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# A NEW SPECIES OF THE GENUS *TETRAGNATHA* FROM AFRICA (ARANEAE : TETRAGNATHIDAE)*

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**Abstract**

A new species, *Tetragnatha subsquamata,* is described from Tanzania, Africa.

In my previous papers (Okuma, 1983 and 1984), I have studied 6 species of the African *Tetragnatha,* partially based on the materials collected by Dr. H. Kunimi. His collection contains one more species which is described as new in this paper. The African new species is so similar to the east Asian *Tetragnatha squamata* Karsch, 1879 that I could not distinguish it from the latter previously. However, these two species are separable by the body size and the structure of the male conductor.

Before going further, I wish to express my hearty thanks to Prof. Y. Hirashima of Kyushu University for his helpful suggestions and encouragement throughout the course of this work. My hearty thanks are due to Dr. H. Kunimi of Tokyo Sericulture Technical Guidance Center for his kindness in offering me the invaluable specimens for the present study.

## *Tetragnatha subsquamata* sp. nov.

Male. Body length, exclusive of chelicerae 6.0 to 8.0 mm ; carapacial length 2.2 to 2.8 mm, width 1.4 to 2.0 mm ; abdominal length 3.6 to 5.3 mm, width 1.6 to 2.0 mm.

Eyes. Viewed from above, anterior and posterior rows of eyes nearly parallel and moderately recurved; central ocular quadrangle nearly square ; ratio of diameter of AME: ALE : PME : PLE as 120 : 63 : 75 : 70 ($\mu$); AME separated from one another by their diameter, and from ALE by about 1.8 to 1.9 times their diameter; PME separated from one another by about 1.8 times their diameter and separated from PLE by about 3 times their diameter ; lateral eyes separated from one another by about 2.4 times diameter of ALE ; AME separated from PME by about 1.2 to 1.3 times diameter of AME.

* Contribution from the Entomological Laboratory, Faculty of Agriculture, Kyushu University, Fukuoka (Ser. 3, No. 183).

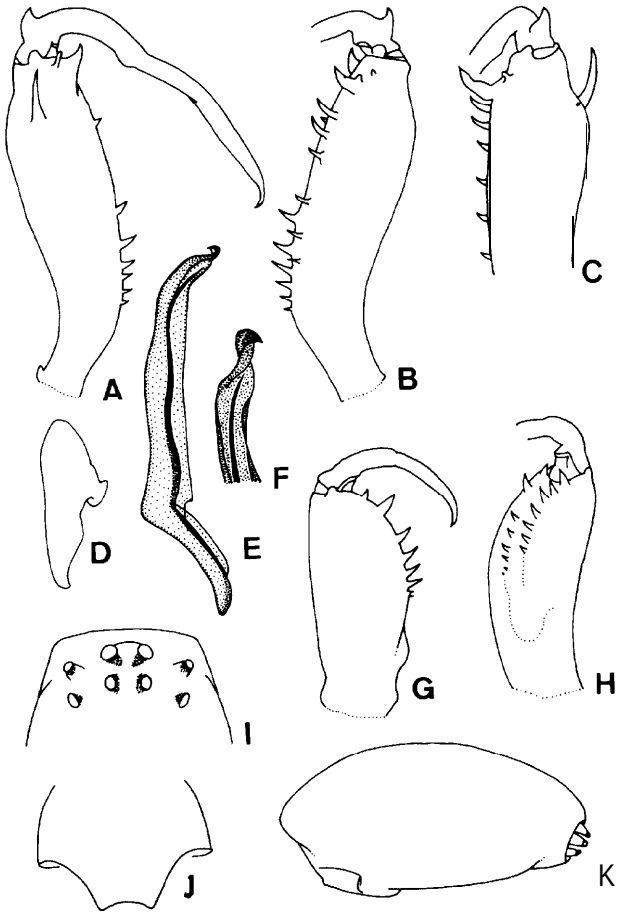


Fig. 1. *Tetragnatha subsquamata* sp. nov. A : Left chelicera of male, dorsal view. B : Ditto, ventral view. C : Ditto, lateral view. D : Paracymbium of male. E & F: Distal portion of conductor and embolus of male. G : Left chelicera of female, dorsal view. H : Ditto, inner view. I : Eye group of male. J : Genital fold of female. K : Abdomen of female, lateral view.

*Chelicerae*. Basal segment 1.9 to 3.0 mm in length, as long as or somewhat longer than carapace ; prolateral spur slender and acutely pointed at tip ; fang long, slightly sinuous, with a large dorsal cusp near base; first tooth of dorsal series broad and situated at the tip of chelicera, a small tooth situated on dorsal portion of first tooth, variable in shape and size ; second tooth small and somewhat closer to first than to third, remaining four to six teeth in descending series ; ventral series shorter than dorsal, seven to nine in number, first tooth very small and situated on subapical portion of chelicera, second tooth large and broad, somewhat gnarled.

*Legs*. Leg formula 1.2.4.3 ; all legs with spines ; measurements of legs as follows :

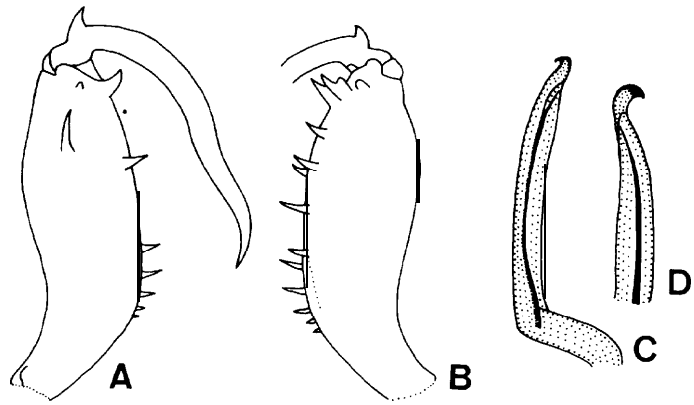


Fig. 2. *Tetragnatha squamata* Karsch. A : Left chelicera of male, dorsal view. B : Ditto, ventral view. C & D : Distal portion of conductor and embolus of male.

| | Femora | Patellae + Tibiae | Metatarsi | Tarsi | Total |
|---|---|---|---|---|---|
| I | 5.86±0.60 | 7.08±0.66 | 6.37f0.47 | 1.75f0.07 | 21.06f1.75 |
| II | 4.79f0.54 | 5.31±0.55 | 4.72±0.39 | 1.26±0.07 | 16.07 ± 1.50 |
| III | 3.02±0.39 | 2.74±0.30 | 2.38±0.20 | 0.68±0.06 | 8.83f0.94 |
| Iv | 4.54±0.47 | 4.40-t 0.45 | 3.91±0.26 | 0.78t0.06 | 13.5f1.25 |

*Palpi*. Paracymbium broad, bluntly rounded at distal end ; distal end of conductor hook-like, distinctly twisted and embolus as shown in Fig. 1, E & F.

***Abdomen.*** Not so long, less than three times as long as broad, not extended posteriorly to spinnerets.

*Color* ***preserved in alcohol.*** Legs, carapace and mouth parts yellowish brown ; abdomen covered with many yellowish silvery spangles ; venter also covered with yellowish silvery spangles ; some specimens with light reddish dorsal markings or lateral-stripes.

**Female.** Body length, exclusive of chelicerae 5.3 to 6.5 mm ; carapacial length 1.9 to 2.5 mm, width 1.4 to 1.7 mm ; abdominal length 3.2 to 4.3 mm, width 1.5 to 2.5 mm.

Eyes. Much as in male.

*Chelicerae*. Basal segment 0.9 to 1.2 mm in length, about one-half as long as carapace, without particular features.

Legs. Leg formula 1.2.4.3 ; all legs with spines ; measurements of legs as follows :

| | Femora | Patellae + Tibiae | Metatarsi | Tarsi | Total |
|---|---|---|---|---|---|
| I | 4.29±0.46 | 3.75±0.35 | 3.41±0.36 | 1.03±0.08 | 11.64-t 1.14 |
| II | 3.46± 0.37 | 3.75±0.35 | 3.41±0.36 | 1.03±0.08 | 11.64± 1.14 |
| III | 2.19±0.20 | 1.97kO.18 | 1.70f0.18 | 0.57f0.05 | 6.44 ±0.60 |
| Iv | 3.38±0.38 | 3.14±0.30 | 2.81±0.30 | 0.66± 0.05 | 9.98± 1.03 |

***Abdomen.*** Not so long, less than three times as long as broad, somewhat swollen, not extended posteriorly to spinnerets.

Color ***preserved in alcohol.*** Much as in male.

Holotype : ♂ (Type No. 2521, Kyushu Univ.), Bukoba, Tanzania, 29. VIII. 1975, H.

**Table 1.** *Tetragnatha subsquamata* sp. nov.: Relative lengths of legs.

| Locality | | n* | 1st legs mean±s.d. | 1st legs range | 1st legs ratio | 2nd legs ratio (r) | 3rd legs ratio (r) | 4th legs ratio (r) |
|---|---|---|---|---|---|---|---|---|
| (Legs) Tanzania | ♂ | 9 | 21.06tl.75 | 18.70-23.60 | 100 | 76(0.993) | 42(0.977) | 65(0.986) |
| 〃 | ♀ | 7 | 15.53±1.64 | 13.35-18.63 | 〃 | 75(0.998) | 41(0.994) | 64(0.996) |
| (Femora) Tanzania | ♂ | 9 | 5.86±1.75 | 5.10-6.60 | 〃 | 82(0.989) | 52(0.972) | 78(0.980) |
| 〃 | ♀ | 7 | 4.30±0.46 | 3.65-5.15 | 〃 | 80(0.995) | 51(0.966) | 79(0.996) |

* The number of specimens.

**Table 2.** *Tetragnatha squamata* Karsch: Relative lengths of legs.

| Locality | | n | 1st legs mean+ s.d. | 1st legs range | 1st legs ratio | 2nd legs ratio (r) | 3rd legs ratio (r) | 4th legs ratio (r) |
|---|---|---|---|---|---|---|---|---|
| (Legs) Japan | ♂ | 10 | 14.23±1.22 | 12.25-15.80 | 100 | 76(0.975) | 39(0.954) | 65(0.977) |
| 〃 | ♀ | 8 | 13.94±2.29 | 11.50-18.85 | 〃 | 74(0.981) | 40(0.962) | 64(0.946) |
| (Femora) Japan | ♂ | 10 | 3.8310.31 | 3.30-4.30 | 〃 | 81(0.969) | 50(0.866) | 80(0.963) |
| 〃 | ♀ | 8 | 3.80t0.64 | 3.10-5.15 | 〃 | 80(0.969) | 51(0.949) | 79(0.917) |

Kunimi leg. Paratypes : 1♀, 16. I. 1975 ;3♂♂ and 6 ♀♀, 16. II. 1975 ;1♂, 25. VI. 1975 ;1♂, 25. VII. 1975 ;3♂♂, 29. VIII. 1975, all specimens were collected by Dr. H. Kunimi at Bukoba.

Type depository : The holotype is preserved in the collection of the Entomological Laboratory, Faculty of Agriculture, Kyushu University.

*Distribution* : Africa (Bukoba, Tanzania).

*Remarks.* This species is very similar to the east Asian *T. squamata* Karsch, 1879 in many respects including chelicerae and leg ratios (Tables 1 & 2), but it is separable from the latter in having the body much larger, especially in male (in *squamata* the body length of males preserved in alcohol is 3.2 to 5.0 mm). In addition, the male palpal conductor distinctly differs from each other, viz the tip of conductor is curved inwardly to form a simple hook in *squamata*, whereas such a hook-like tip of *subsquamata* is distinctly twisted. The two species are scarcely distinguishable by the females.

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