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SPIDERS FROM THE SOUTHERN KURILE ISLANDS
II. ARANEIDA FROM SHIKOTAN¹⁾

BY

M. L. PEELE and S. SAITO

(*With nine Text-figures*)

In our recent paper we have described the spiders of Etorofu Island which were collected by PEELE during August 1931 on that island.²⁾ In the present paper we are reporting on the collection of spiders made a few days later by the same collector from the island of Shikotan. As we have already made note of, the spider fauna of Etorofu differs from that of Shikotan in a similar manner as for larger animals. As pointed out before there is a distinctive difference in flora of the two islands. The island is very sparsely covered with the bamboo grass and consequently there is an abundance of soft leaved herb and plants. Of the twelve species which are found in Shikotan only five are reported from Etorofu, and of these, two species are even more widely distributed in the Kurile chain and are reported from the northern islands of Araid and Paramushir.³⁾ So far as the species found in Shikotan and Etorofu are concerned one can readily see that there is a decided relationship in reference to spider fauna between these islands and the main island of Hokkaido. Likewise it is apparent that the northern islands of the Kurile chain together with North America (via the Aleutian route?) and the Peninsula of Kamtschatka have influenced the ecological distribution of spiders in the southern Kurile Islands.

1) Contribution No. 44 from the Zoological Institute, Faculty of Science, Hokkaido Imperial University.

2) M. L. PEELE and S. SAITO: Jour. of Faculty of Science, Hokkaido Imper. Univ. Series VI. Vol. II, No. 2.

3) S. SAITO: Transact. Sapporo Nat. Hist. Soc. Vol. 12. 1932. p. 100.

Family Thomisidae

Genus *Misumena* LATREILLE, 1804*Misumena aleatoria* (HENTZ.)

(Fig. 1)

- Misumena aleatoria*, EMERTON, J. H.:—Common Spiders. Boston. 1902. p. 27. figs. 79–82.; COMSTOCK, J. H.:—Spider Book. New York. 1913. p. 527. fig. 580.
- Runcinia aleatoria*, BANKS, N.:—Bull. Smithsonian Institution U.S. Nat. Mus., 72. 1910. p. 49.
- Misumenoides aleatorius*, ALLEN, J. H.:—Bull. Amer. Mus. Nat. Hist. New York. Vol. 29. 1911. p. 408.; CROSBY, C. R. and BISHOP, S. C.:—Memoir Cornell Univ. Exper. Station. 1926. p. 1059.
- Thomisus aleatorius*, MARX, G.:—Proc. Nat. Mus. Washington. Vol. 12. 1889. p. 557.

Male: Cephalothorax a little broader than long, strongly rounded at the sides, but truncated in front; colour yellowish green with a marginal dark brown band and two longitudinal, nearly parallel,



Fig. 1.

Misumena aleatoria
(HENTZ.);
pedipalpus of male

dark brown stripes starting from the posterior lateral eyes and reaching backward to the base of the pars thoracica. Eyes small, both rows nearly parallel and slightly recurved. The lateral eyes of the anterior row are a little larger than the other six eyes; the area occupied by the central eyes is trapezoid, its length being smaller than its breadth behind and a little greater than its breadth in front. The interval between the posterior lateral and central eyes is larger than that between the latter; four anterior eyes are equidistant and their separation is almost twice the diameter of the laterals. Labium circular, furnished thinly with long hairs at the apex.

Sternum is nearly heart-shape, the length about 1 1/2 the breadth. The first two pairs of legs are very long and are dark brown in colour, and the other two pairs dull yellow with brown colour at the ends of the joints. Abdomen greenish white with two rows of dark

brown spots at the posterior part. The measurements are as follows:—total length, 0.35 cm., length of abdomen, 0.25 cm., length of legs: I, 0.70 cm., II, 0.70 cm., III, 0.45 cm., IV, 0.50 cm.

Locality: Three males from Shikotan, Shakotan, August 9, 1931.

Distribution: All States of U. S. A., Canada.

Misumena lutea n. sp. Jap. name, *Ki-hanagumo*.

(Fig. 2)

Cephalothorax bright yellow, a little broader than long, strongly rounded on the sides, also rounded in front, with the clypeus nearly a half of the breadth of the pars thoracica. Eyes small, of nearly

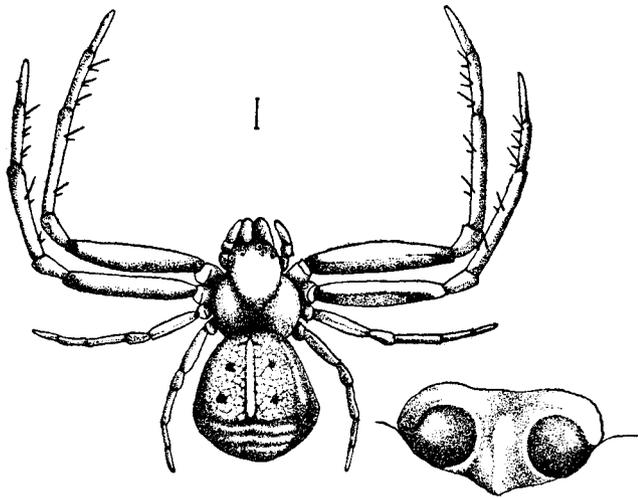


Fig. 2.

Misumena lutea n. sp.;

a, female

b, epigynum

equal size, both rows recurved moderately, the anterior row being a little more strongly curved than the posterior. The lateral eyes of the anterior row are scarcely, those of the posterior row a little, greater than the central eyes of the same row; the length of the

area occupied by the central eyes being greater than its breadth in front and a little smaller than its breadth behind. The interval between the posterior lateral and central eyes is smaller than that between the latter; anterior eyes are separated from each other with equal interval which is nearly equal with the interval between the posterior lateral and central eyes. Chelicerae bright yellow, the length is scarcely greater than twice of the clypeus, and their thickness at the base is about that of the tibia of the first leg. Palpus short and armed with spines, yellow in colour. The legs of the same colour with the palpus, usual in form; the undersides of the tibiae are armed with two pairs of long spines and metatarsi with three pairs. The sternum heart-shape, the length equal the breadth. Labium elongateoval, broader than half the length. Abdomen pentagono-ovate, broadest between the middle and the apex, brownish yellow with a white median band. Epigynum has two small, circular but very conspicuous openings.

The measurements are as follows (in centimeters):—

Sex	total length	abdomen	leg I	leg II	leg III	leg IV
male	0.30	0.25	0.65	0.65	0.25	0.20
female I	0.25	0.20	0.40	0.40	0.20	0.25
female II	0.35	0.25	0.55	0.55	0.25	0.20

Locality: A male and two females from Shikotan, Shakotan, August 9, 1931.

Remarks: In size and general appearance the species resembles *Misumena yunohamaensis* BÖS. et STRAND, but is readily distinguished by the different number of the spines of the metatarsus. *Misumena yunohamaensis* is armed on the metatarsus with four pairs of spine. It differs also in the opening of the epigynum, which in *Misumena yunohamaensis* is a two slit-like opening while in this species it is two circular openings.

Genus *Xysticus* C. KOCH, 1835

Xysticus triguttatus KEYSERLING

(Fig. 3)

Xysticus triguttatus, ALLEN, J. H. :—Bull. Amer. Mus. Nat. Hist., New York. 1911. Vol. 29. p. 441.; EMERTON, J. H. :—Common Spiders, Boston. 1902. p. 33. figs. 95–97.; MARX, G. :—Proc. Nat. Mus., Washington. Vol. 12. 1889. p. 555.; BANKS, N. :—Bull. Smithsonian Institution U. S. Nat. Mus., Washington. 72. 1910. p. 49.; COMSTOCK, J. H. :—Spider book. New York. 1913. p. 538. figs. 606, 607.

Xysticus feroculus, KEYSERLING, E. G. :—Neue Spinnen aus Amerika. Verhandl. d. K. K. zool. bot. Ges., Bd. 31. 1881. p. 305. fig. 24.

Cephalothorax convex, glossy, compressed before, rounded on the sides, broadly truncated in front, light brown with black hue at the margin; a broad space extending along the middle having a white tinge. The eyes are disposed on the anterior part of the cephalothorax in two slightly recurved rows; the lateral eyes of the both rows are seated on tubercles, and larger than the median eyes, those of the anterior row being the largest of the eight; the interval between the posterior lateral and central eyes is somewhat greater than that between the two posterior centrals, which is a little smaller than that between the anterior centrals; interval of the latter is fully two times the diameter of the anterior lateral eyes and greater than the interval between these and the anterior centrals. Endites yellow, long, but their apex not contact. Labium triangular, pointed at the apex, yellow in colour. Sternum dull yellow nearly heart-shaped. These organs covered with hairs and short spines. Legs vigorous, hairy and dull yellow in colour. Abdomen is somewhat depressed and broader at the posterior than at the anterior extremity, projecting over the base of the cephalothorax; the back is white with irregular dull yellow markings; the side are marked with brownish yellow, which extends to the upper surface and connecting with the dull yellow marks of

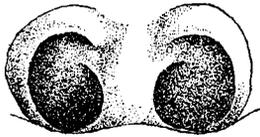


Fig. 3.

Xysticus triguttatus
KEYSERLING; epigynum

the back; belly whitish yellow and marked with brownish yellow points which are arranged obliquely. The measurements are as follows:—total length, 0.50 cm., length of abdomen, 0.35 cm., length of legs: I, 0.65 cm., II, 0.65 cm., III, 0.45 cm., IV, 0.45 cm.

Locality: An adult and three immature females from Shikotan, Shakotan, August 9, 1931.

Distribution: All States of U. S. A.

Genus *Philodromus* WALCKENAER, 1825

Philodromus obsoleti n. sp. Jap. name, *Ko-ebigumo*

(Fig. 4)

Cephalothorax deep sepia with grey marks, broader than long, strongly rounded on the sides, also rounded in front; pars cephalica

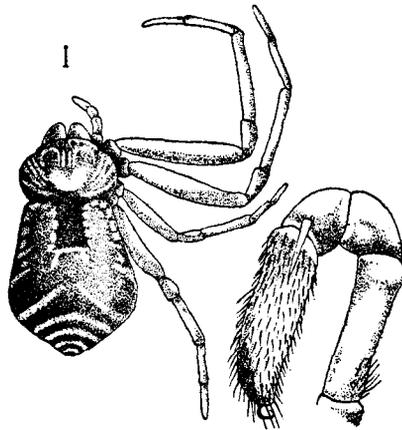


Fig. 4.

Philodromus obsoleti n. sp.;

a, male

b, pedipalpus of male

with two parallel lines ranging longitudinally in the space between the posterior central eyes, on both sides of which there is an inverted U-shaped marking; pars thoracica marked with three pairs along the radial furrows. Eyes small, posterior lateral eyes a little larger than the rest; the anterior row slightly recurved, the posteriors nearly straight; the area occupied by the central eyes is trapezoid, its length being longer than the anterior side and nearly equal with the posterior side. The interval between the posterior lateral and

central eyes is smaller than that between the latter, the interval between the anterior lateral and central eyes, which is not much greater than the diameter of an eye, is nearly one half of that between the anterior centrals. Labium oval, deep brown in colour.

Sternum brownish yellow, lengthened pentagon, the front margin being nearly straight, both sides parallel and from the part of the fourth leg gradually narrowing backward, but posteriorly blunted. The inner sides of both endites nearly straight and parallel, white in colour. The legs are of the usual form; the first and second pairs are equal in length and furnished with scopulae beneath, five times the length of cephalothorax; colour above dull yellow, underside white. Abdomen truncate in front and pointed behind, pentagono-ovate in shape, the longitudinal length nearly twice the breadth, broadest between the middle and the apex; back is the same colour as the cephalothorax; marked with grey spots and a blackish sepial V-shaped patterns on the hind half; belly brown with a white band along each side and two lines immediately above the anus. Spinnerets of moderate length, brown in colour. The measurements are as follows:—total length, 0.25 cm., length of abdomen, 0.20 cm., length of legs; I, 0.35 cm., II, 0.35 cm., III, 0.20 cm., IV, 0.30 cm.

Locality: Two mature males from Shikotan, Shakotan, August 9, 1931.

Remarks: The species much resembles the American *Philodromus vulgaris* HENTZ. (= *Philodromus pernix* BLACKW.), but the legs are not spotted. Moreover the belly has white marks and the body length is about one third of that of the above species.

Genus *Tibellus* SIMON, 1876

Tibellus oblongus (WALCKENAER)

(Fig. 5)

- Tibellus oblongus*, BREMEN, R.:—Die Tierwelt Mitteleuropas. Bd. 3. p. 30. taf. 5. fig. 324, 325.; SIMON, E.:—Arachnides de France. Paris. tom. 2. 1875. p. 311.; CHYZER, C. et KULCZYNSKI, L.:—Araneae Hungariae. Budapest. tom. 1. 1892. p. 115.; STRAND, E.:—Zool. Anz. Bd. 32. 1908. p. 241.; ALLEN, J. H.:—Bull. Amer. Mus. Nat. Hist. 1911. Vol. 29. p. 432.; CROSBY, C. R. and BISHOP, S. C.:—Memoir Cornell Univ. Agr. Exper. Station. New York. 1926. p. 1060.
- Tibellus oblongus* (*Philodromus*), MARK, G.:—Proc. Nat. Mus., Washington. Vol. 12. 1889. p. 558.

- Tibellus oblongus* (*Thanatus*), BÖSENBERG, W.:—Die Spinnen Deutschlands. Stuttgart. 1902. p. 338. taf. 32. fig. 502.
- Tibellus dottonii*, EMERTON, J.H.:—Common Spiders of the United States, Boston. 1902. p. 39. figs. 114–116.:—COMSTOCK, J. H.:—Spider book. New York. 1913. p. 549. fig. 620.
- Tibellus dottoni*, BANKS, N.:—Proc. U.S. Nat. Mus., Vol. 25. 1903. p. 216.; ———:—Bull. Smithsonian Institution U.S. Nat. Mus. Washington. Vol. 72. 1910. p. 51.
- Philodromus oblongus*, THORELL, T.:—Remarks on Synonyms of European spiders. Upsala. 1870–1873. p. 269.
- Thanatus oblongus*, ZIMMERMANN, H.:—Die Spinnen der Umgegend von Niesky. p. 116.; THORELL, T.:—Südrussischer Spinnen. St. Petersburg. 1875. p. 60.

Cephalothorax longer than broad, as long as the tibia of the first pair, strongly rounded on the sides, narrowed just in front of the coxae of the first pair and truncated in front. Colour light yellow with three longitudinal brownish yellow stripes extending the



Fig. 5.
Tibellus oblongus
(WALCKENAER);
epigynum



Fig. 6.
Theridion formosum
(CLERCK);
epigynum

whole length of the cephalothorax. Eyes small, both rows recurved strongly, the anteriors being a little more strongly recurved, the length of the posterior row about twice that of the anteriors; the lateral eyes of both rows equal in size and a little larger than the central eyes; the area occupied by the central eyes is trapezoid, the length being about equal with the breadth behind and a little greater than its breadth in front.

Eyes of the posterior row nearly equidistant, the interval between the anterior lateral and centrals, which is equal in diameter with

the lateral eyes, is smaller than that between the anterior centrals, and also equal with the interval between the anterior lateral and the posterior central eyes. Labium triangular, the height longer than the basal side, yellowish white in colour. Both endites of the same colour with the labium, contacting with each other at their apex, their length at least double the basal breadth. Sternum oval, light yellow with deep brown spots, the length about twice the breadth at the second coxae and pointed behind. The leg light yellow, with no markings except a few black hairs. Abdomen slender, the length three times the breadth; back light yellow with three longitudinal brownish yellow stripes, belly white with light yellow mesh. The measurements are as follows:—total length, 0.95 cm., length of abdomen, 0.65 cm., length of legs; I, 1.05 cm., II, 1.20 cm., III, 0.85 cm., IV, 1.00 cm.

Locality: Two immature males and a female from Shikotan, Shakotan, August 9, 1931.

Distribution: U. S. A., Alaska, Anticosti island, Europe, Asia.

Family Clubionidae

Genus *Clubiona* LATREILLE, 1804

Clubiona perforata PEELLE et SAITO Jap. name, *Ana-fukurogumo*

Clubiona perforata, PEELLE, M. L. and SAITO, S. : —Jour. of Faculty of Science, Hokkaido Imp. Univ. Series VI, Vol. 11, No. 2. p. 86. fig. 2.

The measurements are as follows:—total length, 1.00 cm., length of abdomen, 0.65 cm., length of legs; I, 1.30 cm., II, 1.00 cm., III, 0.90 cm., IV, 0.80 cm.

Locality: A mature female and six immature males from Shikotan, Shakotan, August 9, 1931.

Distribution: Etorofu.

Family Theridiidae

Genus *Theridion* WALCKENAER, 1806*Theridion formosum* (CLERCK)

(Fig. 6)

- Theridion formosum*, THORELL, T.:—Remarks on Synonyms of European Spiders. 1870-1873. p. 81.; ———:—Südrussischer Spinnen. 1875. p. 29.; OTTO, H.:—Ungarns Spinnen-Fauna. 1879. p. 84.; SIMON, F.:—Arachnids de France. Paris. 1881. p. 90.; PETRUNKEVITCH, A.:—Bull. Amer. Mus. Nat. Hist., 1911. p. 196.; SAITO, S.:—Trans. Sapporo Nat. Hist. Soc., Vol. 12. 1932. p. 100.
- Theridium formosum*, BÖSENBERG, W.:—Spinnen Deutschlands. Stuttgart. 1903. p. 97. taf. 8. fig. 116.
- Theridion sisymphum*, BLACKWALL, J.:—Ann. Mag. Nat. Hist. 1846. Vol. 17. p. 75.; ———:—Spiders Great Britain and Ireland 1864. p. 179. pl. 13. fig. 113.

Cephalothorax brown with a deep brown stripe extending from the row of eyes to the base of cephalothorax. The anterior row of eyes moderately recurved; the posterior row nearly straight, the central ones a little greater than the others; four central eyes form a nearly perfect square, the interval between the posterior central eyes is nearly equal with their diameter; the separation of two anterior central eyes is little larger than that which separates them from the anterior lateral eyes; the lateral eyes of both rows are contiguous. Chelicerae light brown. Labium of the same colour with the chelicerae, with deep brown spots at the basal part. Legs light brown with irregular deep brown spots. Abdomen very high; the back light yellow with sepial complex pattern; the sides and belly dull yellow; the belly with a deep brown band at the median line. The measurements are as follows:—total length, 0.48 cm., length of abdomen, 0.41 cm., length of legs; I, 0.76 cm., II, 0.73 cm., III, 0.67 cm., IV, 0.85 cm.

Locality: Two females from Shikotan, August 9, 1931.

Distribution: Canada, Germany, France, U. S. S. R., Araid and Paramushir (The northern Kurile islands).

Family Attidae

Genus *Wala* KEYSERLING, 1884

Wala sp.

Wala sp., PEELLE, M. L. and SAITO, S.:—Jour. of Faculty of Science, Hokkaido Imp. Univ. Series IV, Vol. II, No. 2. p. 89.

The collection contains a single young male specimen, with the pedipalpi apparently not yet fully formed, it is the same with the doubtful species from Etorofu in our previous paper. The measurements are as follows:—total length, 0.50 cm., length of abdomen, 0.30 cm., length of legs; I, 0.45 cm, II, 0.40 cm., III, 0.50 cm., IV, 0.50 cm.

Locality: Shikotan, Shakotan, August 9, 1931.

Distribution: Etorofu.

Genus *Icius* SIMON, 1876

Icius nigra n. sp. Jap. name, *Karasu-tobigumo*

(Fig. 7)

Cephalothorax deep black, little longer than broad, rather strongly rounded on the sides behind, then narrowing forward, and nearly

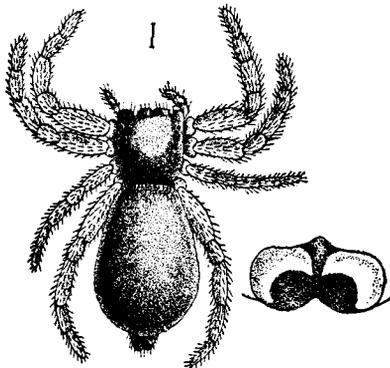


Fig. 7.

Icius nigra n. sp. ;
a, female
b, epigynum

truncate in front; seen from the sides, its back between the anterior declivity and the posterior row of eyes is strongly convex and more slightly sloping from behind than front; it is strewed with small black hairs, and has long, strong hairs on the sides of the anterior eyes. Quadrangle of eyes occupying less than one half the length of the cephalothorax, slightly broader than long with the anterior width equal with the posterior. Four anterior eyes are in a straight line,

the median eyes subcontiguous and about twice the laterals in diameter. Eyes of the second row very small, situated midway between the anterior lateral eyes and the third eyes which are equal in size with the anterior median eyes. Chelicerae black with a brown claw. Labium triangular, the base being about twice the height and a half of the interval between the second coxae, brownish black with a white mark at the apex. Sternum nearly circular, with a small posterior process, black in colour, and covered thinly with whitish grey hairs. The legs have coarse hair and are armed with numerous long and rather fine spines, the colour is light yellow, without markings. The abdomen much longer than broad, egg-shaped, covered above with short white hair, especially on its anterior parts. Back deep black and belly paler than back. The measurements are as follows: — total length, 0.30 cm., length of abdomen, 0.20 cm., length of legs; I, 0.20 cm., II, 0.20 cm., III, 0.15 cm., IV, 0.25 cm.

Locality: An adult and an immature female, and an immature male from Shikotan, Shakotan, August 9, 1931.

Remarks: The species is in general structure similar to *Icius elegans* (*Tutelina elegans* HENTZ.), but it is easily distinguishable by the cephalothorax and abdomen devoid of copper-red colour. It differs also, in lacking the longitudinal dark stripes on the legs.

Family Linyphiidae

Genus *Linyphia* LATREILLE, 1804

Linyphia yunohamaensis BÖS. et STRAND

(Fig. 8)

Linyphia yunohamaensis, BÖSENBERG, W. und STRAND, EMBR.: — Japanische Spinnen. Stuttgart. 1905. p. 137. taf. 5. figs. 43, 54. taf. 12. fig. 260.

Cephalothorax oblong, rounded on the sides, with the pars cephalica rather large and high, whitish green in colour. Eyes small, close together, not much difference in size; the posterior central eyes however, larger, with the anterior central eyes appearing to be a

little smaller than the rest. Seen from above, the posterior row of eyes is straight; anterior row recurved moderately. Four central



Fig. 8.

Linyphia yunohamaensis
BÖS. et STRAND;
epigynum

eyes, of which the posterior are placed on a black tubercle and two anteriors are in contact with each other, forming a trapezoid; the intervals between the eyes of the posterior row are nearly equal, but that between the two centrals is scarcely smaller than the interval between them and the laterals which is almost two times the diameter of the posterior lateral eyes; the lateral eyes of both rows are contiguous. Labium square, the length about half the breadth. Endites triangular, the apex contacting with each other. Sternum oval, the space between the first pair of legs is broadest where it is half the length. Chelicerae green, vigorous, with three teeth at the inferior margin. Legs slender, furnished thinly with hairs and long spines, green in colour. Abdomen lengthened oval, the length about three times the breadth; colour of the back white with a brown heart fleck at the anterior part and three black markings at the posterior part; the sides brown. The measurements are as follows:—total length, 0.45 cm., length of abdomen, 0.35 cm., length of legs; I, 0.95 cm., II, 0.75 cm., III, 0.60 cm., IV, 0.65 cm.

Locality: An adult and two immature females from Shikotan, Shikotan, August 9, 1931.

Distribution: Saga (Kyushu, Japan).

Family Argiopidae

Genus *Araneus* L., 1759

Araneus thaddeus (HENTZ.)

Araneus thaddeus, PETRUNKEVITCH, A.: — Bull. Amer. Museum Nat. Hist. Vol. 29. 1911. p. 319.; CROSBY, C.R. and BISHOP, S.C.: — Memoir Cornell Univ. Agr. Exper. Station. 1926. p. 1051.; PEELLE, M.L. and SAITO, S.: — Jour. of Faculty of Science, Hokkaido Imp. Univ. Series IV, Vol. II, No. 2. p. 93.

- Aranea thaddeus*, COMSTOCK, J. H.:—The Spider book. New York. 1931. p. 490. figs. 519–523.
- Epeira thaddeus*, MARK, G.:—Proc. Nat. Mus. Washington. 1889. Vol. 12. p. 548.; EMERTON, J. H.:—Common Spider, Boston. 1902. p. 170.; BANKS, N.:—Bull. U.S. Nat. Mus. Vol. 72. 1910. p. 44.
- Epeira baltimorensis*, KEYSERLING, E.:—Verhandl. d. K. K. zool. bot. Ges. Bd. 29. 1879. p. 308. taf. 4. fig. 8.

A matured male and an adult female were collected in the bamboo grass. The measurements are as follows (in centimeters):—

Sex	total length	abdomen	leg I	leg II	leg III	leg IV
male	0.75	0.60	1.10	0.90	0.70	0.95
female	0.70	0.60	0.65	0.65	0.50	0.60

Locality: Shikotan, Shakotan, August 9, 1931.

Distribution: U. S. A., Etorofu.

Family Lycosidae

Genus *Arctosa* C. L. KOCH, 1846

Arctosa cinerea (FABRICIUS)

(Fig. 9)

- Arctosa cinerea*, FABRICIUS;—Entom. Syst., 1790. p. 423.; CHYZER, C. und KULCZYNSKI, L.:—Araneae Hungariae. 1792. p. 73.; CAMBRIDGE, F.:—Biol. Centr. Amer. 1902. p. 331. pl. 31. figs. 28, 29.; PETRUNKEVITCH, A.:—Bull. Amer. Mus. Nat. Hist. 1911. p. 551.; SAITO, S.:—Transact. Sapporo Nat. Hist. Soc. Vol. 12. 1932. p. 100.
- Lycosa cinerea*, THORELL, T.:—Remarks on Synonyms of European Spiders. 1870–1873. p. 332.; SIMON, E.:—Arachnids de France. 1876. p. 278.; EMERTON, J. H.:—Trans. Connecticut Acad. Sc. 1885. p. 488.; MONTGOMERY, T. H.:—Proc. Acad. Philadelphia. 1902. p. 555. pl. 29. figs. 17, 18.
- Lycosa allodroma*, BLACKWALL, J.:—Spiders Great Britain and Ireland. 1861. p. 23. pl. 1. fig. 7.
- Trocosa cinerea*, BÖSENBERG, W.:—Spinnen Deutschlands. Stuttgart. 1903. p. 401. taf. 38. fig. 589.; MONTGOMERY, T. H.:—Proc. Acad. Philadelphia. 1904. p. 305 pl. 20. fig. 43.

Cephalothorax light brown, hairy, with numerous irregular blackish brown flecks and black radial grooves. The first row of eyes nearly straight, scarcely perceptibly recurved; the central eyes

of this row appear to be a little smaller than the laterals, and are removed from each other by an interval half their diameter and somewhat larger than the interval which separates them from the



Fig. 9.

Arctosa cinerea
(FABRICIUS);
epigynum

lateral eyes. The area occupied by the eyes of the second and third rows is evidently longer than broad in front and its posterior side exceeds the anterior breadth by at least the diameter of the eyes of the second row. The interval between the two eyes of the second row is slightly greater than their diameter; The space between them and the eyes of the third row is about double the diameter of the latter. Chelicerae and labium

blackish brown, the latter having a yellowish apex. Sternum dull yellow with a light yellow stripe at the anterior part and a posterior brownish yellow band. Legs yellowish brown with black markings. Abdomen of the ordinary form, greyish black above, with some black oblique stripe; belly uniformly brownish yellow. The measurements are as follows:—total length, 1.30 cm., length of abdomen, 0.95 cm., length of legs; I, 1.95 cm., II, 1.80 cm., III, 1.50 cm., IV, 2.06 cm.

Locality: Two females and three immature males from Shikotan, Shikotan, August 9, 1931.

Distribution: U. S. A., Mexico, Germany, France, Araid (The northern Kurile islands).
