L2) and (L3) often coalescent as shown in Fig. 21, K ; fang unarmed.

Legs. Nearly as in male ; relative lengths of legs as shown in Table 21.

Abdomen. Nearly as in male ; genital fold as shown in Fig. 21, I.

Color in alcohol. Similar to male but abdominal white markings more distinct.

Specimens examined : NEW GUINEA (PNG) : 2♀, Mt. Wilhelm, 3,600 m, 2. VI. 1955, J. L.

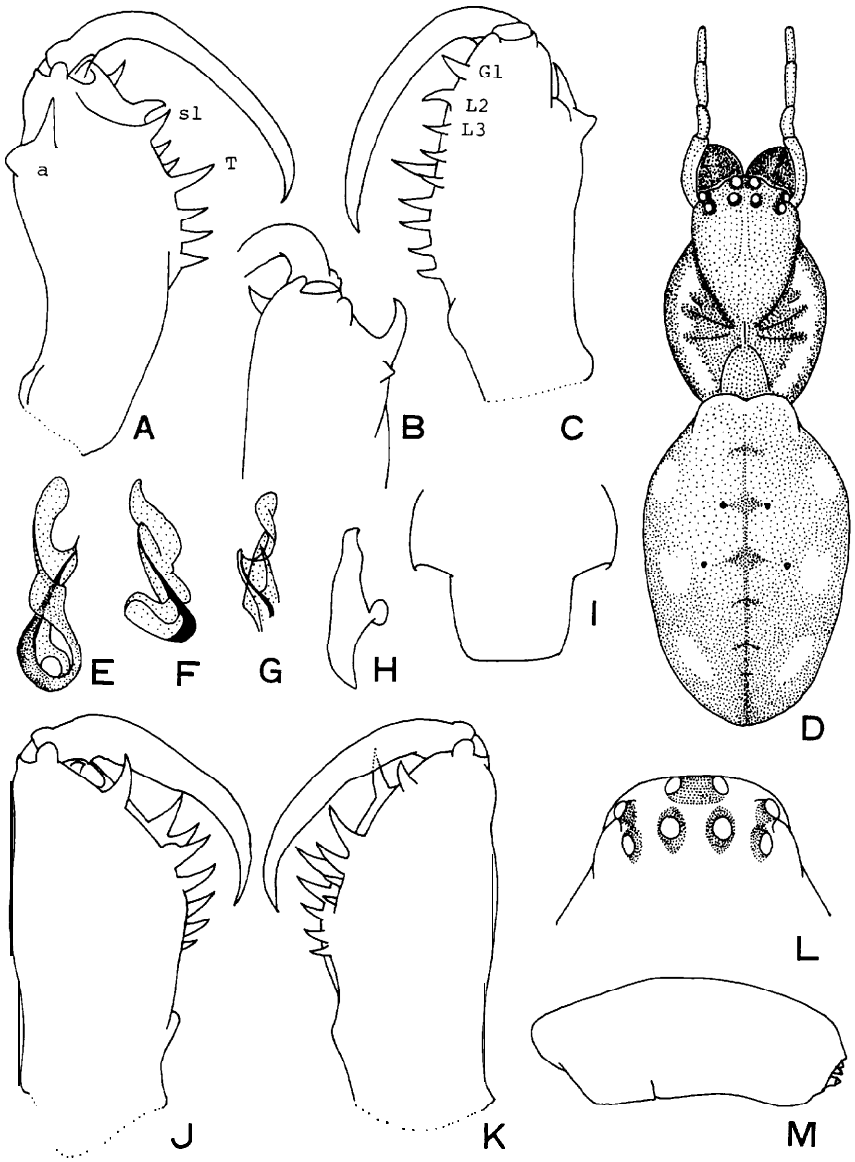

Fig. 21. *Tetragnatha radiata* Chrysanthus. A : Left chelicera of male, upper view. B : Ditto, lateral view. C : Ditto, lower view. D : Female. E, F and G : Distal portion of conductor and embolus of male, H : Paracybium of male. I : Genital fold of female. J : Left chelicera of female, upper view. K : Ditto, lower view. L : Eye group of male. M : Abdomen of male, lateral view.

Gressitt ; 2♀, Mt. Wilhelm, 3,800 m, 3. VII. 1963, J. Sedlacek; 1♂, Mt. Wilhelm, 3,450 18. V. 1966 ; 2♂ 2♀, Mt. Hagen, 1,650 m, 28. V. 1966, J. L. Gressitt; 1♂ 2♀, Mt. Giluwe N. side 300-3,300 m, J. L. Gressitt, (all BMH).

Distribution : *New* Guinea.

Tetragnatha monticola sp. nov.

Male. Body length, exclusive of chelicerae, 4.1 mm ; carapacial length 1.6 mm, width 1.0 mm ; abdominal length 2.5 mm, width 1.0 mm ; cheliceral length 1.2 mm.

Eyes. Anterior row of eyes occupying full width of head and lateral eyes somewhat produced ; posterior row of eyes somewhat narrower than anterior one (96 : 100) ; viewed from above, anterior row somewhat strongly recurved and posterior row rather gently recurved, so that lateral eyes slightly closer than median eyes ; central ocular quadrangle with posterior ocular width slightly larger than anterior ocular width (109 : 100), and larger than antero-posterior ocular length (120 : 100) ; ratio of diameter of AME : ALE : PME : PLE as 80 : 50 : 75 : 50 (μ).

Chelicerae. Basal segment about 0.75 times as long as carapace ; (a) bluntly at tip ; (sl) slightly directed forward, (T) large, slightly curved backward, (rsu) 5 in number ; (Gl) small, (L2) considerably large, slightly curved backward, (rsl) only 3 in number; fang rather long, with a subbasal inner tubercle obtuse.

Legs. Leg formula 1.2. 4.3 ; all legs with only a few spines, first femora with 3 spines near distal end ; relative lengths of legs as shown in Table 22.

Palpi. Paracymbium not bifurcated at tip, a small lobe somewhat closer apex than to base ; conductor rather slender at distal end, embolus distinctly dilated at tip as shown in Fig. 22, D & F.

Abdomen. Not so long, about 2.5 times as long as broad, not extended posteriorly to spinnerets.

Color in alcohol. Legs, carapace and chelicerae glossy brown ; maxillae, lip and sternum glossy blackish brown ; abdomen light glossy blackish brown, without spangles.

Female. Body length, exclusive of chelicerae, 4.5 mm ; carapacial length 1.7 mm, width 1.0 mm ; abdominal length 2.8 mm, width 1.2 mm ; cheliceral length 1.1 mm.

Eyes. Nearly as in male.

Chelicerae. Basal segment about 0.65 times as long as carapace ; somewhat swollen subapically ; (Gu) and (T) present, (rsu) 6 in number ; (Gl) present, (rsl) 5-6 in number ; fang unarmed.

Legs. Nearly as in male ; relative lengths of legs as shown in Table 22.

Abdomen. Nearly as in male ; genital fold as shown in Fig. 22, I.

Color in alcohol. Similar to male but abdomen with a white stripe along dorso-lateral margins.

Type material : Holotype ♂ (BISHOP 13637), NEW GUINEA (PNG), Wau 1,200 m, Morobe Prov., 13. III. 1969, J. Sedlacek (BMH). Paratype : 1♀, NEW GUINEA (PNG), Mt. Kaindi, Morobe Prov., 17. VII. 1982, 0. Tadauchi (KUF).

Type depository : The holotype is preserved in the collection of BMH.

Distribution : New Guinea (PNG).

Note : This is a striking species, which is closer to *T. signata* sp. nov. rather than to *T. radiata*, but it may be easily distinguished from them by the male chelicera and palpus as shown in Fig. 22. The abdominal markings of the female of this new species are also different from those of *signata* and *radiata*.

Tetragnatha signata sp. nov.

Male. Body length, exclusive of chelicerae, 3.6 mm ; carapacial length 1.6 mm, width 1.0 mm ;

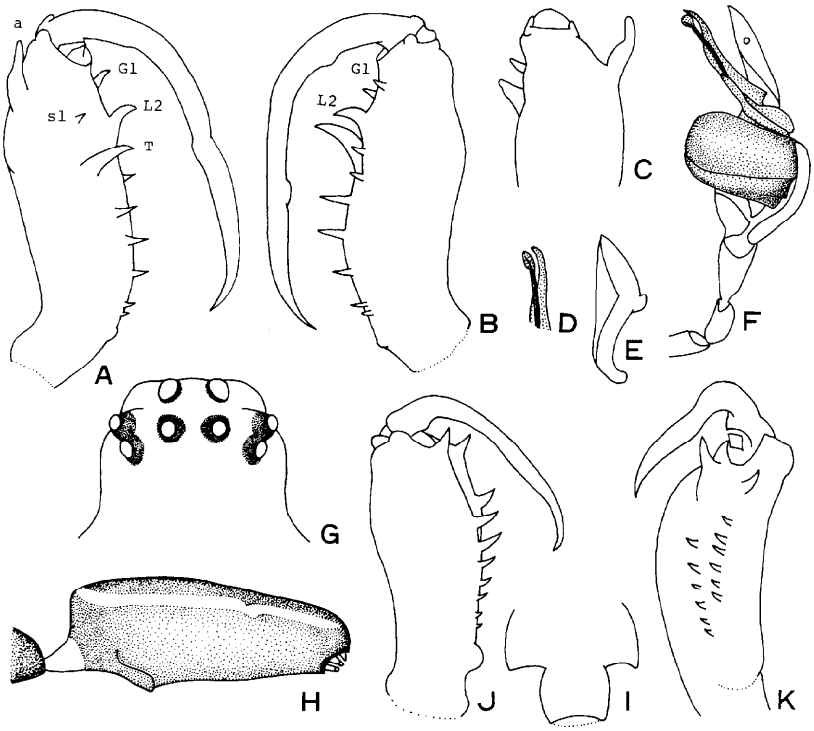

Fig. 22. *Tetragnatha monticola* sp. nov. A : Left chelicera of male, upper view. B : Ditto, lower view. C : Ditto, lateral view. D : Distal portion of conductor and embolus of male. E : Paracymbium of male. F : Left palpus of male. G : Eye group of male. H : Abdomen of female, lateral view. I : Genital fold of female. J : Left chelicera of female, upper view. K : Ditto, inner view.

abdominal length 2.1 mm, width 1.0 mm ; cheliceral length 1.0 mm.

Eyes. Anterior row of eyes occupying full width of head, lateral eyes somewhat produced ; posterior row of eyes somewhat smaller than anterior one (97 : 100) ; viewed from above, two rows nearly parallel and gently recurved ; central ocular quadrangle with posterior ocular width slightly larger than anterior ocular width (120 : 100), and larger than antero-posterior ocular length in nearly same ratio as the latter ; ratio of diameter of AME : ALE : PME : PLE as 80 : 75 : 75 : 75 (μ).

Chelicerae. Basal segment about 0.6 times as long as carapace ; (a) considerably thick, bifurcated at tip ; (sl) slightly directed backward, (T) moderately large, (rsu) 6 in number ; (Gl) directed inward, (rsl) 3-5 in number ; fang thick, long, and with an inner obtuse tubercle subbasally.

Legs. Leg formula 1.2.4.3 ; all legs with only a few spines, first femora with 2 spines near distal end ; relative lengths of legs as shown in Table 23.

Palpi. Paracymbium bifurcated at tip ; conductor and embolus simple, slender.

Abdomen, Not so long, about 2 times as long as broad, not extended posteriorly to spinnerets.

Color in alcohol. Chelicerae, carapace and sternum light brown, carapace with silvery white markings laterally ; abdomen generally grayish brown, with two pairs of silvery white markings dorso-laterally.

Female. Body length, exclusive of chelicerae, 3.6-3.9 mm ; carapacial length 1.4-1.5 mm, width about 1.0 mm ; abdominal length 2.2-2.6 mm, width 1.0-1.4 mm ; cheliceral length 0.9 mm.

Eyes. Nearly as in male.

Chelicerae. Basal segment about 0.6 times as long as carapace, somewhat swollen on lower side subapically ; (Gu) and (T) present, (rsu) 5-6 in number; (Gl) present, (rsl) 4-5 in number ; fang unarmed.

Legs. Nearly as in male, first femora with only one spine near distal end ; relative lengths of legs as shown in Table 23.

Abdomen. Nearly as in male ; genital fold as shown in Fig. 23, I.

Color in alcohol. Similar to male.

Type material : Holotype ♂ (BISHOP 13638), NEW GUINEA (PNG), Wharton Rd., 2,100-2,850 m, 4. XI. 1965, J. Sedlacek (BMH). Paratypes: 2♀, same data as holotype ; 1♀, Garaina, 800 m, Morobe Prov., 16. I. 1968, J. Sedlacek (BMH).

Type depository : The holotype is preserved in the collection of BMH.

Distribution : New Guinea (PNG).

Note : This new species is also very distinctive in the genus, and is related to *T. monticola* sp. nov., but it may be easily distinguished from the latter by the male chelicera and palpus, and the abdominal markings of both sexes are also different from those of the latter.

The serra-group

Diagnosis. Posterior row of eyes slightly larger than anterior one ; central ocular quadrangle nearly

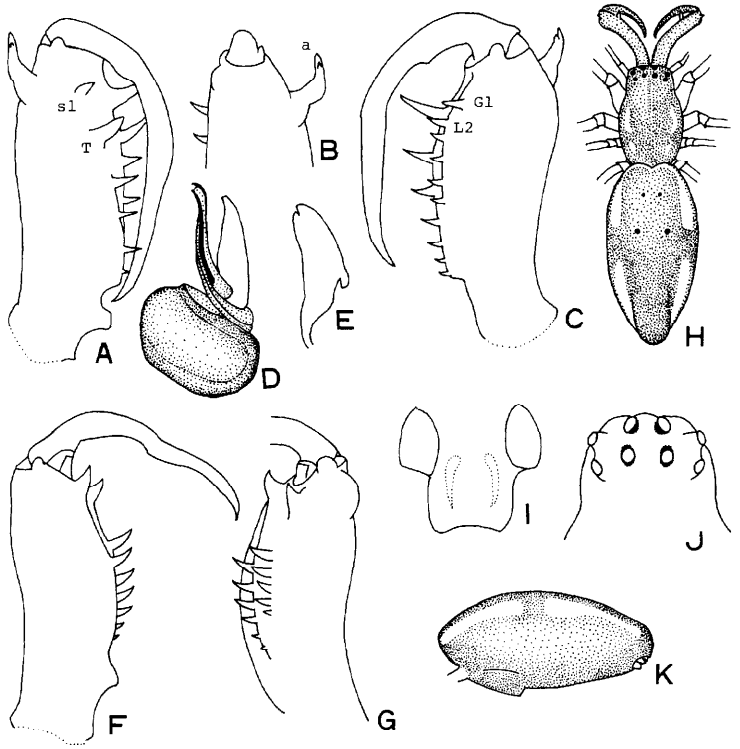

Fig. 23. *Tetragnatha signata* sp. nov. A : Left chelicera of male, upper view. B : Ditto, lateral view. C : Ditto, lower view. D : Left palpus of male. E : Paracymbium of male. F: Left chelicera of female, upper view. G : Ditto, lower view. H : Female. I : Genital fold of female. J : Eye group of male. K : Abdomen of female, lateral view.

square ; female chelicera with long (s) near outer apex ; fang geniculate.

KEY TO THE SPECIES (FEMALE)

1. Fang with (EX) near base; (Gu) robust, directed inward ..... *serra*
— Fang without (EX) ; (Gu) small, directed forward ..... *hirashimai* sp. nov.

Tetragnatha serra Doleschall, 1857

Tetragnatha serra Doleschall, 1857, Naturk. Tijdschr. Ned. Ind., 13 : 408 ; Thorell, 1878, Ann. Mus. Civ. Genova, 13 : 111 ; Merian, 1911, Zool. Jahrb. Syst., 31(2) : 182 ; Gravely, 1921, Rec. Ind. Mus., 22 : 433 ; Roewer, 1942, Katalog der Araneae, 1: 983.

Female. Body length, exclusive of chelicerae, 9.1 mm ; carapacial length 3.7 mm, width 1.6 mm ; abdominal length 5.5 mm, width 1.0 mm ; cheliceral length 2.5 mm.

Eyes. Anterior row of eyes occupying full width of head ; posterior row of eyes slightly wider than anterior one (106 : 100) ; viewed from above, anterior row somewhat strongly recurved and posterior row moderately recurved, so that lateral eyes somewhat closer than median eyes ; central ocular quadrangle nearly square ; ratio of diameter of AME : ALE : PME : PLE as 150 : 100 : 125 : 113 (μ).

Chelicerae. Conspicuously developed, basal segment about 0.7 times as long as carapace ; (s) present at outer side near apex, long, acuminate at tip ; (Gu) robust, directed inward, (T) large, slightly directed forward, (rsu) 5 in number ; (Gl) not so large, (rsl) 11 in number ; fang somewhat geniculate, with (EX) near base.

Legs, Leg formula 1.2.4.3 ; all legs with spines, first femora with about 15 spines ; relative lengths of legs as shown in Table 24.

Abdomen. Considerably long, about 5 times as long as broad, not extended posteriorly to spinnerets; genital fold as shown in Fig. 24, E.

Color in alcohol. Generally yellowish brown ; abdomen generally grayish brown, with indistinct longitudinal brown markings and 5 or 6 pairs of dark brown spots dorso-laterally.

Specimen examined : NEW GUINEA (IRIAN JAYA) : 1♀, Nabire, H. Holtman Jungle, along river, 20. IX. 1962 (BMH).

Distribution : Java, Sumatra, Celebes, Amboina and New Guinea (new record).

***Tetragnatha hirashimai* sp. nov.**

Male. Abdominal length 7.1 mm, width 1.4 mm ; cheliceral length 2.4 mm.

Chelicerae. Considerably developed, basal segment with (a), and a small apophysis at outer side near apex ; (Gu) and (T) nearly equal in size, (rsu) 6 in number ; (Gl) small, (L2) robust, largest, (rsl) 9 in number ; fang long, slightly geniculate, unarmed.

Legs. Injured.

Palpi. Paracymbium broad at the middle, bifurcated at tip, conductor of embolus somewhat twisted at the middle and hooked at tip.

Abdomen. Nearly as in female.

Female. Body length, exclusive of chelicerae, 9.0-12.6 mm ; carapacial length 2.7-3.2 mm, width 1.4-1.8 mm ; abdominal length 6.3-9.4 mm, width 1.4-2.0 mm ; cheliceral length 2.0-2.5 mm.

Eyes. Anterior row of eyes occupying full width of head ; posterior row of eyes slightly larger than anterior one (105 : 100) ; viewed from above, anterior row somewhat strongly recurved and

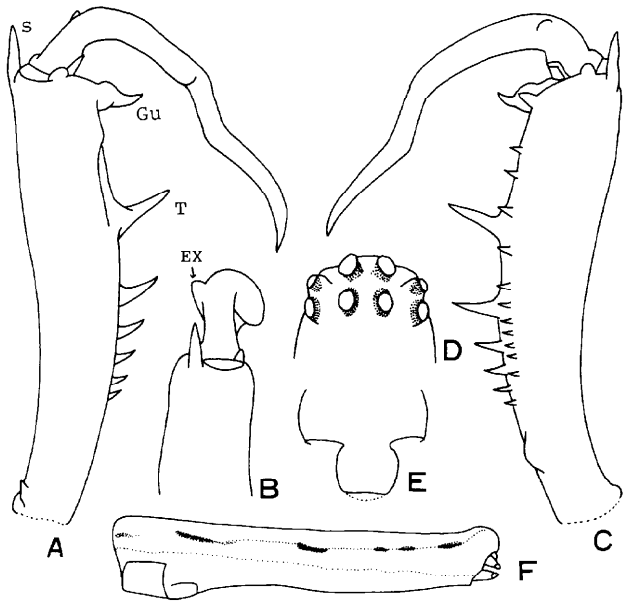

Fig. 24. *Tetragnatha serra* Doleschall. A : Left chelicera of female, upper view. B : Ditto, lateral view. C : Ditto, lower view. D : Eye group of female. E : Genital fold of female. F : Abdomen of female, lateral view.

posterior row moderately recurved, so that lateral eyes somewhat closer than median eyes; central ocular quadrangle nearly square ; ratio of diameter of AME : ALE : PME : PLE as 150 : 113 : 138 : 125 (μ).

Chelicerae. Conspicuously developed as in male, basal segment about 0.8 times as long as carapace, lower side strongly swollen at 3/4 from base ; (s) present on outer side near apex, long, acuminate at tip, directed forward ; (T) widely separated from (Gu), (rsu) 7-8 in number; (AXl) present, very small, (Gl) large, directed forward, (rsl) 14-16 in number but some basal ones very minute ; fang strongly geniculate, unarmed basally, but with a unique projection near the middle.

Legs, Leg formula 1.4.2.3 ; all legs with many spines, first femora with about 15 spines ; relative lengths of legs as shown in Table 25.

Abdomen. Considerably long about 4-5 times as long as broad, not extended posteriorly to spinnerets ; genital fold as shown in Fig. 26, I.

Color in alcohol. Legs and chelicerae grayish brown ; maxillae, lip, fang and sternum dark brown ; carapace grayish brown, lateral margins blackish ; a median blackened stripe on carapace not reaching the apex of the latter; abdomen generally grayish brown, with longitudinal blackish markings and yellowish silver spangles dorsally.

Type material : Holotype ♀ (BISHOP 13639), NEW GUINEA (PNG), Sogeri, Central Prov., 24. VIII. 1982, Y. Hirashima (BMH). Paratypes: 1♂2♀, NEW GUINEA (PNG), Minoa Rubber Est. 9 mile E. Sogeri, 1,600 m, Central Prov., 19. VI. 1959, D. E. Hardy (BMH).

Type depository : The holotype is preserved in the collection of BMH.

Distribution : New Guinea.

Note : This new species is related to *T. serra* Doleschall, 1857, *T. flagellans* Hasselt, 1882 and *T. delumbis* Thorell, 1891, but is easily distinguished from them by the shape of characteristic chelicerae

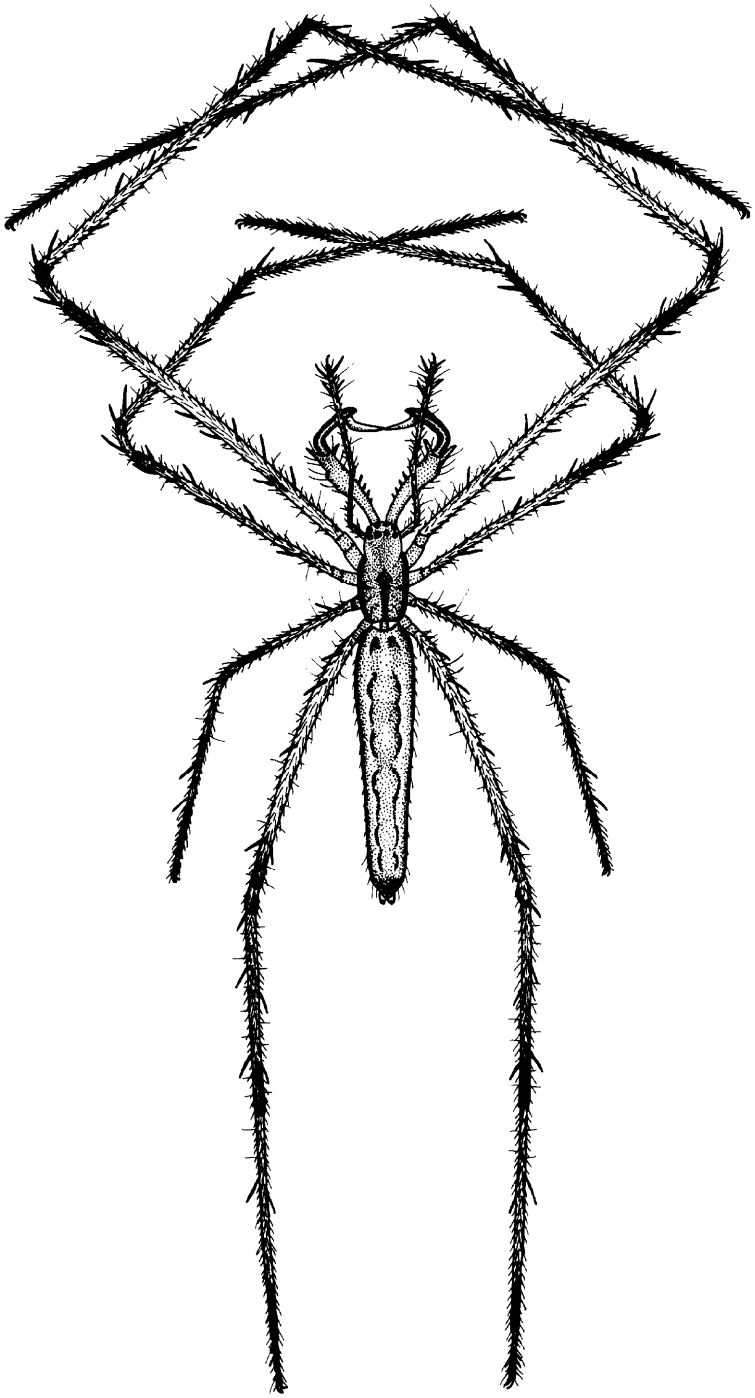

Fig. 25. *Tetragnatha hirashimai* sp. nov. Female.

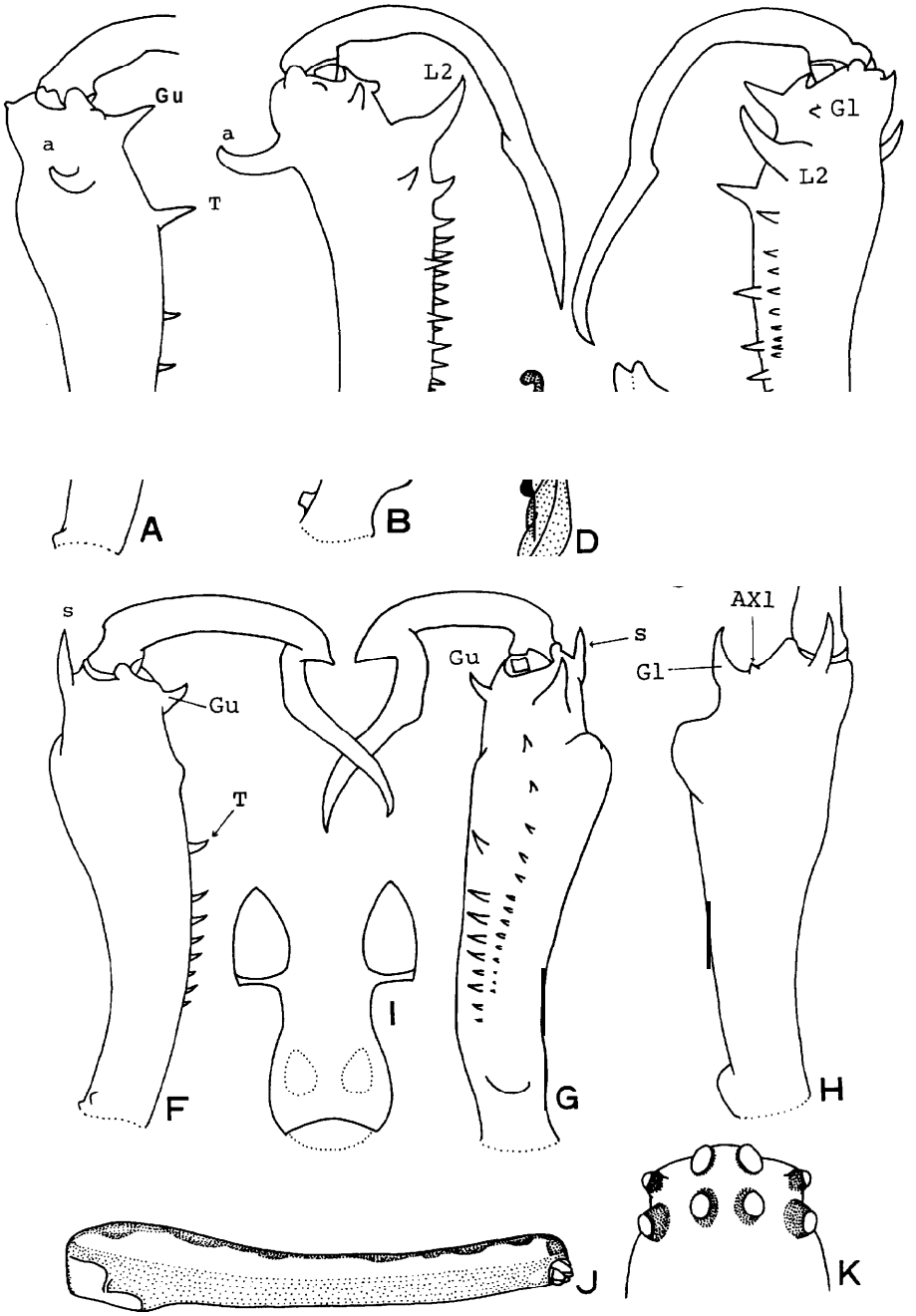

Fig. 26. ***Tetragnatha*** *hirashimai* sp. nov. A and B : Left chelicera of male, upper view. C : Ditto, lower view, D : Distal portion of conductor and embolus of male. E : Paracymbium of male. F : Left chelicera of female, upper view. G : Ditto, inner view. H : Ditto, lateral view. I : Genital fold of female. J : Abdomen of female, lateral view. K : Eye group of female.

in both sexes as shown in Fig. 26.

This species is named in honor of Prof. Y. Hirashima.

The valida-group

Diagnosis. Male chelicera with (a), (Gu), (sl) and (T) ; female chelicera with (e) between (Gu) and (T).

KEY TO THE SPECIES

1. Male chelicera as long as or longer than carapace ; female chelicera with very strong (Gl) and small (AXl) ..... *valida*

— Male chelicera shorter than carapace; female chelicera with small (Gl), without (AXl) ..... *insulicola* sp. nov.

Tetragnatha valida Keyserling, 1887

Tetragnatha valida Keyserling, 1887, Arachn. Austral., 2 : 218 ; Roewer, 1942, Katalog der Araneae, 1: 988.

Male. Body length, exclusive of chelicerae, 4.9-10.5 mm ; carapacial length 2.1-3.5 mm, width 1.4-1.8 mm ; abdominal length 2.8-7.0 mm, width LO-l.3 mm ; cheliceral length 1.9-3.6 mm.

Eyes. Anterior row of eyes occupying full width of head ; posterior row of eyes about as wide as or slightly smaller than anterior one (95-105 : 100) ; viewed from above, two rows nearly parallel and moderately recurved ; central ocular quadrangle with posterior ocular width slightly larger than anterior ocular width (111 : 100) and larger than antero-posterior ocular length in nearly same ratio as the latter ; ratio of diameter of AME : ALE : PME : PLE as 130 : 75 : 105 : 105 (μ).

Chelicerae. Long and well developed, basal segment about as long as carapace ; (a) bifurcated at tip ; (Gu) present, very stocky, (sl) present, directed backward, (T) long, moderately curved forward, (rsu) 6-7 in number; (AXl) blunt at tip, (Gl) long, somewhat robust at base, (rsl) 7-9 in number; fang long, with a blunt inner cusp at about 1/3 from the base.

Legs. Leg formula 1.2.4.3 ; all legs with many spines, first femora with 12-17 spines ; relative lengths of legs as shown in Table 26.

Palpi. Paracymbium with a distal notch ; conductor nearly straight at the middle, and prolonged and finger-shaped at tip.

Abdomen. Moderately long, about 3.5 times as long as broad, distal end of abdomen slightly overhanging spinnerets.

Color in alcohol. Generally yellowish brown ; only cheliceral fang and palpal tegulum brown.

Female. Body length, exclusive of chelicerae, 7.0-13.0 mm ; carapacial length 2.4-4.0 mm, width 1.5-2.3 mm ; abdominal length 4.0-9.2 mm, width 1.1-2.6 mm ; cheliceral length 2.1-3.3 mm.

Eyes. Nearly as in male.

Chelicerae. Well developed, basal segment slightly shorter than carapace ; (AXu) blunt at tip, (Gu) acuminate at tip, (e) present, (T) somewhat large, (rsu) 5-7 in number; (AXl) present near base of (Gl), (Gl) considerably broad at base, acuminate at tip, directed outward as shown in Fig. 27, H, (rsl) 8-9 in number; fang robust, (EX) present.

Legs. Nearly as in male ; relative lengths of legs as shown in Table 26.

Abdomen. Moderately long, about 3.5 times as long as broad, distal end of abdomen slightly overhanging spinnerets ; genital fold as shown in Fig. 27, J.

Color in alcohol. Nearly as in male.

Specimens examined : AUSTRALIA : 1♀, W of Washpool SF, Swamp on Gwider, H. Way (AMS-KS 9088) ; 1♂ 1♀ (AMS-KS 9098) ; 1♂ (AMS-KS 9101) ; 2♀, 5.5 km W of Washpool, SF. NSW (AMS-KS 9102) ; 1♂ (AMS-KS 9386) ; 1♂, Wilson Flora Res. NSW (AMS-KS 9705) ; 1♀ (AMS-KS 14083) ; 1♂, Nat. Park, Sydney, 20. III. 1966 (AMS-KS 14092) ; 1♀, Nat. Park, Sydney, 17. XII. 1965 (AMS-KS 14093) ; 29, Minnamurra Falls, 12. I. 1965 (AMS-KS 14117) ; 1♂, Petersham (AMS-KS 14119) ; 2♀, Wyangarie (AMS-KS 14123) ; 3♂ 1♀, Brooklana, E. Dorrigo, NSW, W. Heron (AMS-KS 14124) ; 2♂, Minnamurra Falls, 12. I. 1965 (AMS-KS 14125) ; 1♀, Mareeba, N. Q., 1. III. 1970, N. Coleman (AMS-KS 14149) ; 1♂, Mt. Allyn, Barrington Tops., NSW, C. Chadwick (AMS-KS 14154) ; 1♀, NSW., Mittagong, 28. III. 1974, B. Collins (AMS-KS 14149).

Distribution : Australia.

Tetragnatha insulicola sp. nov.

Male. Body length, exclusive of chelicerae, 9.2-9.5 mm ; carapacial length 2.8-3.0 mm, width 1.6-1.7 mm ; abdominal length 6.4-6.5 mm, width 1.2-1.5 mm ; cheliceral length 1.8-2.0 mm.

Eyes. Anterior row of eyes occupying full width of head ; posterior row of eyes slightly smaller than anterior one (90-97 : 100) ; viewed from above, two rows nearly parallel and moderately recurved ; central ocular quadrangle nearly square ; ratio of diameter of AME : ALE : PME : PLE as 130: 88 : 100 : 100 (μ).

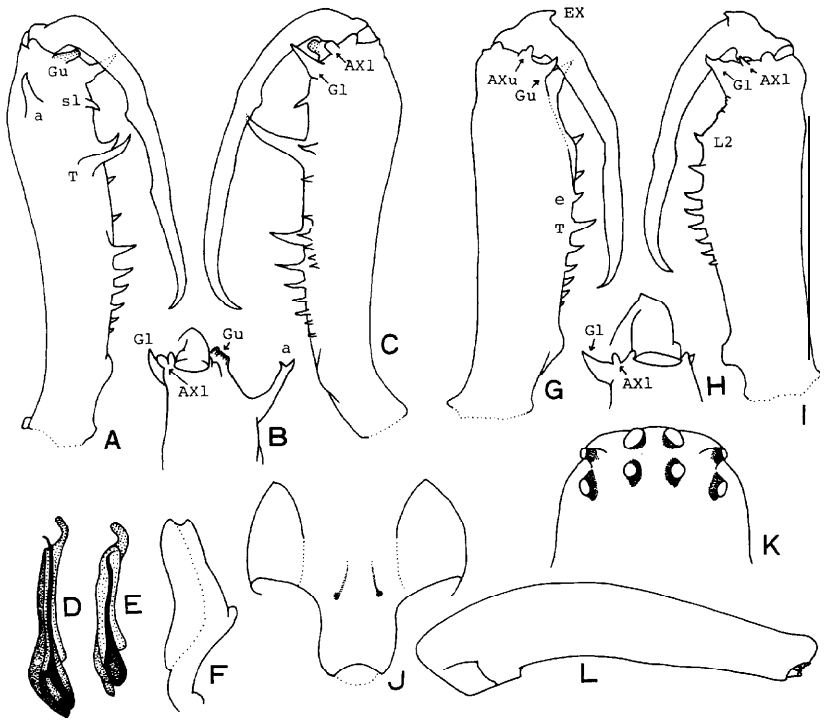

Fig. 27. *Tetragnatha valida* Keyserling. A : Left chelicera of male, upper view. B : Ditto, lateral view. C : Ditto, lower view. D and E : Distal portion of conductor and embolus of male. F : Paracymbium of male. G : Left chelicera of female, upper view. H : Ditto, lateral view. I : Ditto, lower view. J : Genital fold of female. K : Eye group of female. L : Abdomen of female, lateral view.

Chelicerae. Basal segment about 0.6-0.7 times as long as carapace ; (a) bifurcated at tip ; (Gu) bluntly rounded at tip ; (sl) slightly directed backward, (T) long, (rsu) 5-6 in number ;(AXl) very small, (Gl) long, slightly curved forward, (rsl) 6-8 in number ; fang slightly sinuous, unarmed.

Legs. Leg formula 1.2-4.3 ; all legs with spines, first femora with 6-7 spines ; relative lengths of legs as shown in Table 27.

Palpi. Paracymbium with a distal notch ; conductor nearly straight, rounded at tip.

Abdomen. Moderately long, about 4.5 times as long as broad, distal end of abdomen slightly overhanging spinnerets.

Color in alcohol. Generally yellowish brown ; abdomen somewhat grayish and covered with small dusky silvery spangles.

Female. Body length, exclusive of chelicerae, 8.8-9.2 mm ; carapacial length 2.5-2.7 mm, width 1.6 mm ; abdominal length 6.3-6.5 mm, width 1.4-1.8 mm ; cheliceral length 1.3-1.4 mm.

Eyes. Nearly as in male.

Chelicerae. Basal segment about 0.5 times as long as carapace ; (Gu) and (e) nearly equal in size, (T) somewhat large, (rsu) 5 in number ;(AXl) absent, (Gl) present, (rsl) 7-8 in number ; fang unarmed.

Legs. Nearly as in male ; relative lengths of legs as shown in Table 27.

Abdomen. Moderately long, about 4 times as long as broad, distal end of abdomen slightly overhanging spinnerets ; genital fold as shown in Fig. 28, I.

Color in alcohol. Nearly as in male.

Type material : Holotype ♂ (AMS-KS 14109) Lord Howe Is. Paratypes : 1♀, same data as holotype ;1♂, Lord Howe Is. (AMS-KS 14206) ;1♀, Lord Howe Is. (AMS-KS 14200).

Type depository : The holotype is preserved in the collection of AMS.

Distribution : Lord Howe Is.

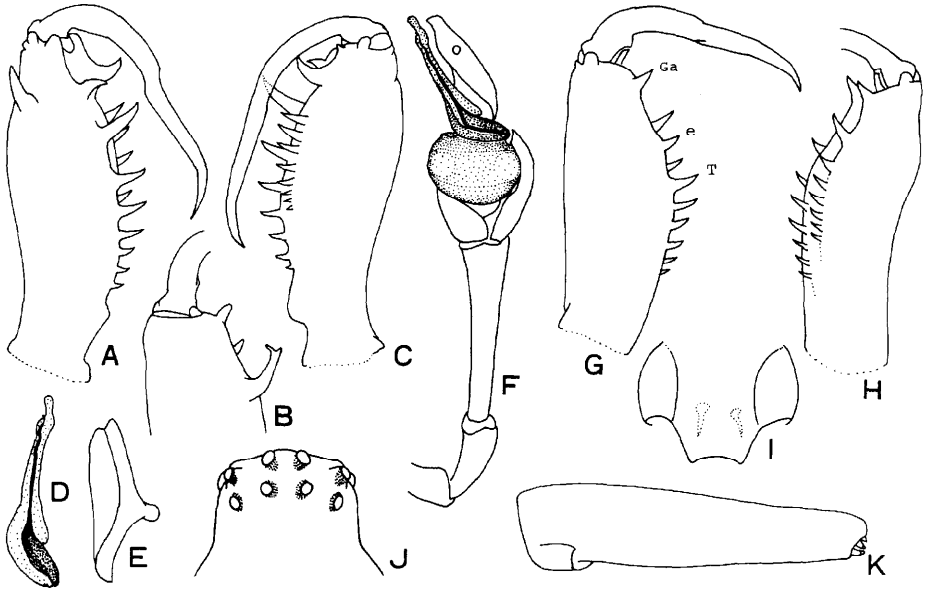

Fig. 28. *Tetragnatha insulicola* sp. nov. A : Left chelicera of male, upper view. B : Ditto, lateral view. C : Ditto, lower view. D : Distal portion of conductor and embolus of male. E : Paracymbium of male. F : Left palpus of male. G : Left chelicera of female, upper view. H : Ditto, lower view. I : Genital fold of female. J : Eye group of female. K : Abdomen of female, lateral view.

Note : This new species is related to *T. valida* Keyserling, 1887 but is easily distinguished from the latter as follows : the female chelicera is rather poor and (AXu) and (AXl) are absent in the new species while it is well developed with distinct (AXu) and (AXl) in *valida* ; and female fang without (EX) in the new species, but with distinct (EX) in *valida*.

The papuana-group

Diagnosis. Male chelicera without (t) and (sl) ; tip of (a) prolonged and sickle-like ; female chelicera without (AXu), (AXl) and (T).

Tetragnatha papuana Kulczynski, 1911

Tetragnatha papuana Kulczynski, 1911, Nova Guinea, 5 (2001. 3) : 446 ; Roewer, 1942, Katalog der Araneae, 1: 987 ; Chrysanthus, 1975, Zool. Verhandl., 140 : 10.

Male. Body length, exclusive of chelicerae, 6.9-7.6 mm ; carapacial length 2.4-2.6 mm, width 1.2-1.3 mm ; abdominal length 4.5-5.0 mm, width 0.9-1.0 mm ; cheliceral length 2.5-2.6 mm.

Eyes. Anterior row of eyes occupying full width of head ; posterior row of eyes slightly larger than anterior one (106-108 : 100) ; viewed from above, anterior row somewhat strongly recurved and posterior row moderately recurved, so that lateral eyes somewhat closer than median eyes ; central ocular quadrangle nearly square ; ratio of diameter of AME : ALE : PME : PLE as 150 : 63 : 110 : 95 (μ).

Chelicerae. Long and slender, basal segment about as long as carapace ; (a) large, a sickle-like at tip ; (Gu) and (T) nearly equal in size, (rsu) 7-8 in number; (AXl) present, additional small two tubercles present near (AXl), (Gl) long, (rsl) 8-9 in number ; fang long, with a blunt cusp near base on

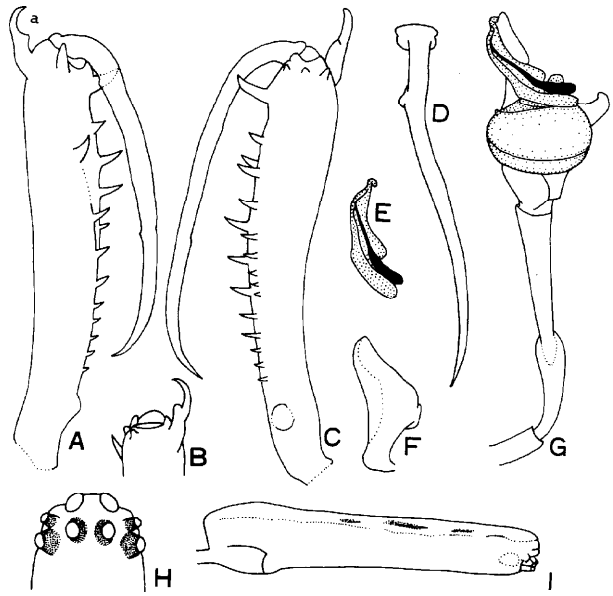

Fig. 29. *Tetragnatha papuana* Kulczynski. A : Left chelicera of male, upper view. B : Ditto, lateral view. C : Ditto, lower view. D : Fang of male, outer view. E : Distal portion of conductor and embolus of male. F : Paracymbium of male. G : Left palpus of male. H : Eye group of male. I : Abdomen of male, lateral view.

inner side as shown in Fig. 29, D.

Legs. Leg formula 1.4.2.3 ; all legs with rather short spines, first femora with about 7 spines ; relative lengths of legs as shown in Table 28.

Abdomen. Considerably long, about 5 times as long as broad, distal end of abdomen slightly overhanding spinnerets.

Color in alcohol. Chelicerae, carapace and legs light yellowish brown, sternum and labium somewhat dark ; abdomen generally grayish yellow, with indistinct brown longitudinal markings dorso-laterally, and with a central dark gray stripe ventrally.

Specimens examined: NEW GUINEA (IRIAN JAYA) : 1♂, Baden Sarmi District, 4-17. VII. 1959, T. Maa (BMH). NEW BRITAIN : 18, Hoskins, 28, 29. X. 1984, Y. Hirashima (KUF).

Distribution : New Guinea.

The maxillosa-group

Diagnosis. Male chelicera with (a), (t), (Gu) and (T) ; female chelicera without (e) between (Gu) and (T) ; fang unarmed.

Tetragnatha maxillosa Thorell, 1875

Tetragnatha maxillosa Thorell, 1875, Descr. Catal. Spid. Burma : 139 ; Okuma, 1983, Esakia, (20) : 72.

Specimens examined : NEW GUINEA (IRIAN JAYA) : 39, Vogelkop, Manokwari, 75 m, 21. VII. 1957, D. E. Hardy (BMH) ; 1♀, Wisselmeren, 1,530 m, 11. VIII. 1955, J. L. Gressitt (BMH) ; 1♂, Wisselmeren, 1,700 m, 18. VIII. 1955, J. L. Gressitt (BMH) ; 40 119, Vogelkop, Sucumi, 26, 31.VII. 1957, D. E. Hardy (BMH) ; 1♂ 29, Enaratoli, 1,750 m, 12. VII. 1962, Wateredge & Sedlacek (BMH). NEW

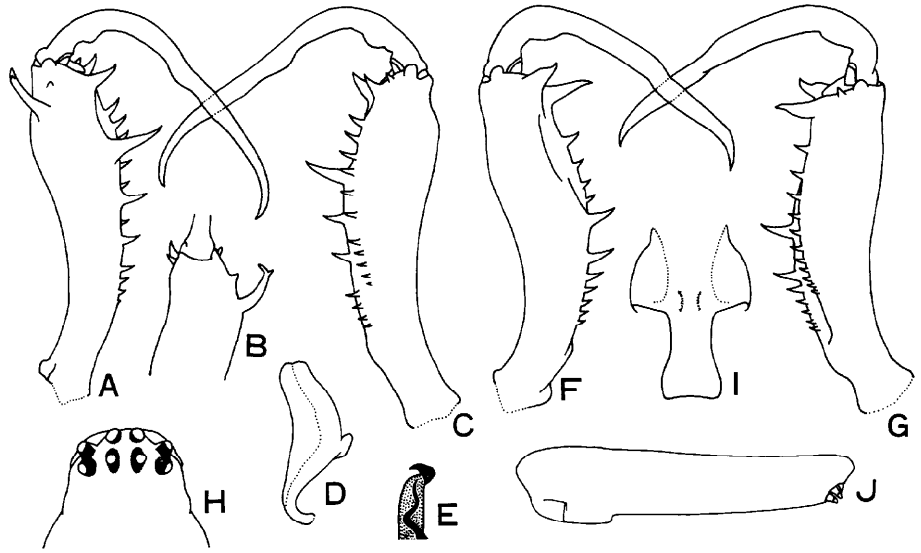

Fig. 30. *Tetragnatha maxillosa* Thorell. A : Left chelicera of male, upper view. B : Ditto, lateral view. C : Ditto, lower view. D : Paracymbium of male. E : Distal portion of conductor and embolus of male. F : Left chelicera of female, upper view. G : Ditto, lower view. H : Eye group of male. I : Genital fold of female. J : Abdomen of female, lateral view.

GUINEA (PNG) : 1♂, Kundiwa, Chimbu Prov., 8. I. 1965 (BMH) ; 1♂, Kundiwa, Chimbu Prov., X. 1971, N. L. H. Krauss (BMH) ; lb, Lae, Botanical Gardens, 6. VII. 1957, D. E. Hardy (BMH) ; 2♂2♀, Wampit nr. Gurakor Village, 950 m, nr. Wau, 7. VII. 1957, D. E. Hardy (BMH); 1♂ 19, Wau, Morobe Prov., 1,100 m, 15. V. 1962, J. H. Sedlacek (BMH) ; 3049, Wau, 1,200-1,400 m, 14. X. 1965, J. H. Sedlacek (BMH) ; 1♀, S. E. Rouna, 300-500 m, XI. 1968, N. L. H. Krauss (BMH) ; 1♂1♀, Kascom, E. Highland, l-9. XI. 1959, T. Maa & J. L. Gressitt (BMH) ; 2♀, Morobe Prov., Lake Trist, 1,600 m, 21-26. XI. 1966, G. A. Samuelson (BMH) ; 1♀, Wau, 1,100-1,200 m, V. 1968, N. L. H. Krauss (BMH) ; 1♂ 29, Lake Trist, 1,600 m, Morobe Prov., 21-26. XI. 1966, G. A. Samuelson (BMH) ; 13♂11♀, Wau, 15. VII. 1982, O. Tadauchi (KUF) ; 1♀, Wau, 22-23. VIII. 1962, Y. Hirashima (KUF). NEW BRITAIN : 2♂1♀, Hoskins, 28-29. X. 1984, Y. Hirashima (KUF). NEW HEBRIDES : 2♂ 19 (AMS-KS 14108).

The nitens-group

Diagnosis. Male chelicera with three strong apical teeth ; female chelicera with somewhat strong (AXl) and small (Gl) ; female cheliceral fang with strong (EX).

Tetragnatha nitens (Audouin, 1827)

Eugnatha nitens Audouin, 1827, Explic. Planch. Arachn. in : Savigny, Desc. de l'Egypt, 22 : 323.
Tetragnatha nitens Okuma, 1983, Esakia, (20): 75.

Specimens examined : NEW GUINEA (IRIAN JAYA) : 2♂2♀, Vogelkop, Sucumi, 6. VIII. 1975, D. E. Hardy (BMH); 1♂ 1♀, Vogelkop, Sucumi, 26. VII. 1975, D. E. Hardy (BMH); 2♀, Tambul, 2,200-

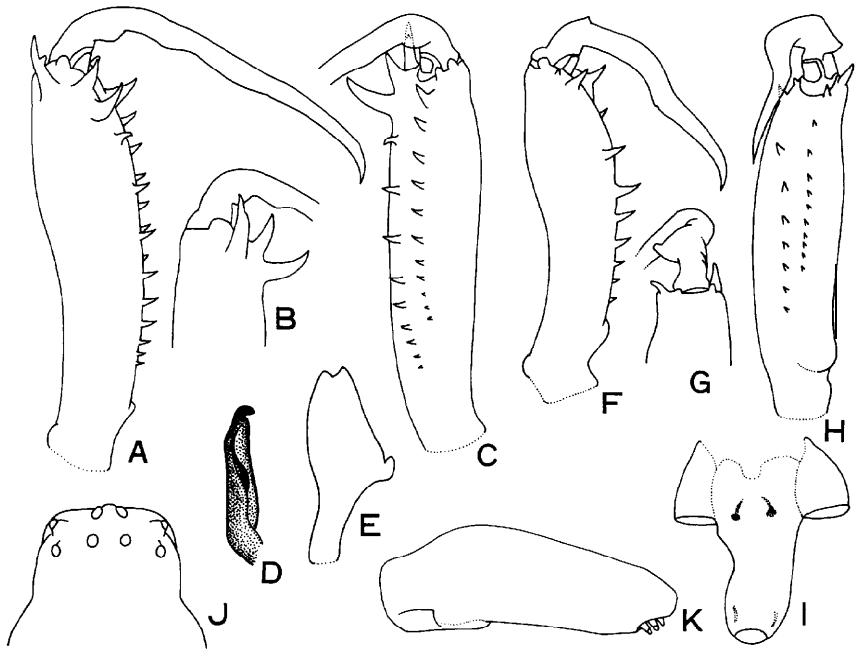

Fig. 31. *Tetragnatha nitens* (Audouin). A : Left chelicera of male, upper view. B : Ditto, lateral view. C : Ditto, lower view. D : Distal portion of conductor and embolus of male. E : Paracymbium of male. F : Left chelicera of female, upper view. G : Ditto, lateral view. H : Ditto, inner view. I : Genital fold of female. J : Eye group of female. K : Abdomen of female, lateral view.

2,500 m, 26. V. 1962, J. Sedlacek (BMH). NEW GUINEA (PNG) : 1♀, 32 km west Mt. Hagen, 2,500 m, Tomba Village, 27. VI. 1967, D. E. Hardy (BMH) ; 28 24, Myola, Central Prov., 2,000–2,800 m, l-5. XI. 1984, Y. Hirashima (KUF). LONG Is. : 1♀, 25. XI. 1978, E. Ball (AMS-KS 8429) ; 3♀, M. R. Gray (AMS-KS 8424) ; 1♂1♀, Lake Wisdom, 24. X. 1978 (AMS-KS 8428) ; 1♀, 5. XI. 1980, E. Ball (AMS-KS 8439) ; 1♂, 11. XI. 1980, E. Ball & M. Ball (AMS-KS 8444) ; 1♂2♀, 14. XI. 1974, L. Wisdom (AMS-KS 14133). AUSTRALIA: 1♀ (AMS-KS 14077); 1♂, Nat. Park Syd., 17. XII. 1965, (AMS-KS 14093) ; 1 ♂ (AMS-KS 14097) ; 1♂ (AMS-KS 14101) ; 1♂ 1♀, Gordon Vale (AMS-KS 14112) ; 29, Sydney (AMS-KS 14114) ; 1♂, Blackall Range, Q. (AMS-KS 14115) ; 2♂ 1♀, N. W. Aust. (AMS-KS 14121) ; 1♂ 19, Barron Jalk (AMS-KS 14122) ; 1♀, Gordon Vale (AMS-KS 14127) ; 1♀, Queensland (AMS-KS 14128) ; 1♂, Lindfield Syd., 22. XII. 1968, R. E. Mascord (AMS-KS 14138) ; 1♀, Mareeba, N. Q., N. C. Coleman (AMS-KS 14150) ; 1♂ (AMS-KS 14171). NORFOLK Is.. 1♂1♀ (AMS-KS 14113). KING Is. : 1♂, G. Cann (AMS-KS 14145). KOORAGANG Is. : 96 69 (AMS-KS 8891).

The mandibulata-group

Diagnosis. Male chelicera without (t) and (T) ; (a) simple, not bifid at tip ; female chelicera with very strong (AXl) and (Gl) ; female fang with (EX).

Tetragnatha mandibulata Walckenaer, 1841

Tetragnatha mandibulata Walckenaer, 1841, Hist. Nat. Ins. Apt., 2 : 211 ; Okuma, 1983, Esakia, (20) :

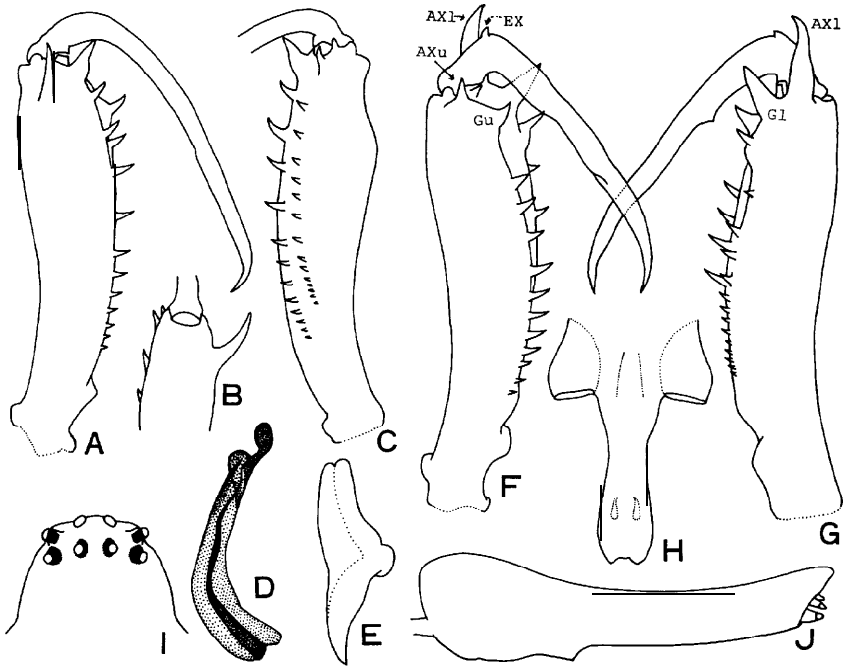

Fig. 32. *Tetragnatha mandibulata* Walckenaer. A : Left chelicera of male, upper view. B : Ditto, lateral view. C: Ditto, lower view. D: Distal portion of conductor and embolus of male. E : Paracymbium of male. F : Left chelicera of female, upper view. G : Ditto, lower view. H : Genital fold of female. I : Eye group of female. J : Abdomen of female, lateral view.

70.

Specimens examined : NEW GUINEA (IRIAN JAYA) : 5♂ 2♀, Bubia Markham, 17. XI. 1955, J. L. Gressitt (BMH) ; 26, Anggadi Yamor, 27. IV. 1943, T. Niimura. NEW GUINEA (PNG) : 18, Lae, Botanical Gardens, 6. VII. 1957, D. E. Hardy (BMH) ; 2♂ 1♀, Brown River, 5 m, 23. X. 1960, J. L. Gressitt (BMH) ; 19, Wau, Morobe Prov., 1,250 m, 12. X. 1965 (BMH) ; 2♂ 5♀, Rouna, Central Prov., 300-500 m, XI. 1968, N. L. H. Krauss (BMH) ; 2♀, Kilolo Creak, nr. Wau, 900 m, 30. VI. 1968, N. L. H. Krauss (BMH); 1♀, Wau, Morobe Prov., 1,000-1,100 m, VI. 1968, N. L. H. Krauss (BMH); 1♂ 1♀, Wau, 1,100-1,200 m, V. 1968, N. L. H. Krauss (BMH) ; 2♂ 2♀, Madang, 11. XI. 1973 (AMS-KS 14135). NEW HEBRIDES : 1♂ (AMS-KS 14108). FIJI : 1♀, Kadaru I., M. R. Gray (AMS-KS 6099). SOLOMON Is. : 1♂, Bougainville, Tarapa, 100-200 m, 26. X. 1971, N. L. H. Krauss (BMH).

Note : So far as the literature is concerned, this species is very similar to *T. protensa* Walckenaer, 1841 from Australia, New Caledonia, Samoa, New Hebrides, Palao I. and Madagascar on account of the characteristic chelicerae in the male and female. It is very probable that *T. mandibulata* is a synonym of *T. protensa*. Further studies based on the type specimens of these species are expected.

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Table 1. *Tetragnatha rubriventris* Doleschall. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s. d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♂	1	31.8		100	67	33	61
Australia		4	36.00 ± 4.72	29.75 -40.70		67 (0.992)	33 (0.988)	61 (0.999)
New Guinea	♀	4	37.58 ± 4.40	32.25 – 43.00		67 (0.998)	34 (0.981)	62 (0.996)
Australia		10	30.84 ± 4.41	24.13 -36.24		69 (0.997)	36 (0.993)	65 (0.996)
(Femora)								
New Guinea	♂	3	11.17 ± 1.79	9.20 – 12.70		74 (1)	43 (0.993)	74 (0.998)
Australia		5	10.55 ± 1.53	8.30 – 12.30		74 (0.998)	43 (0.993)	75 (0.994)
New Guinea	Q	6	10.30 ± 1.51	7.90 – 12.30		73 (0.998)	43 (0.946)	77 (0.990)
Australia		15	9.56 ± 1.65	6.95 – 12.00		74 (0.996)	45 (0.992)	79 (0.992)

n = Number of specimens.
r = Coefficient of correlation.

Table 2. *Tetragnatha phaeodactyla* Kulczynski. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s. d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♀	4	21.48-t 1.83	19.10 – 23.30	100	72 (0.993)	38 (0.992)	69 (0.946)
(Femora)								
New Guinea	♂	6	8.50 ± 0.65	7.70 – 9.10		74 (0.968)	43 (0.929)	76 (0.976)
New Guinea	♀	8	6.57 ± 0.90	5.40-8.15		77 (0.994)	47 (0.985)	83 (0.968)

Table 3. *Tetragnatha amoena sp.* nov. Relative lengths of total legs and femora.

Locality		n	length of 1st legs meant s. d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♀	2	25.30	24.75 – 25.80	100	68	35	64
(Femora)								
New Guinea	♀	5	7.60f0.40	7.00-8.00		74 (0.980)	45 (0.984)	81 (0.975)

Table 4. *Tetragnatha eumorpha* sp. nov. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean+ s. d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♂	1	41.95		100	66	33	58
New Guinea	♀	5	30.32 ± 1.91	28.70 – 33.45		69 (0.969)	36 (0.935)	66 (0.990)
(Femora)								
New Guinea	♂	2	10.50	9.50 – 11.50		74	44	77
New Guinea	♀	6	8.77k0.51	8.30 – 9.70		75 (0.977)	46 (0.918)	83 (0.978)

Table 5. *Tetragnatha jaculator* Tullgren. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s. d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♂	18	17.00 ± 1.44	13.78 – 19.10	100	68 (0.991)	31 (0.950)	62 (0.952)
New Guinea	♀	15	15.10 ± 1.57	13.15 – 19.50		66 (0.991)	31 (0.971)	63 (0.993)
(Femora)								
New Guinea	♂	22	4.70f0.45	3.90-5.30		74 (0.990)	38 (0.819)	74 (0.946)
New Guinea	♀	16	4.30 ± 0.51	3.65-5.80		71 (0.985)	37 (0.976)	76 (0.979)

Table 6. *Tetragnatha caudifera* (Keyserling). Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s. d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
Australia	♂	2	25.30		100	63	29	62
Australia	♀	2	20.60			65	30	64
(Femora)								
Australia	♂	2	7.10			71	37	74
Australia	♀	2	5.80			72	38	78

Table 7. *Tetragnatha micrura* Kulczynski. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s. d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
Solomon Is.	♂	1	38.20		100	65	34	67
New Guinea	♀	1	29.65			69	37	73
Solomon Is.		1	28.95			69	37	74
New Britain		1	24.93			71	38	74
New Ireland		1	30.70			68	37	72
(Femora)								
Solomon Is.	♂	1	11.00			70	42	77
New Britain		2	9.43	8.45 – 10.40		69	41	75
New Guinea	♀	2	8.50	8.20-8.80		73	46	87
Solomon Is.		1	8.40			74	46	88
New Britain		3	8.08 ± 0.91	7.35-9.10		74 (0.998)	46 (0.998)	86 (0.992)
New Ireland		1	8.70			74	46	85
Buka I.		1	9.65			74	47	89

Table 8. *Tetragnatha bituberculata* L. Koch. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s. d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
Australia	♂	6	21.64 ± 0.43	15.20 – 27.80	100	66 (0.998)	27 (0.978)	57 (0.999)
Australia	♀	6	21.72 ± 1.09	18.40 – 22.55		67 (0.989)	28 (0.912)	59 (0.958)
(Femora)								
Australia	♂	7	6.25 ± 1.18	4.25 – 8.00		72 (0.993)	33 (0.979)	67 (0.991)
Australia	♀	7	6.09 ± 0.48	5.20 – 6.50		72 (0.991)	35 (0.923)	70 (0.952)

Table 9. *Tetragnatha ceylonica* Cambridge. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s.d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♂	1	28.03		100	58	23	54
New Guinea	♀	1	22.15			58	26	/
(Femora)								
New Guinea	♂	3	7.57 ± 0.68	6.80-8.10		65 (0.975)	29 (0.808)	66 (0.948)
New Guinea	♀	3	6.63 ± 0.87	5.90 – 7.60		66 (1)	31 (0.991)	71 (0.995)

Table 10. *Tetragnatha demissa* L. Koch. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s.d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
Australia	♂	5	22.04 ± 0.26	17.90-24.60	100	66 (0.977)	28 (0.943)	64 (0.966)
Australia	♀	6	18.24 ± 1.14	16.80-20.18		67 (0.962)	29 (0.694)	64 (0.926)
(Femora)								
Australia	♂	7	6.04 ± 1.05	4.25 – 7.00		73 (0.993)	36 (0.986)	75 (0.993)
Australia	♀	7	5.14 ± 0.51	4.20 – 5.80		73 (0.968)	35 (0.517)	76 (0.979)

Table 11. *Tetragnatha oreobia* sp. nov. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean fs. d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♀	2	25.71	25.02 – 26.40	100	57	26	60
(Femora)								
New Guinea	♀	2	7.50	7.30 – 7.70		63	32	71

Table 12. *Tetragnatha priamus* sp. nov. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s.d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
Solomon Is.	♂	2	21.97	21.03-22.90	100	60	24	57
Solomon Is.	♀	3	23.80 ± 0.05	23.75 – 23.85		60 (0.871)	26 (0.596)	60 (0.255)
(Femora)								
Solomon Is.	♂	2	6.30	6.10 – 6.50		66	29	68
Solomon Is.	♀	5	6.90 ± 0.19	6.60-7.10		68 (0.411)	30 (0.878)	71 (0.816)

Table 13. *Tetragnatha yalom* Chrysanthus. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s.d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♂	1	17.48		100	55	22	50
(Femora)								
New Guinea	♂	2	5.25	4.90 – 5.60		61	26	61

Table 14. *Tetragnatha cylindrica* Walckenaer. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean-t s. d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♂	1	18.70		100	58	26	64
Australia		2	19.98	18.72-21.23		60	27	65
Australia	♀	1	17.88			61	29	72
(Femora)								
New Guinea	♂	1	5.50			64	33	73
Australia		2	5.65	5.25 -6.05		66	35	76
Australia	♀	1	5.20			65	37	87

Table 15. *Tetragnatha chauliodus* (Thorell). Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean±s. d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♀	2	27.84	26.80 – 28.88	100	56	25	61
(Femora)								
New Guinea	♀	2	8.13	7.90-8.35		60	31	74

Table 16. *Tetragnatha macilenta* L. Koch. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean? s. d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
Australia	♂	1	21.80		100	53	24	59
New Guinea		1	25.62			52	22	58
New Britain		3	24.05f0.59	23.68 -24.73		51 (0.914)	22 (0.963)	56 (1)
Admiralty Is.		1	22.20			52	22	57
Tonga, Samoa, Fiji		3	23.96±1.18	22.60 – 24.70		54 (0.919)	25 (0.911)	60 (0.984)
Australia	♀	1	25.60			54	24	59
New Guinea		1	23.53			55	24	61
New Britain		2	27.32	26.55-28.08		54	24	58
Solomon Is.		5	23.95± 1.66	22.27-26.28		54 (0.993)	25 (0.989)	60 (0.960)
Tonga, Samoa, Fiji		4	25.23-t 2.37	23.00 -28.57		55 (0.963)	26 (0.976)	61 (0.971)
(Femora)								
Australia	♂	1	6.40			57	30	69
New Guinea		2	7.40	7.30 – 7.50		57	30	70
New Britain		3	7.05f0.13	6.95 – 7.20		56 (0.994)	28 (0.982)	68 (0.999)
Admiralty Is.		2	7.08	6.60-7.55		56	28	67
Tonga, Samoa, Fiji		3	6.97±0.28	6.70 7.25		59 (0.891)	32 (0.961)	72 (0.999)
Australia	♀	1	7.60			58	32	68
New Guinea		4	6.90 k0.59	6.10-7.55		59 (0.921)	32 (0.971)	72 (0.951)
New Britain		2	8.35	8.10-8.60		57	30	69
Admiralty Is.		1	6.70			56	31	69
Solomon Is.		8	7.51 ±0.67	6.70 – 8.50		58 (0.974)	31 (0.947)	71 (0.983)
Tonga, Samoa, Fiji		4	7.50±0.56	7.00 – 8.30		59 (0.934)	32 (0.882)	73 (0.991)

Table 17. *Tetragnatha gressittorum* sp. nav. Relative lengths of total legs and femora.

Locality		n	length of 1st legs meanfs. d. range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)							
New Guinea	♀	2	17.24 16.53 -17.95	100	61	26	61
(Femora)							
New Guinea	♀	2	5.00 4.75 -5.25		65	32	72

Table 18. *Tetragnatha nana* sp. nov. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean±s. d. range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)							
New Guinea	♂	2	21.28 21.15-21.40	100	54	24	56
New Guinea	♀	2	22.13 21.35–22.90		57	26	59
(Femora)							
New Guinea	♂	3	6.17k0.15 6.00 -6.30		59 (0.929)	30 (0.329)	65 (0.945)
New Guinea	♀	5	6.45 k0.23 6.20-6.80		61 (0.988)	32 (0.858)	71 (0.927)

Table 19. *Tetragnatha biseriata* Thorell. Relative lengths of total legs and femora

Locality		n	length of 1st legs mean±s. d. range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)							
New Guinea	♂	12	26.14k2.39 24.12-32.60	100	61 (0.971)	28 (0.965)	70 (0.968)
Australia		1	25.15		61	28	69
New Guinea	♀	17	27.69± 1.99 23.83–31.70		62 (0.971)	29 (0.905)	70 (0.940)
Australia		8	27.12±2.65 23.20 – 32.27		62 (0.989)	28 (0.967)	69 (0.986)
(Femora)							
New Ginea	♂	29	7.82± 0.71 6.20 -9.20		67 (0.968)	35 (0.888)	82 (0.939)
Australia		1	7.10		68	36	81
New Guinea	♀	30	7.94±0.58 7.10-9.10		67 (0.925)	36 (0.808)	84 (0.937)
Australia		8	7.87-t 0.67 6.85 – 9.20		68 (0.984)	37 (0.973)	83 (0.984)

Table 20. *Tetragnatha insularis* sp. nov. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s. d. range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)							
Lord Howe Is.	♂	14	16.15f0.85 14.57 – 17.68	100	60 (0.930)	27 (0.834)	62 (0.958)
Lord Howe Is.	♀	9	14.89±1.74 12.16 – 17.05		63 (0.989)	30 (0.952)	68 (0.993)
(Femora)							
Lord Howe Is.	♂	14	4.66k0.29 4.10–5.10		66 (0.943)	34 (0.883)	74 (0.863)
Lord Howe Is.	♀	9	4.34±0.52 3.50 – 5.00		68 (0.988)	37 (0.936)	80 (0.989)

Table 21. *Tetragnatha radiata* Chrysanthus. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s. d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♂	3	10.20±0.07	10.15 – 10.28	100	80 (0.985)	43 (0.781)	67 (0.948)
New Guinea	♀	5	9.20±1.13	7.90 – 10.48		80 (0.998)	44 (0.934)	68 (0.991)
(Femora)								
New Guinea	♂	4	2.90±0.13	2.82-3.12		83 (0.997)	49 (0.963)	77 (0.963)
New Guinea	♀	8	2.70±0.31	2.20-3.10		85 (0.987)	52 (0.989)	80 (0.987)

Table 22. *Tetragnatha monticola* sp. nov. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s. d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♂	1	10.66		100	72	38	64
New Guinea	♀	1	10.78			75	42	70
(Femora)								
New Guinea	♂	1	3.18			78	44	72
New Guinea	♀	1	3.15			81	49	81

Table 23. *Tetragnatha signata* sp. nov. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s. d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♂	1	9.35		100	75	40	63
New Guinea	♀	2	8.60	8.30 – 8.90		75	40	66
(Femora)								
New Guinea	♂	1	2.70			82	47	76
New Guinea	♀	2	2.50	2.40-2.60		80	47	78

Table 24. *Tetragnatha serra* Doleschall. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s. d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♀	1	33.03		100	55	25	54
(Femora)								
New Guinea	♀	1	9.65			61	31	67

Table 25. *Tetragnatha hirashimai* sp. nov. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s. d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♀	1	38.45		100	56	27	59
(Femora)								
New Guinea	♀	2	10.15	9.20 – 11.10		61	34	72

Table 26. *Tetragnatha valida* Keyserling. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s. d.	length of 1st legs range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
Australia	♂	12	30.88 ± 4.29	24.60 – 37.88	100	61 (0.992)	27 (0.983)	58 (0.991)
Australia	♀	7	32.29 ± 4.61	26.50 -38.20		63 (0.986)	29 (0.993)	61 (0.996)
(Femora)								
Australia	♂	13	8.57 ± 1.20	6.90 – 10.60		68 (0.988)	35 (0.972)	70 (0.985)
Australia	♀	7	9.19 ± 1.28	7.60 – 10.90		67 (0.943)	36 (0.994)	74 (0.998)

Table 27. *Tetragnatha insulicola* sp. nov. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s. d.	length of 1st legs range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
Lord Howe Is.	♂	2	27.30	25.70 – 28.95	100	70	36	69
Lord Howe Is.	♀	2	23.50	22.98 – 23.95		68	36	67
(Femora)								
Lord Howe Is.	♂	2	7.45	7.00 – 7.90		76	46	82
Lord Howe Is.	♀	2	6.50	6.35 – 6.70		74	45	81

Table 28. *Tetragnatha papuana* Kulczynski. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s. d.	length of 1st legs range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♂	1	31.25		100	57	24	61
(Femora)								
New Guinea	♂	2	9.10	9.00 -9.15		62	30	75

Table 29. *Tetragnatha nitens* (Audouin). Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean ± s. d.	length of 1st legs range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♂	4	28.00 ± 3.90	24.20-31.85	100	69 (0.996)	30 (1)	65 (0.999)
Australia		6	27.19 ± 2.32	25.25-31.70		69 (0.979)	31 (0.902)	65 (0.987)
Long Is.		3	23.29 ± 3.24	19.63 – 25.78		69 (1)	31 (0.997)	65 (0.999)
New Guinea	♀	6	25.57 ± 5.95	18.55 – 32.67		68 (0.999)	30 (0.993)	63 (0.996)
Australia		11	24.44 ± 3.61	17.15 – 30.43		68 (0.997)	31 (0.984)	64 (0.995)
Long Is.		7	20.74 ± 1.78	18.40 – 23.55		68 (0.989)	31 (0.872)	64 (0.989)
(Femora)								
New Guinea	♂	4	7.84 ± 1.09	6.90 – 8.90		77 (0.994)	37 (0.999)	77 (0.994)
Australia		6	7.76 ± 0.74	7.10 – 9.20		77 (0.984)	38 (0.965)	76 (0.993)
Long Is.		3	6.60k0.89	5.60-7.30		76 (0.998)	38 (0.996)	76 (1)
New Guinea	♀	6	7.30 ± 1.73	5.15 -9.35		75 (0.998)	37 (0.994)	76 (0.994)
Australia		11	7.05 ± 1.06	4.90 – 8.90		75 (0.996)	37 (0.993)	77 (0.986)
Long Is.		7	6.01 ± 0.60	5.35 – 7.05		74 (0.994)	38 (0.966)	76 (0.992)

Table 30. *Tetragnatha maxillosa* Thorell. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean±s.d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♂	22	30.00t3.11	23.60 – 35.85	100	59 (0.961)	26 (0.955)	59 (0.984)
New Guinea	♀	28	29.00 ± 3.68	21.80-35.90		61 (0.985)	28 (0.972)	59 (0.987)
(Femora)								
New Guinea	♂	22	8.45 ± 0.86	6.70 – 10.00		65 (0.978)	33 (0.972)	71 (0.984)
New Guinea	♀	28	8.33 ± 1.07	6.20 – 10.40		67 (0.991)	35 (0.970)	71 (0.986)

Table 31. *Tetragnatha mandibulata* Walckenaer. Relative lengths of total legs and femora.

Locality		n	length of 1st legs mean±s.d.	range	1st legs ratio	2nd legs ratio (r)	3rd legs ratio (r)	4th legs ratio (r)
(Legs)								
New Guinea	♂	9	39.72±6.33	30.20 – 49.90	100	60 (0.998)	26 (0.993)	59 (0.997)
Solomon Is.		1	48.50			59	25	57
New Hebrides		1	33.25			62	28	59
New Guinea	Q	12	35.44±4.61	26.65 -42.98		60 (0.991)	27 (0.960)	60 (0.992)
Fiji		1	44.65			61	28	60
(Femora)								
New Guinea	♂	9	11.10± 13.67	8.60-1.60		68 (0.995)	34 (0.960)	73 (0.993)
Solomon Is.		1	13.60			67	33	72
New Hebrides		1	9.60			68	35	73
New Guinea	♀	12	9.98k1.33	7.65 – 12.40		68 (0.973)	36 (0.917)	75 (0.961)
Fiji		1	12.50			68	36	74