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## ARACHNIDA FROM NORTHERN QUEENSLAND.

### Part II.

By W. J. RAINBOW, Entomologist.

(Plates xxi., xxii., xxiii.)

*Family* ARGIOPIDÆ.

A large number of specimens of this immense family were collected by Mr. A. A. Girault, the greater majority by far being species, the individuals of which are small. Many of them, too, were the product of the sweeping-net. A number of old friends are, naturally, included; some are common and widely distributed, some are rare and local, while others are now for the first time introduced to the student. The collection includes many exceedingly brilliant and beautiful forms.

*Sub-family* TETRAGNATHINÆ.

This sub-family has been divided by Simon into seven groups, but only two of these are represented here, namely, Tetragnathæ and Meteæ.

*Group* TETRAGNATHÆ.

The Tetragnathæ are known, popularly, as the "Stilt" spiders, in allusion to their enormously long legs, but they possess other characters that are remarkably distinctive, such as the cephalothorax which is nearly straight, but always long and narrow, and only slightly convex; by the eyes, which are slightly unequal, and distributed over two usually recurved rows consisting of four each; by the remarkable falces which are always long, and very frequently boldly projected forward in a more or less horizontal plane; and, again, by the abdomen which is always long, cylindrical and narrow. In addition to these peculiarities there are other interesting features which the student will find fully detailed in Simon's monumental work, "Histoire Naturelle des Araignées," 2nd ed., vol. i., 1892 (1894).

*Genus* Tetragnatha, Latr.

Fifteen species of this world-wide genus have, so far, been recorded from Australia, and eight of these are enumerated below, with, in addition, a new form, for which I propose the name *T. lepida*.

TETRAGNATHA BITUBERCULATA, *L. Koch.*

*Tetragnatha bituberculata*, L. Koch, Verh. der K. K. zool.-bot. Ges. Wien, 1867, p. 184; Die Arach. des Austr., 1871, p. 183, pl. xv., figs. 5, 5a, 5b; Keys., *Op. cit.*, Suppl., 1887, p. 220, pl. xx., figs. 2, 2a.

*Hab.*—Pentland, Sept., 1914. One ♂, and one mature and one immature ♀.

TETRAGNATHA CYLINDRICA, *Walck.*

*Tetragnatha cylindrica*, Walck., Nat. des Ins. Apt., ii., 1837, p. 210; L. Koch, Die Arach. des Austr., i., 1871, pl. xv., figs. 3, 3a, 3b, 3c.

*Eugnatha cylindrica*, Keys., Die Arach. des Austr., Suppl., 1887, p. 226.

*Obs.*—One ♂ and five ♀'s. Of the latter one was damaged and useless, and three immature. The ♂ was mature.

*Hab.*—Gordonvale, sweeping in low, moist situation near river, May 7, 1912, and June 15, 1912; Quingilli, sweeping forest, Sept. 13, 1912; Townsville, forest, Nov. 8, 1912.

TETRAGNATHA CYLINDRACEA, *Keys.*

*Eugnatha cylindracea*, Keys., Die Arach. des Austr., Suppl., 1887, p. 224, pl. xx., figs. 5, 5a, 5b, 5c.

*Hab.*—Gordonvale, forest and jungle, May and July, 1913, and June, 1914; Harvey's Creek, July, 1913; Murrawa, July, 1913; Pentland, Sept., 1914.

TETRAGNATHA DEMISSA, *L. Koch.*

*Tetragnatha demissa*, L. Koch, Die Arach. des Austr., i., 1871, p. 185, pl. xvi., figs. 1, 1a, 1b; Keys., *Op. cit.*, Suppl., 1887, p. 221, pl. xx., figs. 3, 3a, 3b.

*Hab.*—Murrawa, jungle, July 26, 1913. One immature ♀.

TETRAGNATHA GEMMATA, *L. Koch.*

*Tetragnatha gemmata*, L. Koch, Die Arach. des Austr., i., 1871, p. 186, pl. xvi., figs. 2, 2a-2d.

*Hab.*—Gordonvale, sweeping forest, top of coast range, at 1500ft., May 29, 1913.

TETRAGNATHA NITENS, *Aud. in Sav.*

*Eugnatha nitens*, *Aud. in Sav.*, *Descrip. de l'Egypt*, xxii., 1827, p. 323, pl. ii., fig. 2.

*Tetragnatha ferax*, L. Koch, *Die Arach. des Austr.*, i., 1871, p. 173, pl. xiv., figs. 4, 4a-4c, 5, 5a-5e.

*Hab.*—Gordonvale, jungle, sweeping growth near forest stream, May, 1914; Hughenden, July 13, 1912; Ingham, sweeping boggy, *Pandanus*-bearing meadow, July 17, 1912; Pentland, Sept., 1914; Proserpine, forest, sweeping long grass, Nov. 4, 1912.

*Hab.*—Gordonvale, taken from leaf of jungle tree, ("It was quite as if dead, and resembled an old Mantid case"—collector's note), April 27, 1913; sweeping forest, May, 1911; hotel verandah, Oct., 1912.

TETRAGNATHA PROTENSA, *Walek.*

*Tetragnatha protensa*, *Walek.*, *Hist. Nat. des Ins.*, Apt., ii., 1837, p. 209; *Keys.*, *Die Arach. des Austr.*, Suppl., 1887, p. 222, pl. xx., figs. 4, 4a, 4b, 4c.

*Tetragnatha conica*, L. Koch, *Die Arach. des Austr.*, i., 1871, p. 182, pl. xv., figs. 4, 4a, 4b, 4c.

*Hab.*—Gordonvale, Nov. 14, 1911.

TETRAGNATHA LEPIDA, *sp. nov.*

(Pl. xxi., figs. 1, 2, 3.)

♂ Cephalothorax, 2 mm. long, 0.8 mm. broad; abdomen, 5 mm. long, 0.8 mm. broad (Pl. xxi., fig. 1).

*Cephalothorax.*—Oblong, yellow, smooth. *Pars cephalica* arched, obtuse in front, segmental groove distinct; *ocular area* broader than long; *clypeus* not deep, arched. *Pars thoracica* arched, radial grooves and *median fovea* distinct; *marginal band* narrow. *Eyes.*—Black, prominent, arranged in two recurved rows of four each; the front median pair are the largest, and their lateral neighbours slightly smaller than those constituting the posterior row; the front median eyes are separated from each other by a space equal to about once

their individual diameter, and from their smaller lateral neighbours by a space equal to about twice the diameter of one of the larger eyes; anterior eyes separated from each other by a space equal to about one-and-a-half their individual diameter. *Legs*.—Long, fine, yellow, armed with short, weak spines, and clothed with short, fine, silky hair; relative lengths: 1=2, 4, 3. *Palpi*.—Long, fine, concolorous with legs, and similarly clothed and armed; *genital bulb* round, with a long tapering style, and terminating with a long, slightly hollowed, coniform process; on the third joint there are two lateral and apical spines, the shorter of which is by far the stronger (Pl. xxi., fig. 2). *Falces*.—Concolorous with palpi, long, arched, porrected, apices wide apart, inner angles fringed with long hairs; near the apex of each falx there is, on the upper surface, two strong spines, of which the inner one is the longer; furrows of each falx armed with numerous teeth; *fang* long, not strong. *Maxillæ* and *Labium*.—Normal, yellow. *Sternum*.—Concolorous with foregoings, elongate, shield-shaped, arched, apex obtusely acuminate, and terminating between fourth pair of coxæ. *Abdomen*.—Elongate, cylindrical, slightly overhanging base of cephalothorax; superior surface silvery, finely reticulated with yellow, and ornamented with a delicate scheme of tracery, the central bar of which runs from anterior to posterior extremity; sides silvery, and finely reticulated; inferior surface yellow.

♀ Cephalothorax, 2.2 mm. long, 1.4 mm. broad; abdomen, 16.5 mm. long, 2.2 mm. broad (Pl. xxi., fig. 3).

In general appearance, colour, and scheme of ornamentation the ♀ closely resembles the ♂, but the following differences, in addition to the palpi, may be noted:—

*Falces*.—Less porrected than in the ♂, and having the apices much closer together; they are also devoid of the strong apical spines. *Eyes*.—In two recurved rows of four each; the front median pair are slightly the largest of the series, and are also the closest together, being separated from each other by a space equal to once their individual diameter; from their lateral neighbours (which are the smallest of the series) they are separated by a space equal to fully three times their individual diameter; the four constituting the rear row are of equal size, and are separated from each other by a space equal to nearly twice their individual diameter.

*Obs.*—The species is somewhat variable in respect of its ornamentation. In some examples the tracery scheme displays a lesser number of lateral branches than shown in Pl. xxi., figs. 1 and 3 herewith; moreover, they always arise near the anterior extremity, and are much longer.

*Hab.*—Gordonvale, April 14, 1913, sweeping bushes and grass; May 26, 1914, sweeping in forest top of coastal range at 1,500ft; May 29, 1913, jungle; sweeping along banks of streamlet, August 23 and 30, and again on Nov. 7, 1912. Aloomba, sweeping grass in forest, July, 1912. Proserpine River, sweeping jungle bordering streamlet, Nov. 4, 1912.

#### Group METEÆ.

This group includes eight genera, of which only two, namely, *Meta*, C. Koch, and *Leucauge*, White (= *Argyropeira*, Emert.), occur in Australia. Both of these are widely distributed, Simon defining the range of the former as "Orbis totius reg. et calidæ," and of the latter as "Orbis totius reg. tropicæ rarius sub-tropicæ."<sup>1</sup>

In *Meta* the species are generally of a yellow or brown tint, with the abdomen reticulated and ornamented on the superior surface with foliaceous designs, or, as in *M. ornata*, L. Koch, and *M. trivittata*, Keys., with longitudinal bars or stripes; some species, however, are numerously pitted with brilliant metallic spots. Included in the latter series is *M. argentiopunctata*, Mihi, which is described hereunder.

The widely distributed and brilliant *Leucauge celebesiana*, Walck., and *L. granulata*, Walck., are plentifully represented in the material collected by Mr. Girault.

#### Genus *Meta*, C. Koch.

#### META ? ORNATA, L. Koch.

(Pl. xxi., figs. 4, 5.)

*Meta ornata*, L. Koch, Die Arach. des Austr., i., 1871, p. 134, pl. xi., fig. 6.

<sup>1</sup> Simon—Hist. Nat. des Araign., vol. 1, 1892 (1894), p. 736.

The ♀ only of this species appears to have been described and figured, but Mr. Girault collected, in addition to three females, of which one was immature, a form which I take to be the ♂, and this I describe hereunder:—

♂ Cephalothorax 1.4 mm. long, 1.1 mm. broad; abdomen, 2.2 mm. long, 1.1 mm. broad (Pl. xxi., fig. 4).

*Cephalothorax*.—Yellow, ovate. *Pars cephalica* obtuse in front, strongly arched, raised, segmental groove distinct; *ocular area* broader than long; *clypeus* moderately deep. *Pars thoracica* broad, arched, sloping sharply to posterior angle, radial grooves moderately distinct, *median fovea* distinct, recurved; *marginal band* broad. *Eyes*, as in ♀. *Legs*.—Long, yellow, fine, pilose, and armed with long, fine spines; relative lengths: 1, 2, 4, 3. *Palpi*.—Concolorous with legs except for genital bulb, which is dark brown; clothing and armature similar to legs; *genital bulb* large, complicated in structure, and terminating with a long flagellate style, which latter is as long as the cephalothorax (Pl. xxi., fig. 5.) *Falces*.—Concolorous with cephalothorax, moderately long, parallel, arched, pilose; *fang*, reddish-brown. *Maxillæ* and *Labium*.—Concolorous with falces; normal. *Sternum*.—Concolorous with foregoing, broad, shield-shaped, arched, pilose. *Abdomen*.—Ovate, overhanging base of cephalothorax, arched, superior surface cream-yellow, reticulated, ornamented with three longitudinal yellow-brown bands, which latter are each of varying width, and uneven in outline; from the median band three pairs of oblique concolorous branches are directed, each of which unites with the inner edge of the lateral bands; near the front there are two moderately large yellow-brown spots, and at the centre two smaller ones; sides dull yellow, relieved by two narrow, white, reticulated bands, both of which unite in front; of these the upper one runs the entire length of the abdomen, whilst the lower one, which curves sharply downwards, terminates about midway; each band is bordered with dark-brown marks and patches; inferior surface dull yellow, with slightly curved lateral bands, which latter are white, reticulated, commence at the *rima epigasteris* and terminate shortly in front of spinnerets; in addition to these bands there is a moderately large, dark-brown patch; inner edge of each white band flanked with dark brown.

*Hab.*—Gordonvale, April and May, 1913. One ♂ and two mature and one immature ♀'s.

META ? INSULARIS, *Keys.*

*Meta insularis*, *Keys.*, L. Koch, Die Arach. des Austr., i., 1871, p. 135, pl. x., figs. 7, 8.

*Obs.*—An immature example of what appears to be the species quoted above.

*Hab.*—Gordonvale, sweeping in forest, July 2, 1912.

META ARGENTIOPUNCTATA, *sp. nov.*

(Pl. xxi., figs. 6, 7, 8.)

♂ Cephalothorax, 1.2 mm. long, 1 mm. broad; abdomen, 2.1 mm. long, 0.8 mm. broad (Pl. xxi., fig. 6).

*Cephalothorax.*—Ovate, straw-yellow, smooth. *Pars cephalica* obtuse in front, arched, thoracic groove distinct; a faintly perceptible, converging, narrow, darkish line runs from rear of each median posterior eye towards the base of the caput, where they unite; *ocular area* broader than long; *clypeus* not deep. *Pars thoracica* broad, strongly arched, lateral grooves faintly indicated; *thoracic fovea* distinct; *marginal band* moderately broad. *Eyes.*—Normal. *Legs.*—Concolorous with cephalothorax, long, tapering, not strong, finely pilose, and armed with weak spines; relative lengths: 1, 2, 4, 3. *Palpi.*—Short, concolorous with legs, and similar to them in clothing and armature; *genital bulb* large, complicated hairy. *Falces.*—Concolorous with foregoing, tapering, arched, apices divergent. *Maxille* and *Labium.*—Concolorous also; normal. *Sternum.*—Concolorous with foregoing, shield-shaped, arched. *Abdomen.*—Elongate, somewhat cylindrical, slightly overhanging base of cephalothorax, yellow, superior surface and sides ornamented with a number of large and small variously shaped silver spots, which latter are by far the most numerous laterally; at posterior extremity of superior surface, and also on each side of the spinnerets, there is another black spot; a few small, scattered, silvery spots are distributed over the ventral surface.

♀ Cephalothorax, 1.5 mm. long, 1.1 mm. broad; abdomen, 4.1 mm. long, 1.9 mm. broad (Pl. xxi., fig. 7).

The ♀ very closely resembles the ♂ in colour and ornamentation; the leg formula is the same, but with this difference, that leg iv. is relatively shorter than in the ♂; the *abdomen* is elliptical, and more thickly marked with silvery spots; and, finally, the *epigynum* is small, transversely elliptical, and has two bisected, almost round, shallow pits; it is pale yellow, with the rim or edge of the pits somewhat darker (Pl. xxi., fig. 8).

*Hab.*—Gordonvale, specimens collected between the 4th and 29th May, 1913.

*Genus* Leucauge, *White*.

(= *Argyropeira*, *Emert*.)

LEUCAUGE CELEBESIANA, *Walck*.

*Tetragnatha celebesiana*, *Walck.*, *Hist. Nat. des Ins.*, Apt. ii., 1837, p. 222.

*Obs.*—For further synonymy of this species, see the author's "Census of Australian Araneidæ" in "Records of the Australian Museum," ix., No. 2, Oct. 2, 1911, p. 170.

*Hab.*—Gordonvale, jungle, January, 1913; top of second coast range, at 1,500ft.; forest, sweeping, May 26, 1912; jungle, June 3, 1912; forest, Aug., 1912 and Sept., 1912. Harvey's Creek, jungle, sweeping, July 13, 1913. Innisfail, jungle, sweeping, July 21, 1912.

LEUCAUGE GRANULATA, *Walck*.

*Tetragnatha granulata*, *Walck.*, *Hist. Nat. des Ins.*, Apt. ii., 1837, p. 222.

*Meta granulata*, *Walck.*, *L. Koch, Die Arach. des Austr.*, i., 1871, p. 136, pl. x., figs. 5, 5a.

*Obs.*—Included in this series were a fully developed ♂ and ♀, showing a strong tendency towards melanism.

*Hab.*—Gordonvale, forest and jungle, sweeping, April, 1914, and May, 1913, August, Sept. 3 and Oct. 9, 1912; Murrawa, July 26, 1913; Harvey's Creek, July, 1913; Proserpine, sweeping foliage and herbage, Nov. 3, 1912.

*Sub-family* Nephilinae.

This is a small sub-family, consisting of four groups, two of which occur in Australia. The first of these, Phonognatheæ, embraces three genera, viz., *Phonognatha*, Sim., *Singotypa*, Sim., and *Deliochus*, Sim., so that as these genera have only, so far, been recorded from this Commonwealth, the group is purely Australian. The second group, Nephilæ, is much more widely distributed, and representatives of it are found in all tropical and sub-tropical regions. It contains the single genus *Nephila*, Leach. Examples of both these groups were collected by Mr. A. A. Girault.

*Group* Phonognatheæ.*Genus* Singotypa, Sim.

## SINGOTYPA MELANOPYGA, L. Koch.

(Plate xxi., fig. 9).

*Epeira melanopyga*, L. Koch, Die Arach. des Austr., i., 1871, p. 97, pl. viii., figs. 2, 2a.

The abdominal markings in the ♀ of this species vary in intensity in different individuals, while the dark patch at the posterior extremity is wanting in some examples. The ♀ only was described and figured by L. Koch, but Mr. Girault was successful in securing several examples of the ♂, in respect of which I append the following notes:—

♂ Cephalothorax 4 mm. long, 2.5 mm. wide; abdomen, 5 mm. long, 2.8 mm. wide.

In general appearance, such as colour and general scheme of ornamentation, both sexes agree, but as remarked above in respect of the ♀, similar variation is noticeable in different individuals. Allowing for these the student will be guided by L. Koch's description and figures. The *palpi* of the ♂ may be described as follows:—

Moderately long, clothed with a few short hairs and long bristles; pale yellow with exception of genital bulb, which is much darker; *genital bulb* large, complicated (Pl. xxi., fig. 9).

*Obs.*—A common species. A large number were collected, but they were mostly in a bad condition.

*Hab.*—Pyramid Mt., Gordonvale, at 400ft., September 9, 1912.

*Genus Deliochus, Sim.*

*DELIOCHUS PULCHRA, sp. nov.*

(Pl. xxi., figs. 10, 11.)

♀ Cephalothorax, 2.1 mm. long, 1.5 mm. broad; abdomen, 3.5 mm. long, 2.3 mm. broad (Pl. xxi., fig. 10).

*Cephalothorax.*—Ovate, yellow. *Pars cephalica* obtuse, arched, smooth, clouded with dusky yellow at summit, sides and rear extremity; segmental groove distinct; *ocular area* broader than long; *clypeus* arched, moderately deep. *Pars thoracica* rather broad, strongly arched, radial grooves distinct, lateral angles clouded with dusky yellow; *median fovea* profound, clouded in front, behind, and at its depth with smoky yellow; *marginal band* rather broad, yellow. *Eyes.*—Arranged in three series of 2, 4, 2; the four comprising the median group are the largest, are close together, and distributed so as to form a trapezium; lateral eyes are small, and arranged in pairs; they touch each other, and are seated obliquely; each eye is of a pearl-grey lustre, and encircled by a black ring. *Legs.*—Long, tapering, first pair much the longest, straw-yellow with smoky-yellow annulations, hairy, and armed with fine, long spines; relative lengths: 1, 2, 4, 3. *Palpi.*—Moderately long, similar in colour and armature to legs. *Falces.*—Strongly arched, smooth, yellow, apices slightly divergent, inner angles hairy. *Maxilla.*—Moderately long, broad, divergent, arched, apices and inner angles pale yellow, bases and outer angles smoky-yellow. *Labium.*—Short, broader than long, arched, smoky-yellow, apex straw-yellow. *Sternum.*—Shield-shaped, hairy, arched, smoky-yellow, surface uneven, apex acuminate and terminating between fourth pair of coxæ. *Abdomen.*—Ovate, overhanging base of cephalothorax, arched, posterior extremity somewhat obtuse; superior surface yellowish-grey, ornamented by numerous small, silvery-white spots, a delicate, median scheme of tracery, and from about midway to posterior extremity a series of dark-brown (nearly

black) oblique patches; sides yellowish-grey, also relieved by numerous small, silvery-white spots and irregular dark-brown patches; inferior surface yellow-grey, also ornamented with small, silvery-white spots; a dark-brown median patch extends from the *rima epigasteris* to spinnerets; this patch is uneven in outline, free from silvery-white spots, but has a smoky-yellow patch in front and a much darker patch posteriorly; the median patch herein described curves inwards from anterior extremity, then boldly outwards towards spinnerets, from whence it curves sharply in again, and is therefore much the narrowest at this point; at the apex of the point referred to there is a slightly curved line, the lateral extremities of which are directed downwards. *Epigynum*.—A transverse plaque, with two large, rather deep pits (Pl. xxi., fig. 11).

*Hab.*—Gordonvale, sweeping jungle, June 30, 1912; an immature example from Pentland, September, 1914.

*DELIOCHUS PULCHRA*, var. *MELANIA*, var. *nov.*

(Pl. xxi., fig. 12.)

♀. This example is somewhat smaller than the foregoing, and very much darker. The cephalothorax is not of such a pale yellow as that of the typical form, while the markings on *pars cephalica* and *pars thoracica* are nearly black. The eyes, palpi, legs, as also the falces, maxillæ and labium agree with the type. The abdomen is yellowish-grey, ornamented with silvery-white spots and dark-brown (bistre) down the centre of the superior surface and laterally (Pl. xxi., fig. 12). *Epigynum*.—As in type.

*Hab.*—Gordonvale, June 15, 1912.

Group *NEPHILEÆ*.

Genus *Nephila*, *Leach*.

Only four specimens of this genus were taken, and they are as follows:—

*NEPHILA MACULATA*, *Fab.*

*Aranea maculata*, *Fab.*, *Entom. Syst.*, ii., 1793, p. 425.

*Hab.*—Pyramid Mt., Gordonvale, Feb. 15, 1912.

## NEPHILA MACULATA, var. PENICILLUM, Dol.

*Epeira penicillum*, Dol., Bijdr., 1857, p. 412; Tweed. Bijdr., 1859, pl. ii., fig. 4.

## NEPHILA FLAGELLANS, L. Koch,

*Nephila flagellans*, L. Koch, Die Arach. des Austr., i., 1871, p. 153, pl. xii., figs. 5, 5a, 6, 6a.

*Hab.*—Gordonvale.

## Sub-family ARGIOPINÆ.

This large sub-family has been divided by Simon into twenty-eight groups, the majority of which are represented in Australia. The first of these is the Argiopeæ, and this contains two genera, each of which are represented in the Girault collection, and are enumerated below. The first genus, *Argiope*, Aud. in Sav., contained up to the time of the publication of this paper, fifteen species, and to these I now add one more—*A. probata*, sp. nov. The genus *Gea*, C. Koch, is a very small one, and is only represented in Australia by two species. The present collection contains one specimen of each, and one of these is an immature example. The latter differs somewhat from L. Koch's description and figure of *G. theridioides*, but it is not sufficiently developed to enable one to dogmatise, and say it is not that species, and so I include it here with a query.

## Group ARGIOPEÆ.

*Genus* Argiope, Aud. in Sav.

## ARGIOPE ÆTHEREA, Walck.

*Epeira ætherea*, Walck., Hist. Nat. des Ins., Apt., ii., 1837, p. 112.

*Argiope regalis*, L. Koch, Die Arach. des Austr., i., 1871, p. 36, pl. iii., figs. 4, 4a; *op. cit.*, p. 43.

*Hab.*—Cooktown, February 6, 1912; Gordonvale, April 10, 1913, August 10, 1912, August 27, 1913, and August 30, 1912 (forest); Proserpine River, November 14, 1912. Several immature examples.

ARGIOPE PICTA, *L. Koch.*

*Argiope picta*, L. Koch, Die Arach. des Austr., i., 1871, p. 33, pl. iii., figs. 3, 3a.

*Argiope gorgona*, L. Koch, *loc. cit.*, p. 35.

*Hab.*—Gordonvale, forest, August 27, September and December 24, 1912.

ARGIOPE SYRMATICA, *L. Koch.*

*Argiope syrmatica*, L. Koch, Die Arach. des Austr., i., 1871, p. 213, pl. xviii., figs. 9, 9a, 9b.

*Hab.*—Gordonvale, August 31, 1912 (immature).

ARGIOPE TRIFASCIATA, *Dol.*

*Epeira (Argiopes) trifasciata*, Dol., Bijdr., 1857, p. 416; Tweede Bijdr., 1859, pl. i., fig. 3.

*Hab.*—Gordonvale, open forest, May 24, 1912, August 30, 1912. Two examples—one mature and one immature.

ARGIOPE LUGUBRIS, *L. Koch.*

*Argiope lugubris*, L. Koch, Die Arach. des Austr., i., 1871, p. 209, pl. xviii., figs. 6, 6a, 6b, 7, 7a, 7b.

*Hab.*—Aloomba, forest, sweeping grass, July 7, 1912. One ♂ example.

ARGIOPE PROTENSA, *L. Koch.*

*Argiope protensa*, L. Koch, Die Arach. des Austr., i., 1871, p. 211, pl. xviii., figs. 8, 8a, 8b.

*Hab.*—Hughenden, July 14, 1912; Magnetic Is., forest, July 27, 1913.

ARGIOPE PROBATA, *sp. nov.*

(Pl. xxi., fig. 13).

♂ Cephalothorax, 1.1 mm. long, 1 mm. broad; abdomen 3.7 mm. long, 1.2 mm. broad (immature).

*Cephalothorax*.—Smooth, shining, yellow. *Pars cephalica* short, very slightly arched, thoracic groove distinct; ocular area broader than long; *clypeus* not deep. *Pars thoracica* broad, very slightly arched, sides rounded, radial grooves faintly defined; *thoracic fovea* distinct; *marginal band* narrow. *Eyes*.—Normal. *Legs*.—Long, moderately strong, tapering, armed with long, dark-brown spines, and clothed with fine pubescence; relative lengths: 1, 2, 4, 3. *Palpi*.—Short, similar in colour and clothing to legs. *Falces*.—Concolorous with palpi, short, arched. *Maxilla* and *Labium*.—Normal; concolorous with falces. *Sternum*.—Cordiform, very slightly arched, truncated in front, and terminating in an obtuse point between posterior coxæ; yellow, with a cream-white marginal transverse band in front, and having (starting near the middle, and terminating posteriorly) a longitudinal and uneven band of creamy-white; this band is broadest just in front of the posterior coxæ, narrowing from thence sharply inwards, and then bulging outwards at posterior extremity. *Abdomen*.—Elongate, slightly overhanging base of cephalothorax, arched, rather narrow in front, from whence it curves outwards until just beyond the middle, thence retreating to posterior extremity where it terminates obtusely; superior surface creamy-white, reticulated with dull yellow, and displaying a distinct scheme of tracery; sides yellowish-grey, reticulated with dull yellow; inferior surface reticulated with dull yellow also, creamy-white in front and at sides of spinnerets, but yellowish-grey below them. *Spinnerets*.—Compact and normal, but seated about midway.

♀ Cephalothorax, 2.5 mm. long, 2.3 mm. broad; abdomen, 7.3 mm. long, 2.5 mm. broad (Pl. xxi., fig. 13).

*Cephalothorax*.—Broadly ovate. *Pars cephalica* arched, truncated in front; yellow, suffused with yellow-brown, segmental groove distinct; *ocular area* broader than long; *clypeus* narrow, not deep. *Pars thoracica* broad, very slightly arched, sides rounded, radial grooves and *thoracic fovea* distinct; yellowish down the centre and at outer angles, dark brown in between; *marginal band* narrow. *Eyes*.—Normal. *Legs*.—Long, moderately strong, tapering, armed with long black spines and pubescent; relative lengths: 1, 2, 4, 3. *Palpi*.—Short, yellow, similar in clothing and armature to

legs. *Falces*.—Yellow, and cylindrical, arched. *Maxillæ* and *Labium*.—Normal, yellow-brown at base, apices pale yellow. *Sternum*.—Broad, shield-shaped, slightly arched, terminating obtusely between posterior coxæ, surface uneven, a small tubercle in front of each coxa of the first, second, and third pairs of legs, yellow-brown laterally, creamy-white at the middle and at the apex. *Abdomen*.—Elongate, somewhat truncated in front, obtuse at posterior extremity, overhanging base of cephalothorax, arched; superior surface creamy-white, ornamented with a long, dull yellow, leaf-like design down the centre; the latter spotted with creamy-white, and displaying a distinct scheme of tracery; sides and inferior surface dull yellow, spotted with creamy-white. *Epigynum*.—A small, arched tubercle, having two deep, lateral, bisected pits. *Spinnerets*.—Normal, seated about midway.

*Obs.*—Allied to *A. protensa*, L. Koch, and *A. symatica*, L. Koch, but differing from each of these by its much smaller size, more broadly rounded cephalothorax, structure of epigynum, and abdominal ornamentation; the general form of the abdomen, however, is very similar to that of each of those quoted above. In respect of *Argiope probatu* it only remains to be said that the general colour scheme of the abdomen is the same in each sex, but in the immature ♂ form before me there is no trace of the leaf-like design referred to in the description of the ♀.

*Hab.*—Pentland, September, 1914.

Genus *Gea*, C. Koch.

*GEA PRÆCINCTA*, L. Koch.

*Ebœa præcincta*, L. Koch, Die Arach. des Austr., i., 1871, p. 130, pl. x., figs. 2, 2a, 3, 3a.

*Obs.*—Very variable; previously recorded from Palm Island, Great Barrier Reef, and Samoa.

*Hab.*—Gordonvale, forest and jungle; also forest, top of Coastal Range, at 1,500ft., May and June; Aloomba, sweeping grasses, forest, July; Harvey's Creek, sweeping jungle, July; Murrawa, jungle, July; Pentland, September.

GEA ? THERIDIOIDES, *L. Koch.*

*Ebœa theridioides*, *L. Koch*, *Die Arach. des Austr.*, i., 1871,  
p. 132, pl. x., figs. 4, 4a-4e.

*Hab.*—Gordonvale, forest, August 4, 1914. One immature specimen.

*Genus* *Cyrtophora*, *Sim.*

CYRTOPHORA PARNASIA, *L. Koch.*

*Cyrtophora parnasia*, *L. Koch*, *Die Arach. des Austr.*, i., 1871,  
p. 126, pl. ix., figs. 8, 8a.

*Hab.*—Gordonvale, forest, Aug. 31 and September 9, 1912.

CYRTOPHORA HIRTA, *L. Koch.*

*Cyrtophora hirta*, *L. Koch*, *Die Arach. des Austr.*, i., 1871,  
p. 125, pl. ix., figs. 7, 7a.

*Obs.*—The female fabricates the usual type of web peculiar to the species; it consists of numerous irregular lines, and a primitive orbicular snare; connected with the web, according to Girault's observation, there is a large conical case-like nest, which is suspended in grass; the ova-sac, of which one example was collected, is of a crude, pear-shaped form, closely woven, green, 18 mm. long and 36 mm. in circumference.

*Hab.*—Gordonvale, forest, May 4, 1913; also September 9, 1912.

## Group CYCLOSEÆ.

*Genus* *Cyclosa*, *Menge.*

CYCLOSA VALLATA, *Keys.*

*Cyclosa vallata*, *Keys.*, *Die Arach. des Austr.*, *Suppl.*, 1886,  
p. 149, pl. xii., figs. 5, 5a, 5b.

*Obs.*—In his field note in respect of one of these specimens, Mr. A. A. Girault says:—"Forest, from folded leaves, 3 Sept., 1912." Four Australian species have been recorded, but in respect of only one of these *C. (Epeira) pallida*, mihi, have any field notes been published.<sup>2</sup> Simon has given some interesting notes on various species of *Cyclosa* from other parts of the world, and to his work the reader is directed.<sup>3</sup> The group Cycloseæ is very small, only four genera having been recorded to it, and of these *Cyclosa* is the sole Australian representative.

*Hab.*—Gordonvale, May and September, 1912; Murrawa, jungle, July 26, 1913.

*Group* MANGOREÆ.

Six genera are included in this group, only one of which has so far been recorded from Australia, viz., *Larinia*, Simon, the range of which according to that distinguished author is "Orbis totius reg. calidæ subtrop., rarius tropicæ."<sup>4</sup> The genus is represented in our fauna by three species, two of which are recorded below. Of these, *L. tabida*, L. Koch, is known only from Northern Queensland, whilst the other, *L. phthisica*, L. Koch, ranges from Northern Queensland to Victoria. The third species, *L. eburneiventris*, Simon, is a West Australian form.

*Genus* *Larinia*, *Sim.*

LARINIA PHTHISICA, *L. Koch.*

*Epeira phthisica*, L. Koch, Die Arach. des Austr., i., 1871, p. 103, pl. viii., figs. 5, 5a; Keys., *Op. cit.*, Suppl., 1887, p. 171, pl. xiv., figs. 6, 6a.

*Obs.*—The species displays considerable variation, but it may always be distinguished by the structure of the epigynum. Although a large number of specimens were taken, many of them were immature.

<sup>2</sup> Rainbow.—Proc. Linn. Soc. N.S. Wales, xxiii., 1897, pp. 535-6.

<sup>3</sup> Simon.—Hist. Nat. des Araign., i., 1892 (1895), pp. 781-2.

<sup>4</sup> Simon.—*Loc. cit.*, p. 795.

*Hab.*—Gordonvale, sweeping, forest and jungle patch, April 27, 1913, forest, June 6, 1914, August 12, 1912; sweeping along banks of streamlet, September 5, 1912, forest; September 8, 1910, sweeping grass, October 9, 1912. Townsville, sweeping grass, July 11, 1912. Aloomba, sweeping grass, July 7, 1912. Pentland, September, 1914. Proserpine River, November 3, 1914.

LARINIA TABIDA, *L. Koch.*

*Epeira tabida*, *L. Koch*, *Die Arach. des Austr.*, i., 1871, p. 105, pl. viii., figs. 6, 6a; *Keys.*, *Loc. cit.*, *Suppl.*, 1887, p. 170, pl. xiv., figs. 5, 5a.

*Hab.*—Gordonvale, forest, sweeping low bushes and grasses, April 14, 1913; forest, sweeping along streamlet, June 27, 1913; taken from web, August 31, 1912. Proserpine River, sweeping foliage and grass, November 3, 1912; taken from cells of *Sceliphron latum*, *Smith*, December 27, 1913. Quingilli, sweeping grass in forest, September 13, 1912.

Group ARANEÆ.

This is the seventh group into which *Simon* has divided the sub-family Argiopinæ, and although it is composed of only five genera it is remarkable for the large number of species it contains. The greatest genus is, of course, the ubiquitous *Araneus*, *Clerck*, the distribution of which is "Orbis totius regiones omnes." The two other genera occurring in Australia are:—*Carepalaxis*, *L. Koch* (the range of which is "N.-Guinea; N.-Hollandia; Amer. centr. et merid") and *Acroaspis*, *Karsch*, which occurs only, as far as we know at present in "Nova-Hollandia."<sup>5</sup>

Genus *Araneus*, *Clerck.*

In order to facilitate the study of this enormous genus, *Simon* divided it into six series, which he based chiefly on their eye formulæ. In this paper I propose, with the material I have in hand, to adopt the simpler method used by Professor *J. H. Comstock* in his magnificent work, "The Spider Book." This learned author divided the genus into five sections, viz.:—

<sup>5</sup> *Simon.*—*Loc. cit.*, p. 830.

“*The Large Angulate Araneas.*”

“*The Smaller Angulate Araneas.*”

“*The Large Round-shouldered Araneas.*”

“*The Three House Araneas.*”

“*The Smaller Round-shouldered Araneas.*”<sup>6</sup>

The fourth section I omit for reasons stated in another part of this paper. Up to the present ninety-eight species of this genus were known as occurring in Australia, and this paper brings up the total to 105.

*The Larger Angulate Araneas.*

This section contains all those of the larger species bearing a pair of more or less prominent humps or tubercle-like projections towards the anterior extremity of the abdomen. Only two species falling into this section were collected by Mr. Girault, one of which is the well-known *Araneus productus*, L. Koch, and the other, a form now described as new—*A. acachmenus*. By far the greater number of species collected by my friend were forms of moderate or small size.

ARANEUS PRODUCTUS, L. Koch.

*Epeira producta*, L. Koch, Verh. der K. K. Zool.-bot. Ges. Wien, 1867, p. 178; Die Arach. des Austr., i., 1871, p. 55, pl. iv., figs. 5, 5a, 6, 7, 7a.

*Obs.*—Common and widely distributed; varies considerably in size, colour and markings, but can always be distinguished by the enormously long scape of the epigynum.

*Hab.*—Gordonvale, 1911; three specimens, two ♀'s and one ♂.

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<sup>6</sup> Comstock.—The Spider Book, 1912, p. 468.

ARANEUS ACACHMENUS,<sup>7</sup> *sp. nov.*

(Plate xxi., figs. 14, 15).

♀ Cephalothorax, 4.6 mm. long, 3.6 mm. broad; abdomen, 6.7 mm. long, 5.4 mm. broad (Pl. xxi., fig. 14).

*Cephalothorax*.—Obovate, reddish-brown, hairy. *Pars cephalica* arched, truncated in front, clothed with long and short yellowish hairs, sides declivous, thoracic groove distinct; *ocular area* broader than long, the tubercle carrying the median eyes projecting forward; *clypeus* pale, deep. *Pars thoracica* strongly arched, smooth, furnished with a few short, scattered hairs, radial grooves not strongly defined; *marginal band* broad, pale yellow. *Eyes*.—In three groups of 2, 4, 2; lateral eyes small, arranged in pairs, widely removed from median group, contiguous; median group large, poised upon a tubercle, and forming a trapezium. *Legs*.—Rather long, strong, yellow, with dark brown annulations, hairy and armed with numerous short strong spines; relative lengths: 1, 2, 4, 3. *Palpi*.—Short, strong, yellow, not annulated, similar in clothing and armature to legs. *Falces*.—Rather long, very strong, slightly projected in front of clypeus, strongly arched, hairy, front and inner angles pale yellow, apices and outer angles concolorous with cephalothorax; inner angle of the furrow of each falx armed with three strong teeth, and the outer angle with five; of the latter the second but one from the base is much the longest and strongest, and the one near the fang the shortest; *fang* strong, well curved. *Maxillae*.—Normal, moderately hairy, yellowish, inner angles almost white. *Labium*.—Normal, base smoky yellow, apex nearly white. *Sternum*.—Shield-shaped, moderately arched, yellowish-brown, thickly clothed with long, pale, yellowish hairs. *Abdomen*.—Ovate, posterior extremity acuminate, hairy, hairs very long in front, overhanging base of cephalothorax, furnished with two large and prominent lateral tubercles; superior surface mottled dark velvety brown and pale yellow, and ornamented with a large foliated design which commences in front and includes the tubercles in its scheme; rear angles of tubercles pale yellow; sides yellow, irregularly streaked with dark brown; in

<sup>7</sup> ἀκαχμενος = sharp pointed; in reference to the pointed abdominal tubercles.

addition to the latter there are also large irregularly shaped dark brown patches; inferior surface yellow with smoky-brown, irregularly shaped transverse patches and scattered spots. *Epigynum*.—A short, dull whitish, bluntly acuminate process (Pl. xxi., fig. 15).

*Hab.*—Gordonvale, November, 1913.

*The Smaller Angulate Araneas.*

A large number of medium sized and small species are contained in this and the round-shouldered series. Some of the forms are common and widely distributed.

ARANEUS TRIGONUS, *L. Koch.*

*Epeira trigona*, *L. Koch*, *Die Arach. des Austr.*, i., 1871, p. 50, pl. iv., figs. 1, 1a, 1b; *Thor.*, *Studi Ragin Mal e Papuani*, iii., 1881, pp. 15 and 19.

*Hab.*—Cooktown, taken from cell of *Scelephron*, sp., February 6, 1912.

ARANEUS LUTULENTUS, *L. Koch.*

*Epeira lutulenta*, *Keys.*, *Die Arach. des Austr.*, *Suppl.*, 1886, p. 143, pl. xi., figs. 6, 6a.

*Hab.*—Gordonvale, May 1, 1912.

ARANEUS COLLINUS, *Keys.*

*Epeira collinus*, *Keys.*, *Die Arach. des Austr.*, *Suppl.*, 1886, p. 141, pl. xi., figs. 5, 5a.

ARANEUS EXTUBERATUS, *L. Koch.*

*Epeira extuberala*, *L. Koch*, *Die Arach. des Austr.*, i., 1871, p. 61, pl. v., fig. 3; *Hogg*, *Rep. Horn Expl. Exped.*, ii., *Zoology*, 1896, p. 311.

*Obs.*—Humeral tubercles of this species are exceedingly small.

*Hab.*—Gordonvale, from cell of *Scelephron*, October 20, 1912. Originally recorded from New Zealand.

*The Smaller Round-Shouldered Araneas.*

No large forms in this section were collected; indeed the largest and most frequent was the common and widely distributed *Araneus theis*, Walck. Some exceedingly brilliant and metallic specimens are included in this section amongst the material collected by Girault.

## ARANEUS THEIS, Walck.

*Epeira theis*, Walck., Hist. Nat. des Ins., Apt. ii., 1837, p. 53, pl. xviii., fig. 4.

*Epeira mangareva*, Walck., *Op. cit.*, Apt. iv., 1847, p. 469; L. Koch, Die Arach. des Austr., i., 1871, p. 85. pl. vii., figs. 4, 4a, 5, 5a.

*Obs.*—Many specimens immature.

*Hab.*—Gordonvale, jungle, January, 1913; forest, April and May, 1912; sweeping forest, June, 1913; forest, August, 1912; sweeping grass, October, 1912; from cells of *Scelephron lætum*, Sm., October 19, 1912 and December 27, 1913. Sweeping foliage and grass in bed of Proserpine River (the latter dry), November 3 and 20, 1914. Townsville, forest, November 8, 1912. Ingham, sweeping boggy meadow bearing *Pandanus*, July 17, 1912.

## ARANEUS DIMIDIATUS, L. Koch.

*Epeira dimidiata*, L. Koch, Die Arach. des Austr., i., 1871, p. 95, pl. viii., figs. 1, 1a.

*Hab.*—Gordonvale.

## ARANEUS HUMILIS, L. Koch.

*Theridium humile*, L. Koch, Verh. der K.K. zool.-bot. Ges. Wien, 1867, p. 19.

*Epeira humilis*, L. Koch, Die Arach. des Austr., i., 1871, p. 107, pl. ix., figs. 1, 1a, 1b.

*Obs.*—A common species.

*Hab.*—Gordonvale, Pyramid Mt., at heights varying from 400ft. to 1500ft., September 9, 1912.

ARANEUS USUALIS, *Keys.*

*Epeira usualis*, Keys., Die Arach. des Austr., Suppl., 1887, p. 201, pl. xviii., figs. 2, 2a, 3, 3a.

*Obs.*—The ova-sac is white, and the eggs pale yellow.

*Hab.*—Gordonvale, September 5, 1912, May 29, 1913, at 1,500ft.

ARANEUS EBUERNUS, *Keys.*

*Epeira eburnus*, Keys., Die Arach. des Austr., Suppl., 1886, p. 148, pl. xii., figs. 4, 4a.

*Hab.*—Gordonvale.

ARANEUS TRANSVERSUS, *Rainb.*

*Araneus transversus*, Rainb., Mem. Q'land Mus., i., 1912, p. 197, figs. 11-14.

*Hab.*—Proserpine River, sweeping foliage and grass, open forest, November 3, 1912.

ARANEUS FASTIDIOSUS, *Keys.*

(Plate xxii., figs. 16, 17.)

*Epeira fastidiosa*, Keys., Die Arach. des Austr., Suppl., 1887, p. 183, pl. xvi., figs. 1, 1a.

*Obs.*—The ♂ of this species was described by Keyserling as quoted above, but the ♀ has apparently remained up to the present time unknown. One specimen, which I take to be the female of this species, is included in this collection, and is described and figured herewith. The ♂ was recorded from Rockhampton; my specimen was collected at Townsville.

♀ Cephalothorax 2.1 mm. long, 1.8 mm. broad; abdomen, 3.3 mm. long, 3 mm. broad (Pl. xxii., fig. 16).

*Cephalothorax.*—Obovate, dark brown, hairy. *Pars cephalica*, strongly arched, segmental groove distinct; *ocular area* broader than long, median group of eyes raised on a tubercle; *clypeus* broad, deep. *Pars thoracica* strongly arched, radial grooves distinct; *marginal band* broad. *Eyes.*—In three groups

of 2, 4, 2; median eyes large, seated at the summit of a tubercle, and disposed in the form of a trapezium; lateral eyes arranged in pairs, small and contiguous. *Legs*.—Short, strong, yellow with dark brown annulations, clothed with long hairs, and armed with long, fine spines; relative lengths: 1, 2, 4, 3. *Palpi*.—Short, strong, similar in colour and armature to legs. *Falces*.—Dark brown, shining, strong, arched, tapering. *Maxillæ*.—Normal, dark-brown, apices and inner angles creamy-white. *Labium*.—Short, broad, arched, dark brown, apex creamy-white. *Sternum*.—Shield-shaped, arched, outer angles dark brown; the central portion describes a broad, serrated, and foliated design of creamy-white. *Abdomen*.—Broadly ovate, strongly arched, pubescent, and boldly projecting over base of cephalothorax; superior surface greyish-brown, with a broken, snowy-white design in front, and a broad foliated design running down the middle, the anterior and lateral angles of which are snowy-white; immediately at rear of anterior design there are two very small but distinct dark brown spots, which latter are widely removed from each other; within the leaf-like design there are four distinct depressions or pits, of which the anterior pair are the largest and widest apart; at anterior extremity there is a broad, uneven dark brown (nearly black) transverse bar, which latter is strongly indented at the centre; sides concolorous with superior surface, but relieved by uneven dark brown lateral stripes (which latter are directed posteriorly), and by small groups of microscopic snowy-white spots; inferior surface dark brown with six snowy-white patches, the largest of which are the median pair, and the smallest the posterior. *Epigynum*.—A short, broad, somewhat pear-shaped, yellow process (Pl. xxii., fig. 17).

*Hab.*—Townsville, forest, January 3, 1913.

ARANEUS CYRTARACHNOIDES, *Keys*.

*Epeira cyrtarachnoides*, *Keys*., *Die Arach. des. Austr.*, Suppl., 1887, p. 181, pl. xv., figs. 8, 8a, 9, 9a.

*Obs.*—Most of the examples of this species were immature, and were taken by sweeping.

*Hab.*—Gordonvale, April 18, 1912 (immature); May 5, 1913, open forest; August 14, 1912; August 31, 1912, ♂ and ♀ from orbicular web in forest; August 31, 1912; forest, September 5, 1912.

ARANEUS ROTUNDULUS, *Keys.*

*Epeira rotundula*, Keys., Die Arach. des Austr., Suppl., 1887, p. 193, pl. xv., figs. 6, 6a, 7, 7a.

*Obs.*—One specimen in bad condition.

*Hab.*—Gordonvale, at 3,200ft.

ARANEUS FAVORABILIS, *sp. nov.*

(Plates xxii., figs. 18, 19.)

♀ Cephalothorax, 2.8 mm. long, 2.4 mm. broad; abdomen, 4.6 mm. long, 3.5 mm. broad (Pl. xxii., fig. 18).

*Cephalothorax.*—Obovate, straw yellow, shining. *Pars cephalica* strongly arched, moderately clothed with pale hairs, thoracic groove distinct; *ocular area* broader than long, fringed with a few rather long and very fine hairs; *clypeus* smooth, arched. *Pars thoracica* broad, pubescent, strongly arched, radial grooves distinct; *median fovea*, deep; *marginal band*, broad. *Eyes.*—Black, prominent; the four comprising the median group are the largest, and form a trapezium; lateral eyes arranged in pairs, small, contiguous. *Legs.*—Rather long, concolorous with cephalothorax, moderately clothed with short hairs, and armed with short, weak spines; metatarsal and tarsal hairs the longest; relative lengths; 1, 2, 4, 3. *Palpi.*—Rather long, similar in colour, clothing and armature to legs. *Falces.*—Concolorous with cephalothorax, slightly projecting, strongly arched, tapering, moderately hairy, apices divergent; lower angle of furrow of each falx armed with three strong, coniform teeth, of which the one nearest the base of the fang is the strongest; at the rear of the third tooth from the fang, there is another rather short and coniform one; upper angle of the furrow of each falx armed with four coniform teeth, of which the two nearest the fang are much the strongest; in the groove between the two ridges there is a considerable number of small granular teeth irregularly distributed; *fang* long, strong, well curved, wine-red. *Maxille* and *Labium.*—Normal, moderately hairy, pale yellow. *Sternum.*—Concolorous with cephalothorax, shield-shaped, arched, clothed with rather long, yellowish hairs. *Abdomen.*—Ovate, overhanging base of cephalothorax, yellow, pubescent, superior

surface rather darker than sides, reticulated, ornamented down the middle with a distinct, but irregular, scheme of tracery, and speckled with white; sides of a paler yellow with the upper portion reticulated and relieved by rather large splashes of white; inferior surface dull yellow. *Epigynum*.—A large transverse, high, bifurcated tubercle, with two deep, elliptical, lateral pits, separated by a broad, slightly elevated median ridge (Pl. xxii., fig. 19).

*Hab.*—Gordonvale, forest, September 9, 1912.

ARANEUS AGASTUS,<sup>8</sup> *sp. nov.*

(Plates xxii., figs. 20, 21.)

♀ Cephalothorax, 3.3 mm. long, 2.5 mm. broad; abdomen, 5.1 mm. long, 4.2 mm. broad (Pl. xxii., fig. 20).

*Cephalothorax*.—Obovate, moderately clothed with long, fine hairs. *Pars cephalica* elongate, somewhat attenuated in front, yellow, strongly arched, sides declivous, thoracic groove distinct; ocular area broader than long; *clypeus*, pale yellow, arched, moderately deep, fringed with fine hairs. *Pars thoracica* broad, arched, central area concolorous with cephalic segment, sides dark brown, radial grooves distinct; *thoracic fovea* deep; *marginal band* concolorous with clypeus. *Eyes*.—Pearl-grey with black rings; the four comprising the median group are the largest and form a trapezium; lateral eyes small, arranged in pairs, contiguous, each pair seated at lateral extremity of outer angle. *Legs*.—Rather short, strong, yellow with dark brown annulations, clothed with fine hairs, and armed with numerous strong and moderately long spines; relative lengths: 1, 2, 4, 3. *Palpi*.—Moderately long, strong, similar in colour, clothing and armature to legs. *Falces*.—Yellow, strongly arched, coniform, moderately hairy, apices divergent. *Maxillæ* and *Labium*.—Normal, the bases dark brown, apices straw-yellow. *Sternum*.—Shield-shaped, lateral angles waved, reddish-brown generally, but yellow down the middle; surface uneven, ridged, the ridges terminating in tubercles between the coxæ. *Abdomen*.—Ovate, pubescent,

<sup>8</sup> ἀγαστος = admirable.

strongly arched, overhanging base of cephalothorax, superior surface yellow-grey, with a broad, velvety-brown transverse band in front, the posterior angle of which is uneven, and edged with straw-yellow; this band is also narrowest, and deeply indented at the centre; laterally, and immediately at the rear of this transverse band there are two somewhat diamond-shaped spots bordered with straw-yellow; from near the centre there are two broad, sub-lateral wavy, velvety-brown longitudinal bands, which are bordered with straw-yellow, and are much the broadest in front; immediately in front of these bands there is a transverse, curved streak of dark velvety-brown bordered at rear with straw yellow; this transverse streak is interrupted at the centre; sides yellowish-grey also, but becoming much paler towards the ventral surface; inferior surface has a large, yellowish, lateral patch in front; but above, and at the rear of this there are prominent streaks of yellow and dark brown; the latter are again, however, mottled with yellow spots; middle area of inferior surface smoky-brown, relieved by two large creamy-white spots at middle (Pl. xxii., fig. 21). *Epigynum*.—A short, pale, coniform process, broad at base and overhanging the *rima epigasteris*.

*Obs.*—The above was the only species of *Araneus* taken exclusively from the vicinity of a dwelling. A number of other examples, distinct from the above, and apparently referable to one species, were collected both in the forest, in the jungle, and under the verandah of an hotel at Gordonvale. The explanation of this is unquestionably that the "ballooning" habit was responsible. Unfortunately the specimens referred to were too immature for specific determination. Proximity to dwellings, however, has little or no importance; it is merely a fortuitous incident. *Araneus theis*, Walck., is often found not only in the jungle and forest, but often with its web in proximity—and even attached—to dwellings. Around Sydney, I have often seen *A. productus*, L. Koch, and *A. herione*, L. Koch, and other well-known similar forms, in like position; in fact their snares may be said to be placed where there is a fair chance of "game." Probably the form described above will hereafter be found reposing in a web far away from any building.

*Hab.*—Gordonvale, August 22, 1912, taken from web in front of window of dwelling.

ARANEUS DIANIPHUS,<sup>9</sup> *sp. nov.*

(Plate xxii., figs. 22, 23, 24, 25.)

♂ Cephalothorax, 1 mm. long, 0.7 mm. broad; abdomen, 1.1 mm. long, 0.8 mm. broad (Pl. xxii., fig. 22).

*Cephalothorax.*—Obovate, yellow, smooth, shining. *Pars cephalica* arched, obtuse in front, thoracic groove distinct; *ocular area* broader than long; *clypeus* short, narrow. *Pars thoracica* strongly arched, radial grooves distinct; *median fovea* distinct, rather dark; *marginal band* narrow. *Eyes.*—Black, median four largest, and forming a trapezium; lateral eyes minute, contiguous. *Legs.*—Concolorous with cephalothorax, long, pilose, armed with short, fine, weak spines; relative lengths: 1, 2, 4, 3. *Palpi.*—Short, concolorous with legs, genital bulb complicated (Pl. xxii., fig. 23). *Falces.*—Concolorous with cephalothorax, weak, coniform. *Maxillæ* and *Labium.*—Normal, creamy-white. *Sternum.*—Shield-shaped, pale yellow, arched. *Abdomen.*—Ovate, overhanging base of cephalothorax, strongly arched, pale yellowish-grey, ornamented with a small, dark median patch in front; from rear of this patch a faintly discernable thread-like line runs down the middle, and terminates in front of spinnerets; at a little below the anterior median patch there is a faint transverse line in eschelon; below this again, there are four short, broad, and distinct transverse bars, the first of these being the longest, and the fourth—which is seated in front of spinnerets—the shortest; sides, pale yellowish-grey; inferior surface concolorous, but having a rather darker longitudinal band running down the middle from the *rima epigasteris* towards spinnerets.

♀ Cephalothorax, 1.1 mm. long, 0.9 mm. broad; abdomen, 1.8 mm. long, 1.4 mm. broad (Pl. xxii., fig. 24).

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<sup>9</sup> *διανιφος* = marked with snow-white; in reference to abdominal ornamentation of ♀

*Cephalothorax*, *Eyes*, *Legs* and *Falces* similar to ♂ in structure; the cephalothorax is, however, darker. *Maxillæ* and *Labium*.—Normal; concolorous with cephalothorax. *Sternum*.—Concolorous also, shield-shaped, arched. *Abdomen*.—Ovate, overhanging base of cephalothorax, strongly arched; superior surface ornamented with a prominent design running down the middle; it is broad, uneven in outline, dark, smoky-yellow in front, but otherwise yellow-brown, irrorated with white; on each side of this ornamentation the colour is snowy-white, finely reticulated with yellow-brown; sides yellow-brown, suffused in parts with smoky-brown; inferior surface greyish-yellow. *Epigynum*.—A dark, rather large and strongly arched eminence, with two transversely oval pits, separated from each other by a very shallow ridge (Pl. xxii., fig. 25).

*Hab.*—Gordonvale, sweeping, forest, top of coastal range, 1,500ft., May 29, 1913.

ARANEUS DIANIPHUS, var. XANTHOSTICHUS,<sup>10</sup> var. nov.

(Plate xxii., fig. 26.)

The form for which I propose the varietal name is larger than the type, and differs from it in abdominal ornamentation, but there can be no doubt as to its affinity, since in each example of the ♀, the epigynum is synonymous.

♀ Cephalothorax, 1.2 mm. long, 1 mm. broad; abdomen, 2 mm. long, 1.8 mm broad (Pl. xxii., fig. 26).

*Cephalothorax*, *Eyes*, *Legs*, and *Palpi* similar to type; the first named is, however, slightly darker. *Falces*, *Maxillæ*, *Labium*, and *Sternum*.—Concolorous with cephalothorax. *Abdomen*.—Ovate, strongly arched, overhanging base of cephalothorax; superior surface snowy-white and closely and delicately reticulated with yellow; running down the middle there is a strongly defined scheme of yellow tracery; sides white, closely and delicately reticulated, and clouded with yellow patches; inferior surface dull yellow, with two small, but prominent, and finely reticulated sub-medial patches of white immediately below epigynum. *Epigynum*.—As in type (Pl. xxii., fig. 25).

*Hab.*—Gordonvale, forest, from folded leaf, September 3, 1912.

<sup>10</sup> ξανθοστιχος = yellow-streaked; in reference to scheme of tracery on abdomen.

ARANEUS COMPTUS, *sp. nov.*

(Plate xxii., figs, 27, 28.)

♀ Cephalothorax, 1.3 mm. long, 1.2 mm. broad; abdomen, 2 mm. long, 2 mm. broad (Pl. xxii., fig. 27).

*Cephalothorax*.—Broadly obovate, very slightly longer than broad. *Pars cephalica*, straw-yellow, with a few dark hairs at sides and base, strongly arched, thoracic groove distinct; *ocular area* broader than long; *clypeus* broad, moderately deep, dark brown. *Pars thoracica* straw-yellow, broad, well arched; radial grooves moderately defined; *median fovea* distinct; *marginal band* broad, straw-yellow. *Eyes*.—Pearl-grey lustre, ringed with black, the median group forming a trapezium; of this group the rear pair are slightly larger and wider apart than their anterior neighbours; lateral eyes minute and contiguous. *Legs*.—Strong, moderately long, straw-yellow, annulated with smoky-brown, pubescent, and armed with moderately long, strong spines; relative lengths: 1, 2, 4, 3. *Palpi*.—Strong, rather long, straw-yellow, tarsi smoky-brown at tips; similar in clothing and armature to legs. *Falces*.—Concolorous with cephalothorax, coniform, arched; *fangs* short, strong, well curved, yellow. *Maxillæ* and *Labium*.—Normal; smoky-yellow with exception of apices and the inner angles of the former, which are very pale and nearly white. *Sternum*.—Shield-shaped, arched, pubescent, yellow, anterior and lateral angles somewhat darker. *Abdomen*.—Broadly ovate, obtusely acuminate at posterior extremity of upper surface, overhanging base of cephalothorax, pubescent, arched; superior surface dark yellowish-grey, ornamented with a broad leaf-like design, the outer angles or edges of which are black, or almost so; immediately in front there is a broad, nearly white, H-like design, the cross-bar of which is somewhat darker than the down strokes; below this design there is a faintly visible, longitudinal line, crossed by two faintly distinct transverse bars, and at the extremities of the latter a rather dark spot, of which the two lower ones are by far the most distinct; within the field of the leaf-like design there are a few nearly white spots; sides pale yellowish-grey also, but having in addition, on each side, a patch of smoky-grey; at the centre and about midway between the *rima epigasteris* and spinnerets, there are

two small, but prominent finely reticulated patches of snowy-white, and in front of each of these two small patches of smoky-yellow; spinnerets surrounded by a rather broad ring of smoky-yellow. *Epigynum*.—A long, reddish-yellow, arched, tongue-like process, which extends considerably beyond the *rima epigasteris*; laterally, there are two circular pits (Pl. xxii., fig. 28).

*Hab.*—Gordonvale, jungle, May 25, 1913, June, 1914. One adult and two immature examples.

ARANEUS COMPTUS, var. FUSCOCAPITATUS, var. nov.

(Plate xxii., figs. 28, 29.)

This variety agrees with type in size and general structure, and in the form of its *epigynum* (Pl. xxii., fig. 28), but differs very materially in colour and ornamentation. I describe it as follows:—

♀ *Cephalothorax*.—Broadly ovate, moderately hairy. *Pars cephalica* strongly arched, obtuse in front, entirely fuscous, segmental groove distinct; *ocular area* and *clypeus* as in type. *Pars thoracica* strongly arched, straw-yellow, radial grooves distinct; *median fovea* deep; *marginal band* broad, fuscous. *Eyes*.—Entirely black. *Legs*.—Long, moderately strong, pubescent, armed as in type; first and second pairs straw-yellow at base, thence fuscous; third and fourth pairs fuscous, annulated with yellow. *Palpi*.—Fuscous, annulated with yellow. *Falces*.—Fuscous. *Maxillæ* and *Labium*.—Normal; fuscous at their base; apices pale yellow. *Sternum*.—Shield-shaped, arched, pale yellow, lateral angles fuscous. *Abdomen*.—Similar to type in form, and overhanging base of cephalothorax; superior surface fuscous, with two broad, transverse, dark yellowish-grey bars; in front there is a dark yellowish-grey patch which is rather longer than broad, and which connects with the anterior transverse bar; the patch just described is flanked on each side with a narrow whitish stripe, but has no cross-bar as in the case of the type; there are a large number of nearly black spots distributed over the upper surface; sides fuscous, each ornamented with a delicately, reticulated, irregularly shaped white spot, yellow markings and black spots; inferior surface has a broad, median patch of fuscous, the sides

of which are indented with yellow; spinnerets surrounded with a broad ring of fuscous, which ring forms part of the median patch. *Epigynum*.—As in type (Pl. xxii., fig. 28).

*Hab.*—Gordonvale, jungle, July 11, 1914.

ARANEUS ACUMINATUS, L. Koch.

*Epeira acuminata*, L. Koch, Die Arach. des Austr., i., 1871, p. 109, pl. ix., figs. 2, 2a, 2b.

In 1871, Dr. L. Koch, described and figured the ♂ of a species for which he proposed the name *Epeira acuminata*, since when there has been no record of the finding of the ♀. The specific name is a peculiarly appropriate one, seeing that not only is the cephalic segment strikingly acuminate but also the posterior extremity of the abdomen. Among the material collected by Mr. Girault there is a ♀ example which may prove to be that of the species quoted above, and it is here described tentatively under that name. The student will readily note the striking similarity of the cephalic segment of both sexes, Koch's species came from Rockhampton; Girault's specimen was collected at Gordonvale.

(Plate xxiii., figs. 30, 31.)

♀ Cephalothorax, 1.6 mm. long, 1.4 mm. broad; abdomen, 3 mm. long, 2.7 mm. broad (Pl. xxiii., fig. 30).

*Cephalothorax*.—Obovate, moderately hairy. *Pars cephalica* strongly arched, acuminate in front, segmental groove distinct; yellow-brown with a cream-yellow patch at base, and having two dark, finely pencilled lines running from between rear median eyes to anterior angle of cream-yellow patch; *ocular area* broader than long; *clypeus* very strongly curved, deep and sloping inwards. *Pars thoracica* broad, yellow-brown, strongly arched, radial grooves distinct; *marginal band* broad, pale yellow. *Eyes*.—Median group largest and forming a trapezium; the rear pair of this series is slightly larger than their anterior neighbours, and are seated at the edge of the overhanging angle of the cephalic segment; the two pairs forming the trapezium are only slightly removed from each other; the anterior pair of the median group are separated from each other by a space

equal to about twice their individual diameter, and the posterior pair by a space equal to about one-and-a-half their individual diameter; lateral eyes minute, contiguous. *Legs*.—Short, strong, yellow, annulated with smoky-brown, pilose, armed with moderately strong spines; relative lengths: 1, 2, 4, 3. *Palpi*.—Moderately long, strong, yellow, similar in clothing and armature to legs. *Falces*.—Concolorous with cephalothorax, arched, coniform. *Maxillæ* and *Labium*.—Normal; smoky-brown, apices yellow. *Sternum*.—Shield-shaped, arched, dull yellow, relieved by a series of four creamy-white bars radiating from the centre; the first of these bars terminate at a point between the first and second coxæ; the second, between the second and third coxæ; the third, between the third and fourth; and the fourth at a point between posterior coxæ; the latter bar is broadest at its rear extremity; the radiating bars here described are slightly raised, thereby imparting an uneven appearance to the sternum. *Abdomen*.—Broadly ovate, arched, pilose, boldly projecting over base of cephalothorax; anterior angle slightly produced; superior surface uneven, yellow, finely and sparsely spotted with black, and having in addition four large, deep, black pits, the anterior pair of which are the smallest and the closest together; it is further ornamented by a prominent scheme of tracery and a broad leaf-like design, the outer angles of which are nearly black (Pl. xxiii., fig. 30); at posterior extremity there are two small tubercles, one seated below the other; sides cloudy yellow; inferior surface nearly black, relieved by two large, white, nearly round spots seated just below the *rima epigasteris*. *Epigynum*.—Dark brown, nearly black; in front of *rima epigasteris* it is strongly arched, and has two large lateral pits; from the latter there extends a long, tongue-like process, which latter is arched, reflexed laterally, and curved up slightly at the tip (Pl. xxiii., fig. 31).

*Hab.*—Gordonvale, November 14, 1911.

ARANEUS ANATIPES, *Keys*.

*Epeira anatipes*, *Keys*., *Die Arach. des Austr.*, Suppl., 1887, p. 175, pl. xv., figs. 3, 3a, 4, 4a.

*Hab.*—Gordonvale, forest, August 27, and September 3 and 9, 1912.

ARANEUS APOBLEPTUS,<sup>11</sup> *sp. nov.*

(Plate xxiii., figs. 32-37.)

♂ Cephalothorax, 2 mm. long, 1.4 mm. broad; abdomen, 2 mm. long, 1.4 mm. broad (Pl. xxiii., figs. 32, 33).

*Cephalothorax*.—Ovate, pubescent; some specimens wholly rich mahogany-brown, others yellowish at the middle. *Pars cephalica* strongly arched, obtuse in front; *ocular area* broader than long; *clypeus* narrow, strongly curved, deep. *Pars thoracica* strongly arched, radial grooves distinct; *median fovea* deep; *marginal band* narrow. *Eyes*.—Normal. *Legs*.—Moderately long, strong, tapering, straw-yellow, with mahogany-brown annulations, pubescent, and armed with strong spines; relative lengths: 1, 2, 4, 3. *Palpi*.—Very short, femoral and tibial joints straw-yellow, pubescent; *genital bulb* large, yellow, but darker than preceding joints, clothed with long bristles (Pl. xxiii., fig. 34). *Falces*.—Concolorous with cephalothorax, short, coniform, arched. *Maxillæ* and *Labium*.—Normal; the bases dark brown, apices yellow. *Sternum*.—Shield-shaped, arched, reddish-brown, anterior angle yellowish, lateral angles black. *Abdomen*.—Elongate, slightly overhanging base of cephalothorax, arched, sloping downwards towards middle, and then ascending towards posterior extremity, where it terminates in a somewhat gibbous eminence, beneath, and on each side of which, there is a small tubercle; posterior extremity sloping downwards and inwards until spinnerets are reached (Pl. xxiii., fig. 35); superior surface in some examples yellow, with black markings in front, and ornamented at the centre with two prominent silvery spots, while the posterior extremity gleams like mother-o'-pearl; other examples are yellow-brown with silvery spots, while some are dark brown (nearly black) with bright silvery marks and patches; sides and under surface, in nearly all specimens before me, yellow with dark markings.

♀ Cephalothorax, 2 mm. long, 1.5 mm. broad; abdomen, 5.3 mm. long, 3.4 mm. broad (Pl. xxiii., fig. 36).

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<sup>11</sup> ἀποβλεπτος = admired.

*Cephalothorax*.—Obovate, pubescent, shining, dark yellow. *Pars cephalica* arched, sides declivous, segmental grooves distinct; *ocular area* broader than long, *clypeus* narrow, luteous. *Pars thoracica* strongly arched, lateral and posterior angles finely pencilled with black; radial grooves distinct; *median fovea* profound; *marginal band* broad, luteous. *Eyes*.—Of a pearl-grey lustre, ringed with black; normal. *Legs*.—Moderately long, strong, pubescent, armed with rather stout spines golden straw-yellow, femoral joints and patellæ annulated with dark brown (nearly black); other joints annulated with smoky-yellow; relative lengths: 1, 2, 4, 3. *Palpi*.—Rather angles straw-yellow, similar in clothing and armature to legs. *Maxillæ* and *Labium*.—Normal; dark brown at base, apices yellow. *Sternum*.—Shield-shaped, arched, dark brown, relieved in front by a transverse bar of straw-yellow; in addition to this bar there are four lateral, and one posterior, concolorous nodules. *Abdomen*.—As viewed from above gibbous at both extremities, arched, and overhanging base of cephalothorax; superior surface dark brown (nearly black) in front, and ornamented with a broad, silvery band of uneven outline running down the middle; from just beyond the middle this silvery ornamentation, which is finely reticulated with dark brown, is continued down the side (Pl. xxiii., fig. 37); posterior extremity terminated by three prominent tubercles, of which the median is the largest; sides similar in colour to superior surface. *Epigynum*.—Dark brown, raised, somewhat like a horse-shoe in outline, and having two lateral pits and a reflexed tongue-like process running down the middle. In the different examples before me this tongue-like process varies somewhat in length, but in none does it extend beyond the *rima epigasteris*.

*Obs*.—The ♀'s vary considerably both in size and colouration, but all are remarkably beautiful. In some examples the abdomen is exceedingly brilliant and metallic, whilst in others it is very dark, almost black, with silvery patches at the sides only, and having a yellowish-grey band down the middle; another specimen has its sides silvery-grey, reticulated with black, and a dark, yellow-brown band running down the middle. Then, again, the cephalothorax in some instances is of a golden straw-yellow, and in others a rich mahogany-brown. The legs of the different examples also differ widely in intensity of colouration, some being strongly annulated, and some

only faintly so. Moreover, the epigynum, whilst agreeing in all examples in the main features of its structure, displays considerable variation, principally in the length of its tongue-like process. In fact, from an excellent series—and all from the one area—it is difficult to find, in either sex, two examples exactly alike, while some—in point of ornamentation at any rate—are strikingly different.

*Hab.*—Gordonvale; females from orbicular webs, and males chiefly by sweeping in forest and jungle. Two examples were taken from the window of a dwelling. All specimens were collected during the months of May, June and July in 1912 and 1913.

ARANEUS ARGENTARIUS, *sp. nov.*

(Plate xxiii., figs. 38 and 39.)

♀ Cephalothorax, 1 mm. long, 0.7 mm. broad; abdomen, 1.8 mm. long, 1 mm. broad.

*Cephalothorax.*—Obovate, shining, dark brown, nearly black. *Pars cephalica* arched, pubescent, segmental groove distinct; *ocular area* broader than long; *clypeus* moderately deep. *Pars thoracica* arched, radial grooves distinct; *median fovea* deep; *marginal band* moderately broad, concolorous with cephalothorax. *Eyes.*—Normal. *Legs.*—Short, strong, hairy, spined, pale yellow, annulated with greyish-brown bands; relative lengths: 1, 2, 4, 3. *Palpi.*—Short, strong, similar in colour, clothing and armature to legs. *Falces.*—Short, strong, arched, apices apart, concolorous with cephalothorax. *Maxillæ* and *Labium.*—Normal; concolorous with falces. *Sternum.*—Concolorous with foregoing, shield-shaped, arched, surface uneven. *Abdomen.*—Boldly projecting over base of cephalothorax, anterior and posterior extremities obtuse, widest at the middle; just beneath and in front of posterior extremity there are two small but prominent tubercles; superior surface heavily plated with silver and delicately reticulated, somewhat depressed at middle; sides and posterior angle dark brown, nearly black, relieved by splashes of silver; inferior surface dark brown (Pl. xxiii., fig. 39). *Epigynum.*—A transverse plaque with two lateral pits.

*Hab.*—Gordonvale, taken from nests in low forest August 30, 1912.

Genus *Carepalxis*, L. Koch.

CAREPALXIS BILOBATA, Keys.

*Carepalxis bilobata*, Keys., Die Arach. des Austr., Suppl., 1886, p. 118, pl. ix., figs. 4, 4a.

*Hab.*—Cooktown, from nest of *Scelephron*, sp., February 6, 1912; Pentland, September, 1914.

CAREPALXIS BEELZIBUB, von Has.

*Epeira beelzibub*, von Has., Tijds. Ent., viii., 2, p. 240, pl. xii., figs. a, b, c.

*Hab.*—Pentland, September, 1914. Originally recorded from Victoria.

CAREPALXIS LICHENSIS, sp. nov.

(Plate xxiii., figs. 40, 41, 42.)

♀ Cephalothorax, 1.6 mm. long, 1 mm. broad; abdomen, 2.5 mm. long, 2.5 mm. broad, depth from apex to spinnerets 3.4 mm. (Pl. xxiii., figs. 40, 41).

*Cephalothorax*.—Ovate, bilobed, shining, pilose. *Pars cephalica* strongly arched, obtuse, dark mahogany-brown, distinctly paler in region of median eyes; *ocular area* broader than long; *clypeus* strongly curved, deep. *Pars thoracica* strongly arched, dark mahogany-brown; *median fovea* profound; *marginal band*, broad, dark brown. *Eyes*.—Distributed over three groups of 2, 4, 2; median group in the form of a trapezium; of this series the anterior pair are separated from each other by a space equal to about once their individual diameter, whilst their posterior neighbours are contiguous to each other; lateral eyes minute, touching. *Legs*.—Short, strong, tapering, hairy, spined, straw-yellow with dark brown annulations; relative lengths: 1, 2, 4, 3. *Palpi*.—Short, strong, straw-yellow, similar in clothing and armature to legs. *Falces*.—Shining, concolorous with *pars cephalica*, strongly arched, tapering, inner angles fringed with short hairs. *Maxillæ*.—Short, broad, arched, inclining inwards, base and outer angles dark brown, inner angles and apices pale yellow. *Labium*.—Short, broad, arched, concolorous with foreging.

*Sternum*.—Broad, shield-shaped, arched, posterior extremity acuminate, anterior angles and sides straw-yellow, median area dark brown; two large tubercles in front, two more on each side, and one at apex; the tubercles straw-yellow. *Abdomen*.—Overhanging base of cephalothorax, strongly arched, subglobose, and furnished with two large acuminate humeral tubercles, the inner sides of which are arched, and the outer depressed; in form the tubercles suggest the ears of a cat; the surface of the abdomen both above, laterally and beneath is dark brown, nearly black, with irregular pale yellow and greyish markings of various sizes; the general colour and scheme of ornamentation imparts a decidedly lichen-like appearance. *Epigynum*.—A pale yellow tubercle, arched, somewhat parallel sided, with deep pit, protected by an overhanging curved lip.

“*Ova-sacs* suspended in a horizontal line in forest tree” (collector’s note). There are three of these, each of which is spherical, closely woven, but surrounded with a quantity of loose fibrous silk. Each egg-sac is about half the size of an ordinary pea.

*Hab.*—Gordonvale, forest, May 30, 1913.

Genus *GASTERACANTHA*, *Sund.*

*GASTERACANTHA SACERDOTALIS*, *L. Koch.*

*Gasteracantha sacerdotalis*, *L. Koch*, *Die Arach. des Austr.*, i., 1871, p. 198, pl. xviii., fig. 1.

*Obs.*—Four specimens were collected, and these show considerable colour variation.

*Hab.*—Gordonvale, forest, June 30, August 22, and September 9, 1912.

*GASTERACANTHA TAENIATA*, *Walck*

*Plectana taeniata*, *Walck.*, *Hist. Nat. des Ins.*, Apt., ii., 1837, p. 169.

*Gasteracantha violenta*, *L. Koch*, *Die Arach. des Austr.*, i., 1871, p. 5, pl. i., fig. 3.; *Butl.*, *Trans. Ent. Soc.*, 1873, p. 161.

*Gasteracantha taeniata*, L. Koch, Die Arach. des Austr., i., 1873, p. 10.

*Obs.*—Two perfect and one badly broken specimens were collected, in addition to one diminutive and immature form. In his "Monographic List of the Gasteracantha," Butler (*suprà*) says:—"Our dried examples of this species are much broken, and show no trace of the dark bands mentioned in Koch's description; but the large depressed spots of the second series seem rather continuous with the first than the third series, as in *G. taeniata*." In the perfect specimen before me the two dark bands referred to by Koch are decidedly distinct. The species is apparently somewhat variable; its range is Papua, Queensland, Northern N.S. Wales, New Caledonia and the Falkland Isles.

*Hab.*—Gordonvale, July and September, 1912.

*Genus* Cyrtarachne, *Thor.*

CYRTARACHNE SETOSA, *Keys.*

*Cyrtarachne setosa*, *Keys.*, Die Arach. des Austr., Suppl., 1886, p. 98, pl. vii., fig. 5.

*Hab.*—Gordonvale, forest, August 14, 1912; one immature specimen. The original locality for this species was Sydney, N.S. Wales.

*Genus* Ordgarius, *Keys.*

ORDGARIUS MONSTROSUS, *Keys.*

*Ordgarius monstrosus*, *Keys.*, Die Arach. des Austr., Suppl., 1886, p. 114, pl. ix., figs. 2, 2a-2c.

*Hab.*—Gordonvale, forest, April 27, 1913.

*Genus* Poltys, *C. Koch.*

POLTYS CORONATUS, *Keys.*

*Poltys coronatus*, *Keys.*, Die Arach. des Austr., Suppl., 1886, p. 128, pl. x., figs. 2, 2a.

*Hab.*—Gordonvale, forest, October 24, 1912.

POLTYS ? MULTITUBERCULATUS, *Rainb.*

(Plate xxiii., fig. 43.)

*Poltys multituberculatus*, *Rainb.*, *Rec. Austr. Mus.*, iii., 4, 1898, p. 82, pl. xviii., figs. 2, 2a, 2b.

*Obs.*—In 1898, as quoted above, I described and figured an Argiopid, for which I proposed the name *Poltys multituberculatus*. In the Girault collection there are two immature specimens which, although different in abdominal ornamentation, and having very microscopic tubercles, I do not feel justified in describing as new. Each of these specimens has a prominent coniform tubercular projection at the summit of the abdomen as in *P. multituberculatus*, and numerous tiny tubercles distributed over its upper surface and sides, in much the same manner as in the type of my Cooktown species. If the student will compare fig. 43, pl. xxiii., given herewith, with that quoted above, he will note both similarity and difference. In the two specimens under discussion there is a large rich brown longitudinal bar running down the middle for fully two-thirds the length of the abdomen; at its posterior extremity it is joined by a concolorous transverse bar, the two thus forming an inverted capital **L**. Both bars are somewhat wavy in outline, and the apex of the prominent abdominal tubercle is slightly cleft. It is quite possible that the form under review may be a distinct variety of *P. multituberculatus*, or even an undescribed species, but as the larger of the two examples in front of me is probably only about half-grown, and does not, of course, exhibit an *epigynum*, it is better to let the matter remain in abeyance for the present.

*Hab.*—Gordonvale, two specimens, both immature; the smaller one was collected by "sweeping" at top of coastal range, at 1,500ft., May 29, 1913, and the larger from an orb-web in forest, August 31, 1912.

POLTYS MICROTUBERCULATUS, *sp. nov.*

(Plate xxiii., fig. 44.)

♀ Cephalothorax 3.5 mm. long, 2.8 mm. broad; abdomen 5.1 mm. long, 4.4 mm. broad (Pl. xxiii., fig. 44).

*Cephalothorax.*—Obovate, bilobed, yellow, clothed with long hairs. *Pars cephalica* strongly arched, obtusely acuminate,

constricted, sloping sharply forward and then slightly ascending; *ocular area* equally as long as broad; *clypeus* narrow. *Pars thoracica* strongly arched, somewhat higher than cephalic segment, radial grooves and *median fovea* distinct; *marginal band* broad, slightly paler than cephalothorax. *Eyes*.—Distribution normal; of a pearl-grey lustre, ringed with black. *Legs*.—Moderately long, strong, tapering, hairy, spined, yellow; tibiae, metatarsi, and tarsi annulated with brown; relative lengths: 1, 2, 4, 3. *Pulpi*.—Moderately long, strong, yellow, similar in colour and clothing to legs. *Falces*.—Concolorous with cephalothorax, conical, apices divergent; *fang*, short, well curved. *Maxillae*.—Short, broad, arched, apices somewhat truncated; the latter, as well as inner angles, pale yellow, bases much darker. *Labium*.—Concolorous with maxillae, short, broad, arched, apex rounded. *Sternum*.—Broadly cordate, flat, concolorous with cephalothorax, sparingly hairy. *Abdomen*.—Broadly ovate, overhanging base of cephalothorax, yellowish-grey, and flecked with small but prominent dark (nearly black) markings, and numerous small, dark brown spots; dorsal area rather flat, or but very slightly arched; sides well rounded, and finely pencilled with dark brown; superior surface and sides rough and uneven, and furnished with numerous very small tubercles, the latter imparting a decidedly shagreened appearance. *Epigynum*.—A small yellowish tubercle with two lateral pits, and a short, broad, projecting tongue-like process.

*Hab.*—Gordonvale, forest, taken from folded leaves, September 3, 1912.

*Genus Dolophones Walck.*

DOLOPHONES TESTUDINEA, L. Koch.

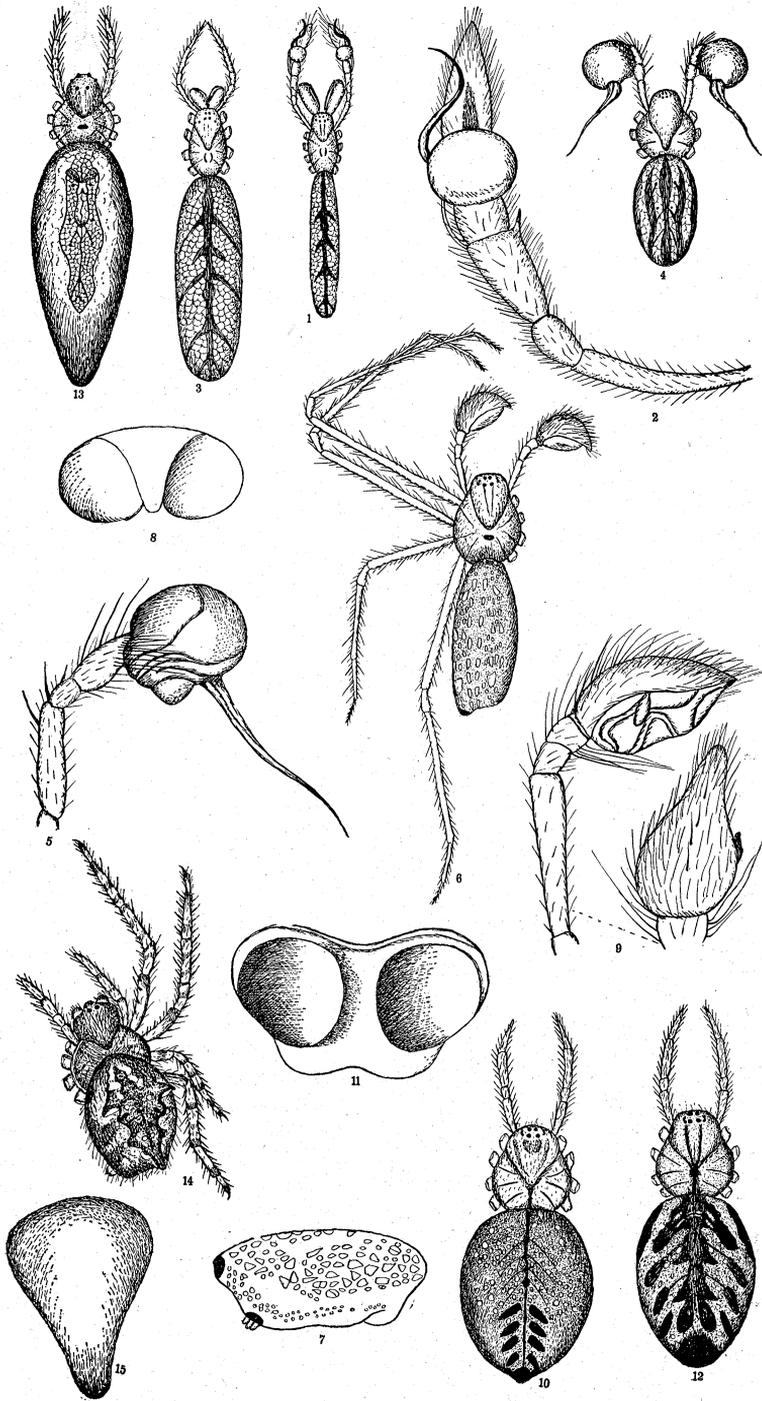
*Tholia testudinea*, L. Koch, Die Arach. des Austr., i., 1871, p. 20, pl. ii., figs. 2, 2a-2c; *op. cit.*, p. 204, pl. xviii., figs. 4, 4a, 4b.

*Obs.*—Only one specimen of this genus was collected, namely, *D. testudinea*, and that an immature and damaged one.

*Hab.*—Pentland, September, 1914.

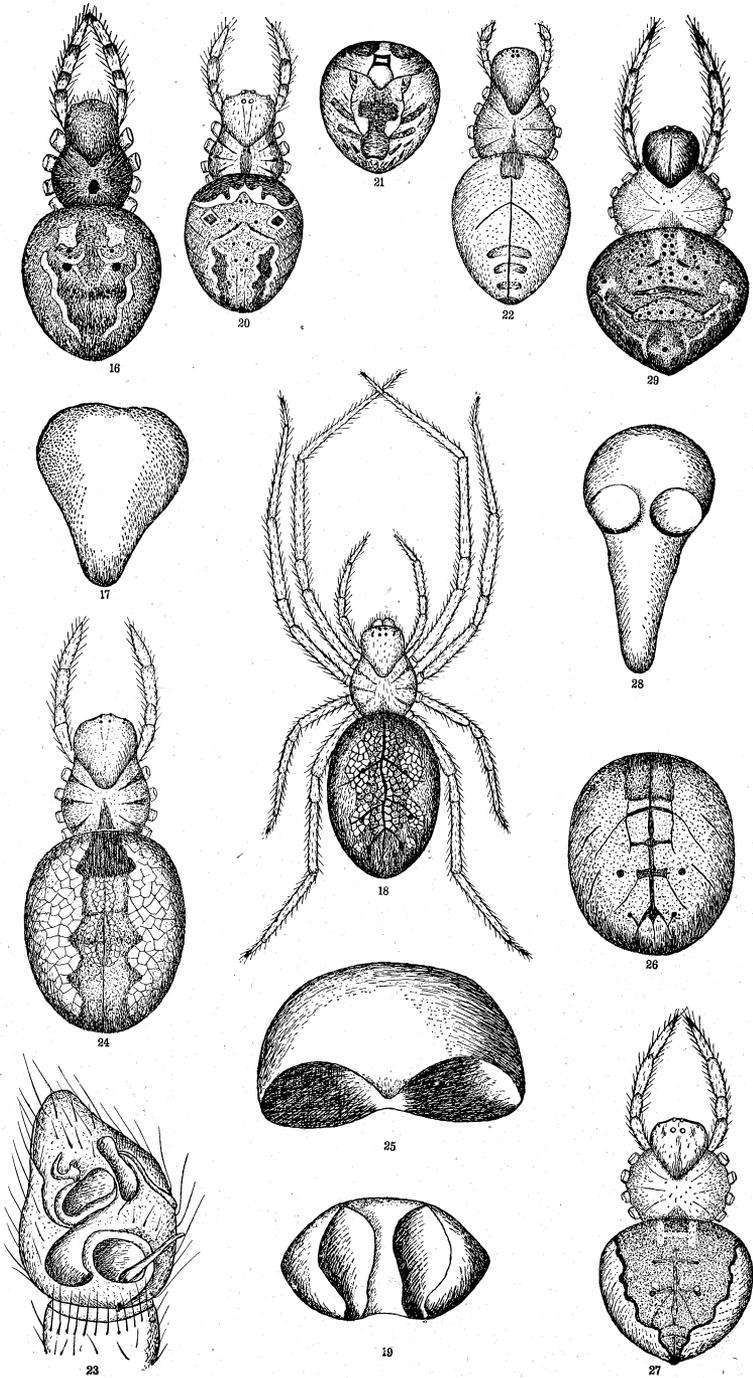
EXPLANATION OF PLATE XXI.

- Fig. 1. *Tetragnatha lepida*, Rainb., ♂  
 " 2. " " " ♂ palpus  
 " 3. " " " ♀  
 " 4. *Meta ornata*, Rainb., ♂  
 " 5. " " " ♂, palpus  
 " 6. " *argentic-punctata*, Rainb., ♂  
 " 7. " " " ♀, abdomen  
 " 8. " " " epigynum  
 " 9. *Singotypa melanopyga*, L. Koch, ♂, palpus  
 " 10. *Deliochus pulchra*, Rainb., ♀  
 " 11. " " " epigynum  
 " 12. " " *var. melania*, Rainb., ♀  
 " 13. *Argiope probata*, Rainb., ♀  
 " 14. *Araneus acachmenus*, Rainb., ♀  
 " 15. " " " epigynum



EXPLANATION OF PLATE XXII.

- Fig. 16. *Araneus* ? *fastidiosus*, Keys., ♀  
 „ 17. „ „ „ epigynum  
 „ 18. „ *favorabilis*, Rainb., ♀  
 „ 19. „ „ „ epigynum  
 „ 20. „ *agastus*, Rainb., ♀  
 „ 21. „ „ „ abdomen, underside  
 „ 22. „ *dianiphus*, Rainb., ♂  
 „ 23. „ „ „ ♂ palpus  
 „ 24. „ „ „ ♀  
 „ 25. „ „ „ epigynum  
 „ 26. „ „ *var. xanthostichus*, Rainb., ♀  
 „ 27. „ *comptus*, Rainb.  
 „ 28. „ „ „ epigynum.  
 „ 29. „ „ „ *var. fuscocapitatus*, Rainb., ♀



EXPLANATION OF PLATE XXIII.

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- Fig. 30. *Araneus* ? *acuminatus*, L. Koch, ♀  
 „ 31. „ „ „ epigynum  
 „ 32. „ *apobleptus*, Rainb., ♂  
 „ 33. „ „ „ *var.*  
 „ 34. „ „ „ ♂, palpus  
 „ 35. „ „ „ ♂, abdomen in profile  
 „ 36. „ „ „ ♀  
 „ 37. „ „ „ ♀, abdomen, side view  
 „ 38. „ *argentarius* „ ♀  
 „ 39. „ „ „ ♀, abdomen, side view  
 „ 40. *Carepalxis lichenis* „ ♀  
 „ 41. „ „ „ ♀, abdomen, side view  
 „ 42. „ „ „ epigynum  
 „ 43. *Poltys* ? *multituberculatus*, Rainb., ♀  
 „ 44. „ *microtuberculatus*, „ ♀

