

## SPIDERS FROM THE TOKARA ISLANDS\*

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From the writings of several arachnologists the fauna of Japanese spiders has become pretty clear. However, the species from south western small islands off Kyushu are not well known and from the Tokara Islands not at all.

Fortunately the writer was given an opportunity to study some spiders from the Tokara Islands collected by the members of the Scientific Survey to these islands under the leadership of Mr. Yoshitaka Tsutsui, the director of the Osaka Museum of Natural History.

The materials handed to the writer comprise 46 species (including immature ones) in 31 genera belonging to 13 families, and most of them are already known to exist in Japan or Formosa. As far as the the writer can say from his examination, the spider fauna of these islands is rather nearer to that of Jap an proper than to Formosa, and there are no species worthy of particular notice except *Araneus mongolicus* SIMON known from northern regions.

As the result of writer's study, 3 species were recognized as new to science. However, he has described here only the species *Heteropoda tokarensis*, and omitted the other two, because both are lacking the specimen of the opposite sex. Regarding these species and young ones, only the generic names are given here.

All the specimens have been preserved in the collection of the Osaka Museum of Natural History.

Before going further the writer wishes to express his sincere gratitude to the members of the expedition for their kindness in enabling him to study the materials they had collected.

**Localities and dates:** N. Nakanoshima Is. 4/VI-13/VI-1953.

T. Takarajima Is. 27/VI-3/VII-1953.

**Collectors:** Mr. Y. Tsutsui, Mr. O. Tsujimoto, Mr. S. Uéno and Mr. H. Kono.

Regional names are abbreviated as follows:

Hk.-Hokkaido, Hn.-Honshu, Ky.-Kyushu, Sk.-Shikoku

T.-Tanegashima Is., Y.-Yakushima Is., A.-Amamioshima Is., O.-Okinawa Is.

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Sg.-Saghalien, Kr.-Korea, F.-Formosa, C.-Chinese continent

Subord. METATHELAE

Fam. Uloboridae

1. *Uloborus varians* BOESENBERG et STRAND  
N (4 ♀) Hk. Hn. Sk. Ky. Y. T. A.

Fam. Theridiidae

2. *Conopistha bonadea* KARSCH (= *Argyrodes bonadea* (KARSCH))  
T (1 ♀) Hn. Sk. Ky. T. A. O. C.
3. *Theridion tepidariorum* C. L. KOCH  
N (3 ♀, 1 ♂) Hk. Hn. Sk. Ky. T. Y. A. O. Sg. F. Kr.

Fam. Argiopidae

4. *Araneus ventricosus* (L. KOCH)  
N (1 ♀, 1 ♂ juv.) Hk. Hn. Sk. Ky. T. Y. Sg. F. C.
5. *A. mongolicus* SIMON  
N (1 ♂) Hn. Ky. C.
6. *A. subpullatus* BOES. et STR.  
N. T (5 ♀) Hn. Sk. Ky. T. A.
7. *Neoscona scylla* (KARSCH)  
N (1 ♀, 1 ♀ juv.); T (1 ♂, 1 ♀) Hk. Hn. Sk. Ky. A. O. Kr.
8. *N. scylla* var. *nigromaculata* (YAGINUMA)  
N (1 ♀ juv.) Hn. Sk. Ky. Kr.
9. *N. theisi* (THORELL)  
N (1 ♀) Ky. A. F. Kr. C. Marcus Is.
10. *N. nautica* (L. KOCH)  
N (1 ♀ subad.) Hn. Sk. Ky. T. Y. A. O. F. C.
11. *N. mellotteei* (SIMON)  
N (1 ♀ subad.) Hn. Sk. Ky. A. F. Kr.
12. *Zilla astridae* (STRAND)  
N (3 ♀ juv., 1 ♂ juv.) Hn. Sk. Ky.
13. *Cyclosa insulana* (COSTA)  
N (3 ♀, 2 ♀ subad., 1 ♂ subad.) Hk. Hn. Sk. Ky. O. C.
14. *Argiope amoena* L. KOCH  
N (2 ♀); T (1 ♂, 1 ♀ subad.) Hn. Sk. Ky. T. Y. A. O. F. Kr. C.
15. *Gasteracantha mammosa* C. L. KOCH  
N. T. (Many ♀ ad. subad. juv.) Sk. Ky. A. O. F. C.

Fam. Tetragnathidae

16. *Leucauge blanda* (L. KOCH)

- N (1 ♀, 1 ♂) Hn. Sk. Ky. Izushichito
17. *L. magnifica* YAGINUNA  
N (5 ♀ juv.) Hn. Sk. Ky. T. A. O. F.
18. *Tetragnatha praedonia* L. KOCH  
N (1 ♀) Hk. Hn. Sk. Ky. Y. A. F. Kr.
- Fam. Pisauridae
19. *Dolomedes raptor* BOES. et STR.  
N (1 ♀ subad.) Hn. Sk. Ky.
20. *D. pallitarsis* BOES. et STR.  
N (1 ♀ subad.) Hn. Sk. Ky.
- Fam. Lycosidae
21. *Lycosa pseudoannulata* BOES. et STR.  
T (many ♀) Hn. Sk. Ky. T. Sg. Kr. C.
22. *Pardosa laura* (KARSCH)  
N (many ♀) Hk. Hn. Sk. Ky. C.
23. *Pirata procurva* BOES. et STR.  
N (2 ♀, 2 ♂, 1 ♀ subad.) Hn. Sk. Ky.
24. *Tricca japonica* SIMON  
N (1 ♂) Hk. Hn. Ky.
- Fam. Agelenidae
25. *Agelena opulenta* L. KOCH  
N (many ♀ subad.) Hk. Hn. Sk. Ky. Kr. C.
26. *Coras insidiosus* (L. KOCH)  
T (1 ♂) Hn. Sk. Ky. Kr.
- Fam. Thomisidae
27. *Xysticus croceus* FOX  
N (1 ♂) Hk. Hn. Sk. Ky. Kr. C.
28. *Misumena tricuspidata* (FABRICIUS)  
N (1 ♂ subad.) Hk. Hn. Sk. Ky. Kr. C.
29. *M. japonica* BOES. et STR.  
N (1 ♀ subad.) Hn. Sk. Ky. F.
30. *Philodromus japonicola* BOES. et STR.  
N (1 ♀, 1 ♀ subad.) Hk. Hn. Sk. Ky.
- Fam. Salticidae
31. *Jotus difficilis* BOES. et STR.  
N (1 ♀) Hk. Hn. Sk. Ky.
32. *Hasarius adansoni* (AUDOUIN)  
N (1 ♀); T (1 ♀) Hk. Hn. Sk. Ky. O. F.

33. *Plexippus paykulli* (AUDOUIN)  
 N (1 ♀) Hk. Hn. Sk. Ky. O. F. Kr.  
 Fam. Clubionidae
34. *Clubiona japonicola* BOES. et STR.  
 T (1 ♂) Hk. Hn. Sk. Ky. F. Kr.
35. *Chiracanthium eutittha* BOES. et STR.  
 N (1 ♂) Hn. Sk. Ky.  
 Fam. Argyronetidae
36. *Desis japonica* YAGINUMA  
 T (2 ♀ subad.) S. Uéno leg. Hn. Ky.  
 Fam. Heteropodidae
37. *Heteropoda venatoria* LINNE  
 T (2 ♀) Hn. Sk. Ky. A. O. F. Kr. C.
38. *H. tokarensis* YAGINUMA n. sp.  
 N (3 ♀, 2 ♂, 1 ♀ subad.)  
 Indetermined species
39. *Clubiona* sp. N (1 ♀ ad.) 40. *Linyphia* sp. N (1 ♀ ad.)  
 41. *Lycosa* sp. N (2 ♀ sub.) 42. *Arctosa* sp. N (1 ♀ sub.)  
 43. *Wixia* sp. N (2 ♀ juv.) 44. *Araneus* sp. N (1 ♀ juv.)  
 45. Salticidae, Gen. sp. T (1 ♀ juv.) 46. Salticidae, Gen. sp. N (1 ♀ subad.)

***Heteropoda tokarensis* sp. nov.**

Locality and datee: Nakanoshima Island. 4/VI-13/VI-1953.

Collector: Mr. Yoshitaka Tsutsui.

Examples: 3 ♀, 3 ♂, 1 ♀ subad.

Measurements: (Cm)

	Total	Carapace	Leg I	Leg II	Leg III	Leg IV
A ♀ (Holotype)	2.4	0.9	4.2	4.6	3.5	4.1
B ♀	2.1	0.86	3.65	4.0	3.15	3.6
C ♀	1.75	0.78	3.3	3.67	2.9	3.25
D ♀	1.7	0.76	3.3	3.7	2.8	3.25
E ♂ (Allotype)	1.65	0.81	4.4	4.9	3.6	4.1
F ♂	1.4	0.7	3.7	4.1	2.7	3.5

Holotype (♀)

Carapace flat, not raised posteriorly, nearly as long as wide, shorter than tib. IV, and longer than tib. III. Anterior eye row procurved as seen from front, posterior recurved as seen from above. Anterior median eyes (AME) smallest and anterior lateral eyes (ALE) largest. AME slightly larger than the radius of ALE, smaller than posterior median eyes (PME). PME smaller than the adjacent laterals. AME separated from each other by their diameter, from the laterals by less than their

radius. PME separated from each other by less than their diameter, from laterals by 1.5 times their diameter. Median eye area much longer than wide, narrower in front than behind. Clypeus almost equal to the diameter of ALE. Retromargin of fang furrow with 4 teeth, promargin with only 3. (*H. venatoria* has 3 teeth and in addition some small denticles.). Lobes of epigynum in contact. Legs slender than those of *H. venatoria*.

Colour: Carapace, abdomen and legs covered with yellowish brown hairs mingling with some black ones. Clypeus and posterior edge of carapace with yellowish white hairs as in *H. venatoria*. Sternum and legs light yellowish brown. Femora of all legs not infuscated below.

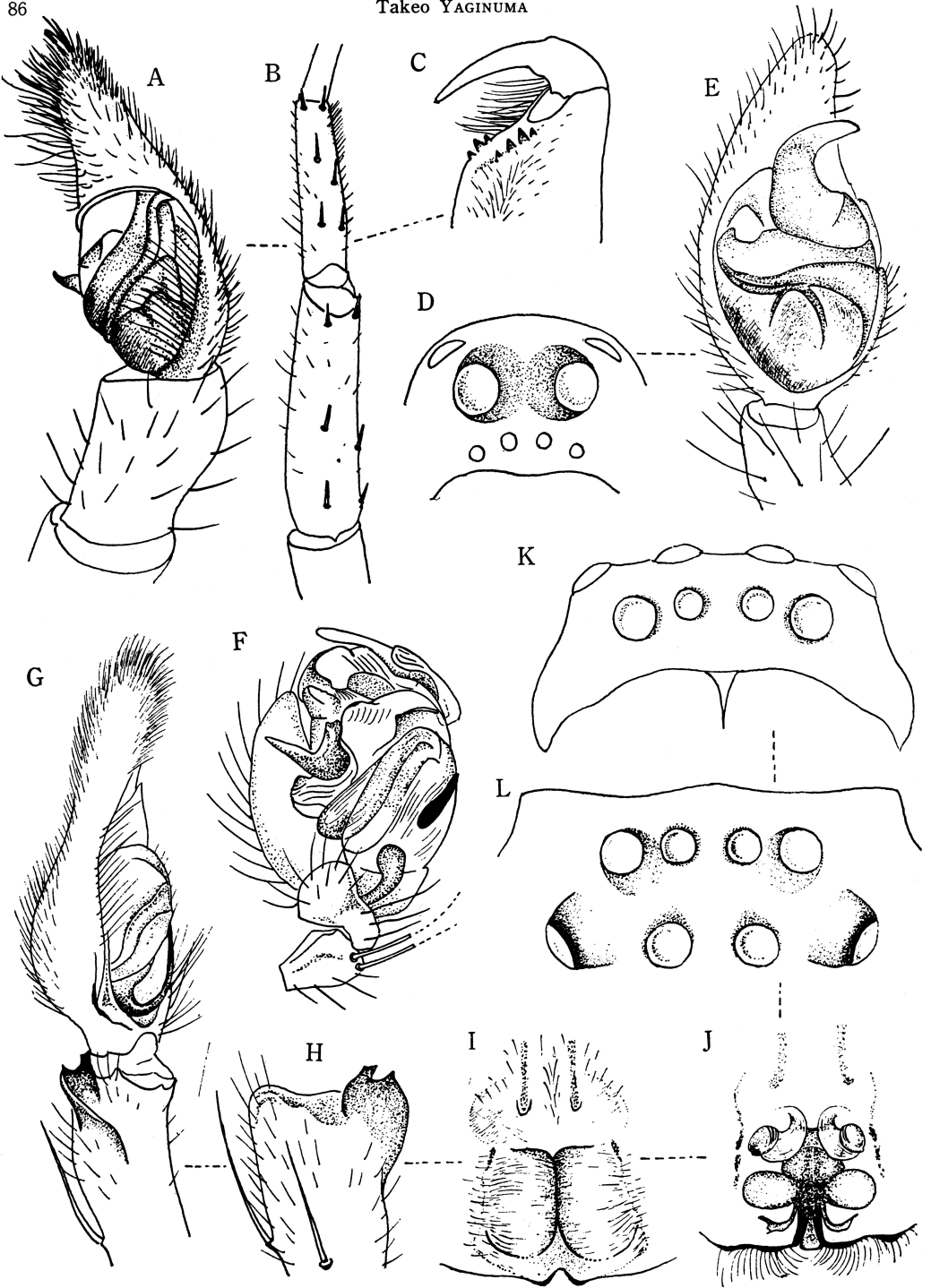
Allotype (♂)

Almost similar to female in colour and shape. Tibial apophysis of palp bifurcated weakly, and each apex not pointed sharply (figs. G. H.). Carapace without a pair of black patches which are seen in *H. venatoria*.

Remarks: Present species is allied to *H. venatoria* LINNE or *H. aulica* L. KOCH, but it is distinguished from *H. venatoria* by the small anterior median eyes, contact lobes of epigynum, internal structure of genital organ and the shape of tibial apophysis of male palp, and from *H. aulica* by the relation of length of carapace to tib. IV, and the shape of epigynum.

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A.-C. *Tricca japonica* SIMON

A. male palp, B. tibia and metatarsus I of right leg. C. left chelicera of male.  
 D.-E. *Pirata procurva* BoES. et STR. D. frontal view of eye area of male. E. male palp.  
 F. *Araneus mongolicus* SIMON, male palp. G.-L. *Heteropoda tokarensis* sp. nov.  
 G. male palp. H. tibial apophysis of male palp. I. epigynum. J. genital organ of female.  
 K. frontal view of eye area of female. L. dorsal view of eye area of female.