

extends from Mudgee to Goulburn. Seven of them possess galleries and chambers of considerable extent, and are remarkable for the variety of form and beauty of their stalactites and stalagmites. An underground river, of some interest, flows through two of them.

The other two caverns are merely grand arches rising to a height of about 300ft.

These caves were formerly known as the Binda, or Fish River Caves, and were apparently known to Europeans as early as 1831.

They are about 114 miles from Sydney, and of easy access. The Government recently proclaimed the district in which they are situated a public reserve, erected necessary buildings, and appointed a curator.

ART. XXVIII.—*Descriptions of New Species of Araneidæ.*

By A. T. URQUHART.

[Read before the Auckland Institute, 14th October, 1889.]

Plate XVII.

Fam. EPEIRIDÆ.

Gen. *Epeira*, Walck.

Epeira flavo-maculata, sp. nov.

Female.—Ceph.-th., long, 3·5; broad, 3; facial index, 1. Abd., long, 7; broad, 5·2. Legs, 1, 2, 4, 3 = 14, 12, 11, 8 mm.

Cephalothorax mottled, dull light-brown; hairs very sparse; oval, moderately compressed forwards; pars cephalica slightly convex, ocular prominence low, lateral index nearly equals space between posterior side-eyes; pars thoracica depressed, fovea deep, circular; caput and radial striæ faint; profile-contour represents a low arch; *clypeus* vertical, height about equal to radius of a fore-central eye.

Eyes, fore and hind rows recurved; posterior centrals separated by rather more than their diameter from one another; their space and a quarter from lateral eyes; anterior centrals perceptibly larger than hind pair; their breadth and a quarter from each other, rather less than that interval from posterior centrals; lateral eyes rather smaller than posterior median pair, posited obliquely, their diameter apart, on low, black, tubercular eminences.

Legs and cephalothorax concolorous; slender; hairs yel-

lowish, sparse; spines yellowish; moderately numerous; tibial spines of 1st pair scarcely equal diameter of article in length.

Palpi yellow-brown, terminal joints tinted with olive-green; rather exceeds tibial joint of 1st pair in length.

Falces colour of cephalothorax; vertical, conical, project at base in front.

Maxillæ yellow-brown; scarcely as long as broad, truncated.

Labium yellow-brown; rather broader than long, somewhat pointed, everted, less than one-half length of maxillæ.

Sternum yellow-brown; cordate, slight eminences opposite coxæ.

Abdomen oviform, somewhat depressed above; integument dull slaty-brown, thickly speckled with light stone-coloured yellow-spotted flecks; three pairs of impressed spots—two oblique, somewhat pyriform, slaty-brown marks enclose the first pair; between the hind pair is a swallow-like figure of similar colour; close to it, on posterior side, is smaller and less defined figure, similar in form; from the latter four parallel yellowish lines extend to spinners; ventral surface less thickly flecked. *Vulva* amber-colour; hood rather broader than long, moderately convex, transversely wrinkled; length of scapus vulvæ exceeds depth of hood by one-third, about two-thirds less than it in breadth; transversely rugose; apex calceolate; attached to the scapus, inferior end, are two dark-tinted, sub-conical, wing-like projections.

A single example of this species was contained in a collection kindly sent me by *T. Kirk, Esq., F.I.S.*, from Wellington.

Epeira albo-stricta, sp. nov.

Female.—Ceph.-th., long, 3.2; broad, 2.8; facial index, 1. Abd., long, 7; broad, 6.5. Legs, 1, 2, 4, 3=12, 11.5, 11, 7 mm.

Caput sienna-brown clouded with brown, thoracic part light olive-brown, margins suffused with olive-green; almost glabrous; oval, moderately compressed forwards; pars cephalica slightly convex, roundly truncated, ocular eminence moderately developed; lateral index equals facial; pars thoracica moderately convex; fovea not deep; normal grooves slight; profile-contour rises from thoracic junction at an angle of 40°, slopes forwards with an even line, rising slightly at eye-eminence; *clypeus* in depth exceeds diameter of a fore-central eye.

Posterior row of *eyes* perceptibly recurved, median pair on dark spots; separated from each other by an interval visibly exceeding an eye's breadth; nearly their space and a half from

side-eyes of same row; anterior row recurved; centrals, which equal hind pair in size, form with them a trapezoid widest in front; placed rather further from each other than they are from posterior pair; lateral eyes rather smallest of eight, posited obliquely, their radius from each other, on low, separate, tubercular prominences.

Legs, femoral joints of first and second pairs pale yellowish-red, streaked and faintly banded with reddish-purple; other articles straw-colour, apices of metatarsi and tarsi reddish-brown; thighs of third and fourth pairs have a deeper purple tinge; tibiæ and metatarsi rather more pronounced annuli, which are in first pairs scarcely perceptible. Legs rather slight; hairs pale, very sparse; spines straw-colour, base dark, moderately numerous; tibial spines on first pair equal diameter of article in length.

Palpi straw-colour, moderately armed with hairs and slender spines.

Falces glossy, deep straw-colour, faintly suffused with olive-green; conical, vertical, about as long as a femoral joint of second pair.

Maxilla yellowish, base dark; spathulate, rather longer than broad, inclined towards each other.

Labium dark-brown, apex pale greenish-yellow; about as long as broad, pointed, everted.

Sternum chocolate-brown, yellow mark in centre; cordate, eminences opposite coxæ.

Abdomen, base rounded, projects over cephalothorax; depressed above; rather longer than broad between humeral protuberances, which are only moderately developed; ground-colour creamy-white, suffused with curved, intricate, broken lines, formed by small purple dots; a broad, undulating, creamy-white, purple-margined band connects the humeral prominences; at either extremity of band is a large black patch, chiefly on the fore-side; a looped chain of rather large whitish spots converges forwards from base of tubercles, convexity of loops directed backwards; base of abdomen covered with rather large whitish spots intersected by purple lines, few black stains. Coloration on ventral surface runs into oblique, undulating broken streaks; shield brownish, margins not well defined, two pairs of pale impressed spots. *Corpus vulvæ* yellow amber-colour; represents a rather convex transversely-wrinkled area, about twice as broad as long at curvature; scapus very broad, contracts a little in front; margins display two large, somewhat ear-shaped lobes, intersected by a parallel convexity formed by three well-defined rings, to which the apex of the scapus, a broadly-conical cap, is closely articulated.

Taken on *Leptospermum*, Bluff, Otago, A. T. U.

Epeira guttatum, sp. nov. Plate XVII., fig. 4.

Female.—Ceph.-th., long, 3; broad, 3; facial index, 1.2. Abd., long, 8; broad, 8. Legs, 1, 2, 4, 3 = 12, 11, 10.5, 7 mm.

Cephalothorax light brownish-yellow, cephalic part suffused with lake about the eye-area, clouded and streaked with olive-brown; thorax lightly suffused with olive-brown; hairs yellowish, short, sparse; length equals tibia of a leg of 1st pair; sides well rounded, lateral constriction at caput tolerably strong; pars cephalica moderately convex, ocular eminence low, lateral index equals facial; pars thoracica somewhat convex, fovea rather circular, normal grooves moderately defined; profile-line dips from limit of caput to thoracic junction at an angle of 45°, slopes less abruptly forwards; depth of *clypeus* equals breadth of a fore-central eye.

Fore and hind row of *eyes* moderately recurved; curvature of posterior line nearly equals that of the anterior; eyes on dark rings; hind-centrals equal fore-centrals in size, divided by an eye's breadth, rather more than their space from laterals of same row; anterior median pair separated from each other by their diameter and a half, rather less than that interval from posterior centrals; laterals rather smallest of eight, interspace perceptibly less than their radius, posited obliquely on moderately strong tubercles.

Legs brownish-yellow; femora of first and second pairs lightly suffused with lake colour; tinge more pronounced on femoral joints of third and fourth, which have broken chocolate-brown rings on the fore-end; tibiæ, metatarsi, and tarsi have two brown annuli; annulations on front pairs faint; hairs sparse; spines yellowish, dark base, moderately strong, and numerous.

Palpi brownish-yellow; light-coloured hairs and spines; equal in length to metatarsal and tarsal joints of 2nd pair.

Falces yellowish, green tinge, clouded with olive-green; conical, gibbous at base in front, vertical, nearly equal in length to radial and digital joints of palpus.

Maxillæ obtusely pointed, nearly as broad at fore-end as long, inclined towards *labium*, which is oval, nearly as long as broad; organs dark chocolate-brown, greenish-yellow apices.

Sternum dark chocolate-brown, yellow central mark; broad-cordate, eminences opposite *coxæ*.

Abdomen somewhat oviform, moderately depressed above, projects over base of cephalothorax; humeral tubercles moderately prominent; hairs very sparse; ground-pattern formed by a series of intricate sinuate curved lines, and flecks of a purple-tinted white colour, intersected by purple streaks; base thickly spotted with large creamy-white lobate flecks, which gradually transform into broken oblique streaks on lateral

margins; this group of flecks on the posterior side forms a somewhat even line, converging forwards from base of humeral processes; a series of large disconnected flecks curve round fore-side of tubercles and form two procurved loops, leaving an open space between them and the similarly-curved margin in front; four dark impressed spots form a trapezoid, narrowest in front; shield-like figure on ventral surface somewhat linear-ovate; brown, purple spots; four impressed dots represent a nearly quadrilateral figure. *Vulva* displays a clouded brownish-yellow, transversely rugose corpus, flattened above, widening out at base of the scapus vulvæ, whose curvature is somewhat abrupt; scapus large, contracts a little forwards, margins represent two large ear-like lobes, intersected by a wrinkled, subcylindrical truncated ridge; the broad, conical, cap-shaped apex of the scapus vulvæ is attached to a rather short transversely-wrinkled petiole projecting from within the central ridge.

This specimen was taken on *Leptospermum*, Bluff, Otago, A. T. U.

Epeira ostri-brunnea, sp. nov. Plate XVII., fig. 5.

Female.—Ceph.-th., long, 4.5; broad, 4; facial index, 2.4. Abd., long, 9; broad, 8.5. Legs, 1, 2, 4, 3 = 16, 15, 14, 9 mm.

Cephalothorax lake-brown; hairs on thoracic part whitish, rather sparse; length equal to patella and tibia of a leg of 4th pair; sides moderately rounded; lateral constrictions at caput slight; pars cephalica only moderately depressed above, mammiform eminences and eye-prominence somewhat pronounced; lateral index scarcely exceeds one-half facial; pars thoracica convex, indentation transverse; normal grooves slight; profile-line rises from thoracic junction at an angle of 20°, represents a slight curve across caput, rising at ocular prominence; *clypeus* inclined somewhat inwards, depth exceeds diameter of a fore-central eye.

Fore and hind row of *eyes* about equally recurved; centrals form a nearly quadrilateral figure, slightly widest in front; posterior centrals nearly one-third smaller than anterior pair, separated from one another by an interval scarcely exceeding twice their diameter, divided from fore-pair by an eye's breadth and a quarter; twice their space from laterals of same row; interval between anterior centrals perceptibly exceeds their breadth; divided by their space and a half from side-eyes; laterals about one-fourth the size of fore-centrals, posited obliquely, their diameter from each other, on separate tubercles fore-tubercle stoutest.

Legs, femoral joints dark-lake, clouded, especially hind pairs; other joints yellowish; patellæ somewhat suffused

with brown; tibiæ and metatarsi have three brownish annulations, tarsi two; legs rather slender; hairs sparse; spines yellowish, dark base; tibial spines of first pair less than breadth of article in length.

Palpi have the brownish tints of legs, digital joint fairly armed with hairs and spines.

Falces red mahogany-colour; conical, vertical, project at base in front, about equal to the pars femoralis of a leg of first pair in stoutness.

Maxillæ dark-brown, yellowish apices; broad-spathulate, width nearly equals length, moderately inclined towards each other.

Labium colour of maxillæ; large, nearly as long as broad, roundly pointed.

Sternum glossy, brown-black; few white hairs; cordate, rugulose, eminences opposite coxæ.

Abdomen somewhat of a broad-ovate, rather depressed above; humeral and posterior tubercles slightly developed, latter consist of five in normal position; few white hairs chiefly on base; folium moderately acute-crenate; light-brown, dark narrow border, numerous small brown spots, and creamy-coloured flecks with a purple centre; between the two fore-pairs of impressed spots is a brown broad-lanceolate figure, spotted and bordered with a deeper tint, connected with a similar but smaller and more irregularly-shaped mark above the anterior pair of spots; this mark is followed by a dark oval spot; from the latter a rather narrow irregular band curves round base of abdomen; lateral margins have the normal spots and flecks; a brown, undulating, horizontal streak somewhat divides the chocolate-brown superior zone from the lower lighter-toned parts; ventral surface light-brown; obliquely corrugated, corrugations streaked with black-brown; shield olive-tinged slate-colour, bordered with flecks of a paler tint, each lateral fleck encloses a small depression; shield tumid between branchial opercula; a series of eight pits form a V-shaped figure in centre. *Corpus vulvæ* yellowish; cucullate, transversely wrinkled, fore-margin of cucullus involute, centrally drawn out into a brownish, transversely rugose scapus; wrinkles extend across margins, which are only moderately tumid; length of scapus vulvæ equal to the reddish stilis.

Single example, Waiorongomai Gorge, A. T. U.

Epeira albi-scutum, sp. nov.

Female.—Ceph.-th., long, 4; broad, 4; facial index, 1·8. Abd., long, 6; broad, 5. Legs, 1, 2, 4, 3 = 15·5, 14·5, 13, 8 mm.

Cephalothorax yellowish-brown, tinged with olive-green;

caput and lateral margins clouded with chocolate-brown; rather sparsely clothed with light hairs; length scarcely equals the patella and tibia of a leg of 4th pair; sides well rounded; lateral constriction at caput moderate; pars cephalica somewhat depressed, roundly truncated, eye-eminence moderately prominent, facial index less than one-half breadth of thorax, lateral index equals space between posterior lateral eyes; median indentation on pars thoracica deep; radial striæ faint, caput stronger; contour of profile rises with a slight curve to limit of caput, slopes to thoracic junction at an angle of 40° ; depth of *clypeus* scarcely equals diameter of a fore-central eye.

Posterior row of *eyes* recurved, median pair nearly an eye's breadth apart, rather more than a diameter's interval from anterior centrals, divided from lateral eyes by their space and a quarter; anterior row recurved; centrals about equal to hind pair in size, rather further from each other than they are from posterior pair, nearly their space from side-eyes; laterals about one-third smaller than centrals, seated obliquely, perceptibly more than their radius from one another, on moderate tubercular prominences.

Legs moderately strong; yellowish, femora suffused with lake-chocolate; patellæ brown; annulations on two first pairs scarcely perceptible; tibiæ of hind pairs have two broad, somewhat confluent, chocolate-coloured rings; annulations on metatarsi less pronounced; hairs light-yellow; spines on femoral, genual, tibial, and metatarsal joints rather long and numerous, yellow.

Palpi yellow; hairs sparse; spines slender; length 4.2 mm.

Falces yellowish, clouded with olive-green; conical, moderately gibbous in front, inwardly inclined.

Maxillæ, fore-end dilated, somewhat pointed, inclined towards *labium*, which is rather broader than long, pointed, everted; organs dark chocolate-brown, yellowish apices.

Sternum cordate, eminences opposite *coxæ*; dark chocolate-brown, median streak yellow.

Abdomen broad-oviform, somewhat angular, projects over base of cephalothorax, humeral processes moderately developed; dorsal shield creamy-yellow, few lake spots; hairs white, sparse; base somewhat angular, tapers to spinners; four impressed spots form a trapezoid narrowest in front; lateral margins yellow-brown, clouded with brown, except the upper part of basal end, which is a blackish chocolate-colour; sparsely clothed with dark hairs, few bristles; dash of red-lake on ventral surface, shield dark-green bordered with creamy-yellow. *Corpus vulvæ* represents a transversely-wrinkled, glossy, dark amber-coloured hood, drawn out into a broad scapus, margined with a wide elevated beading; about as broad

across curvature as long, compressed a little forwards, terminates with a rather shortly-articulated calceolate apex.

Te Karaka, A. T. U.

Epeira dubitabilis, sp. nov. Plate XVII., fig. 3.

Male.—Ceph.-th., long, 3; broad, 2.7. Abd., long, 3.3; broad, 3. Legs, 1, 2, 4, 3 = 15, 13, 9.7, 7.6 mm.

Cephalothorax light olive-tinted brown; moderately clothed with light-yellowish hairs; depressed, sides rounded; facial index 1mm., lateral index scarcely equals one-half former; ocular prominence moderate; thoracic indentation longitudinal; caput and radial striæ slight; contour of profile represents a low arch; depth of *clypeus* about equal to radius of a fore-central eye.

Fore and hind rows of *eyes* recurved; posterior centrals about an eye's breadth from each other, divided by rather more than that interval from fore-median pair; perceptibly more than their space from lateral eyes of same row; anterior centrals rather further from one another than they are from posterior pair, which they equal in size; lateral eyes smaller than centrals by one-half, posited obliquely, less than their radius from one another, on tubercular eminences; fore-tubercle strong.

Legs brownish-yellow, femora of first and second pairs mostly suffused with a deeper shade; two broad, somewhat faint, annuli; patellæ reddish-brown; two faint annulations on tibiæ; shading on the femora of third, more especially fourth pair, reddish-mahogany colour, rings olive-brown; patellæ suffused; more or less defined annulations on tibial and metatarsal joints; legs moderately stout; pars tibialis cylindrical; hairs whitish, sparse; femora of first and second pairs have, besides a few spines on superior surface, a cluster of about 13 long spines beneath; few spines on the patellar joints; tibiæ have respectively 15 + 12, exceeding diameter of articles in length; 6 on metatarsi; thighs of posterior pairs sparsely armed on superior surface; 4 on patellæ; about 7 + 10 on tibial, 7 + 11 spines on metatarsal joints.

Palpi yellowish; humeral joint exceeds cubital and radial in length; pars cubitalis broad-oval, flattened above, projects in front two long bristles; pars radialis produced on outer side into a large, depressed, somewhat conical, downward-directed process, projecting a short conical spur near its base on inner side; pars digitalis large, lamina bulbi yellowish, tinge of olive-green; oval, base produced into a stout somewhat conical process, 2.5mm. long, nearly as broad at base as long, curved slightly backwards; prolonged on outer side into a strong, curved, lake-brown apophysis; border beneath the yellowish semi-globose cap of *bulbus genitalis* chocolate-

brown; tumid, vertically rugulose, fore-part developed into a stout backward-curved process; projecting downwards from within concavity of bulbus are four appendages; the basal is blackish-lake, broad, bifurcate, convex on posterior side; central process yellowish, pointed-oval, concave in front; anterior appendage black-lake, broad, curved backwards; just in front of the central process is a stout up-curved projection; springing from near base of the central process, and curving round its apex, is a moderately long and slender semi-pellucid yellowish apophysis.

Falces flavescens, suffused with olive-brown; vertical, somewhat conical, rather divergent at apex.

Maxillæ fulvous, base suffused with olive-green; about as broad as long, rounded; projects at extremity, on outer side, a brownish, stout, conical process; inclined towards *labium*, which is broader than long, pointed; fulvous, base olive-green.

Sternum chocolate-brown, yellowish-green oblong figure in centre; cordate; eminences opposite coxæ.

Abdomen depressed above, base pointed, tapers posteriorly from humeral processes, which are slightly developed; sparsely clothed with light hairs; ground-colour dark-brown; an undulating, creamy-coloured, purple-spotted band, connecting the humeral processes, encloses anterior pair of impressed spots; prolonged on fore-side into a broad, olive-green, spotted petiole curving round base; on posterior side of transverse band are five olive-green, purple-spotted, somewhat irregularly-shaped transverse bars; anterior bar, angular, marked with a few pale flecks, connected at apex with humeral band; third, fourth, and fifth bars have creamy-coloured, purple-spotted patches increasing in breadth; shield on ventral surface black, margins undulating.

Single example, captured on *Leptospermum*, Bluff, Otago, A. T. U.

Epeira tri-notata, sp. nov.

Male.—Ceph.-th., long, 4; broad, 3. Abd., long, 5; broad, 3. Legs, 1, 2, 4, 3 = 18.5, 16, 12, 9 mm.

Cephalothorax, sides lightly suffused with olive-brown; median band pale raw-sienna, broad, undulating, equals eye-area in breadth; a lake-coloured streak runs forwards in a slight groove from thoracic fovea, radiates at base of caput; few fine yellowish hairs on thoracic part; broad-oval; lateral margins of caput fairly constricted; pars cephalica somewhat depressed, limited by an indentation; ocular eminence rather broad and prominent; pars thoracica moderately convex, fovea rather shallow; radial and caput striæ faint; profile-line represents a low, rather even arch; height of *clypeus* visibly exceeds the diameter of a fore-central eye.

Posterior row of *eyes* perceptibly recurved, median pair visibly smaller than fore-centrals, seated on black, oval spots, slightly over an eye's breadth apart, their space and one-third from laterals of same row; anterior row moderately recurved, centrals on black rings, rather closer to hind pair than they are to one another, an interval equalling their diameter and one-half; two-thirds their space from side-eyes; laterals posited obliquely on low, blackish, tubercular eminences, separated from each other by an interval surpassing their radius.

Legs fulvous, fore-end of femoral joints of first and fourth pairs have a raw-sienna tinge, limited below spines by a broken, on outer side, olive-green ring; this shading resolves itself on the second pair into two, and on the third one broad ring, faint on outer side; patellæ have two annuli; tibiæ and metatarsi have central and apical rings, somewhat obliterated on latter articles; legs rather slight; coxæ of first pair project a short curved process; tibiæ cylindrical; hairs sparse, light; femora of first pair have 10 spines on superior surface, 21 on inferior side; latter spines longer and stronger than those of second pair, which are armed with 12 above, 16 below; patellæ 5; tibial joints of two first pairs about 20 spines, not much surpassing diameter of articles in length; metatarsi about 10; femoral joints of third pair about 15; patellæ 5; tibiæ 15; metatarsi 7; femoral joints of fourth, about 5 on superior surface, 15 mostly strong spines beneath; tibiæ 13; metatarsi 9.

Palpi fulvous; humeral joint rather exceeds cubital and radial together in length; former article—viewed from above, somewhat ovate—projects in front two long strong bristles; radial joint short, cupuliform, produced on outer side into a stout somewhat triangular process, longer than broad; pars digitalis large, somewhat globose; lamina bulbi brownish tinge, few whitish hairs; oval; base produced into a slightly-curved conical prominence, directed towards falces; prolonged outwardly into rather broad, curved, red-brown process; bulbus yellowish; projecting from within the partially-cleft crown is a reddish-brown, semicircular, tongue-like lobe; most remarkable appendages—near base, directed downwards and slightly backwards, is a brownish, dark-margined, elongate, horny lamellar process, whose inner fore-angle is prolonged and curved; in front of latter organ is a pale-yellow lamellar process of about equal length, curved forwards, apex dilated, rounded, emarginate; beneath a sharply-tapering inward-curved lobe, representing the frontal line of bulbus genitalis, is a pale broad membrane, tapering into a blackish apophysis, curving backwards to the above-mentioned organ; projecting inwardly from near base of membranous appendage is a

moderately long flattish process, fore-half blackish-brown, constricted.

Falces and cephalothorax concolorous; somewhat conical and divergent, vertical.

Maxillæ yellowish, base lightly suffused with brown; rather longer than broad, rounded; inclined towards *labium*, this organ has an olive-brown tinge, apex pale; breadth rather surpasses length, pointed, everted.

Sternum yellowish; cordate.

Abdomen oviform, moderately convex above; hairs light, very sparse; suffused with creamy-coloured purple-tinted flecks, spotted and bordered with purple; folium grey shade, margins acute-crenate, posterior side of crenatures bordered with brown; above, and in contact with anterior pair of impressed spots, is a large, creamy-white, purple-margined, elliptical transverse figure, centrally intersected by a purple line; between this line and the above-mentioned spots the figure is prolonged into two short conical projections; a series of moderately large spots of normal colour, but of unequal size, form a transverse row in front of elliptical mark; extending backwards from the second pair of impressed spots is a figure of nearly equal size and similar coloration as the anterior mark, pointed at either end, centrally constricted; slightly removed from its posterior apex is a moderate-sized transverse oval spot, of normal colours; ventral surface light stone-brown; shield slaty-brown, margins thickly flecked with dull-white.

Captured up the Waiorongomai Gorge, Te Aroha, A. T. U.

Var. *olivinia*, var. nov.

Colour and markings of *cephalothorax*, *legs*, and *palpi* have a deeper tinge than obtains in *E. tri-notata*; folium and lateral margins of *abdomen* do not differ essentially from the above-mentioned species, except that they have an olive-brown colour, and the former is comparatively darker. (Probably fresh specimens would have purple tints.) The basal creamy-white (elliptical) figure is divided by a rather broad line, represents two somewhat reniform leaf-like marks; the conical projections are in this variety prolonged into short petioles, curving round the impressed spots; the central mark less constricted, fore and hind extremities rounded; posterior spot smaller, and separated by a wider interval from the central mark.

This interesting specimen was contained in Mr. T. Kirk's Wellington collection.

Epeira mulleola, sp. nov.*

Male.—Ceph.-th., long, 4.5; broad, 4. Abd., long, 4.7; broad, 4. Legs, 1, 2, 4, 3 = 16, 14, 13, 9 mm.

Cephalothorax light chestnut-brown; margins suffused with olive-brown; hairs whitish, somewhat sparse; pars cephalica depressed; central indentation somewhat quadrilateral; pars thoracica moderately convex, indentation cruciform, red chestnut-colour; profile-contour arched across thorax, slopes forward.

Eye-eminence prominent; anterior centrals rather exceed posterior pair in size, form with them a quadrilateral figure broadest in front; lateral eyes separated by an interval equaling their radius, posited obliquely on tubercular prominences; fore-tubercle prominent.

Legs yellowish, femoral joints shaded with chocolate-brown, on superior surface; brownish annuli on tibial, metatarsal, and tarsal joints; tibiae of second pair stouter than same article of first pair, armed with stronger spines; pars tibialis of first pair rather slender, somewhat incrassated at fore-end, spines exceed diameter of article in length; coxal joint projects a short, curved, reddish process.

Palpi yellowish-brown; humeral joint about twice length of cubital; latter article broad-spathulate, projects a long strong bristle at apex; radial joint prolonged downwards, on outer side, into a somewhat spathulate, light-yellow process; pars digitalis large, broad-oval; lamina ovate, apex curved downwards; base produced into a curved, lake-coloured process, laminæ directed towards each other; moderately hairy; yellow-brown, clouded with olive-green; genital bulb complex—most conspicuous organs in front; and directed backwards is a bright orange-red oval process; between latter process and a large, bifurcate, blackish appendage, is a somewhat cordate yellow-brown process surpassing former in size.

Falces long, somewhat slender, concave on outer side; yellowish, clouded with olive-green.

Maxillæ nearly as broad as long, somewhat pointed, inclined towards *labium*, this organ is nearly as large as maxillæ, similar coloration, chestnut-brown, pale apices.

Sternum cordate; chocolate-brown; few white hairs.

Abdomen moderately angular in front; slaty stone-colour; folium stone-colour, resembles female somewhat in form and markings; on lateral margins are rather obscure interrupted streaks of a dark-brown colour; ventral shield greenish-black, margins yellow.

Te Karaka, A. T. U.

* Female described and figured in "Trans. N.Z. Inst.," vol. xx., p. 118.

Gen. **Tetragnatha**, Latr.

Tetragnatha typica, sp. nov. Plate XVII., figs. 6 and 7.

Female.—Ceph.-th., long, 4.5; broad, 2.8. Abd., long, 10; broad, 4. Legs, 1, 2, 4, 3 = 34, 23.5, 22.5, 10 mm.

Cephalothorax light sienna-brown; median band broad, tapers from occiput to base of thorax, chocolate-brown; lateral margins and striæ similar colour; nearly glabrous; oval, lateral constriction at caput slight; pars cephalica depressedly convex; ovate central indentation; eye-eminence moderate, somewhat conical; facial index rather more than one-half breadth of pars thoracica; latter depressed, displays two deep narrow-ovate indentations, apices converge forwards to limit of caput; radial striæ faint; contour of profile slopes moderately backwards to thoracic indentation, displays posteriorly an obtuse conical prominence; *clypeus* inclined perceptibly inwards, depth about equal to diameter of a fore-central eye.

Posterior and anterior rows of *eyes* moderately recurved, former rather the shortest; median eyes of hind row perceptibly closer to one another than they are to laterals; rather smaller than fore-centrals, visibly larger than side-eyes of their own line; anterior median pair seated obliquely on an eminence, perceptibly more than an eye's breadth apart, rather more than that interval from hind pair, with which they form a trapezoid, narrowest in front; lateral eyes posited on low, black, tubercular eminences, interval between them nearly equals that between fore- and hind-centrals; posterior pair visibly the largest.

Legs fulvous; slender; hairs fine, sparse, yellowish; few bristle-like spines on femora, patellæ, tibiæ, and metatarsi; superior tarsal claws moderately curved—first pair, 13 close comb-teeth, increasing somewhat in size; inferior claw rather long and strong, 2 close teeth.

Palpi colour and armature of legs; palpal claw well-curved, 15 comb-teeth, increasing in size.

Falces yellow mahogany-colour; equal cephalothorax in length; cylindrical, strongly projected, divergent, beneath fore-extremity on outer side is a rather strong tooth-like process; 9 teeth in superior row, increasing somewhat in size, third tooth from fore-end rather the longest; inferior row 11 teeth, second, third, and fourth from apex rather the weakest.

Maxilla yellowish-brown; long, linear, apex rounded and somewhat enlarged on superior side, moderately divergent.

Labium chocolate-brown; everted apex yellowish; conical, base collar-like; more than one-third length of maxillæ.

Sternum yellowish-brown; cordate.

Abdomen somewhat cylindrical, tapers posteriorly, base

emarginated; hairs fine, sparse; dorsal figure chocolate-brown; somewhat lanceolate, sinuate; encloses a light-brown mark, speckled with yellowish-white, basal half conforms somewhat to outer sinuations, posterior half tapers rapidly; two brown lines, curving obliquely backwards, spring from the constriction in the dorsal pattern above its greatest width; lateral margins display broad, thickly-flecked, sinuate bands; upper third forms a yellowish-white border to the median figure, shades off to a light-brown beneath; ventral surface dark-brown. *Corpus vulvæ* represents a narrow semicircular hood; brownish, margins light; projecting backwards from within is a broad-conical (relievo) brown eminence, furnished with a few short black hairs.

Cephalothorax and legs in some examples have a dark amber-colour.

Male.—Ceph.-th., long, 4; broad, 2.5. Abd., long, 8; broad, 2. Legs, 1, 2, 4, 3 = 33, 28, 22, 10 mm.

Cephalothorax yellow-brown, suffused above with red-mahogany; thoracic radii streaked with a similar colour; lateral border dark-brown; hairs light, very sparse; oval, slightly constricted forwards; pars cephalica depressedly convex, eye-eminence somewhat conical, moderately prominent; facial index rather exceeds one-half breadth of thorax, which is somewhat depressed; indentation resembles female, normal grooves slight; profile-line represents a moderate curve across occiput, caput slopes slightly into fovea, arched behind; depth of *clypeus* rather exceeds the diameter of a fore-central eye.

Legs brownish amber-colour; pars femoralis and tibialis of first pair of equal length, rather shorter than penultimate article; armature fine hairs; about 9 slender bristle-like spines on femora of two first pairs; 4 + 6 on third and fourth; 1 spine on patellæ; 6 on tibiæ of first and second; 3 + 7 on tibial joints of third and fourth pairs; 3 on metatarsi of two anterior pairs; 5 + 3 spines on latter joints of hind pairs.

Palpi and legs concolorous; slender; pars humeralis about one-fourth longer than cubital and radial joints together; former article shortest by one-fourth; fore-end of radial joint somewhat incrassated; digital joint equals radial in length; lamina beneath bulbus, furnished with long hairs; basal half (rather less) folds round base of clava, forming a cleft cup-shaped receptacle for the bulbus genitalis; fore-half sharply constricted, narrow, linear, apex obliquely truncated; a long, somewhat ear-shaped lamellar process, projecting forwards beyond the bulb, springs from the base of palpus clava, on its inner side, at the cleft in lamina; the bulbus represents a flattened sphere resting in the cup of lamina; of a yellowish

colour, zoned by a broad callus; within the somewhat depressed fore-end of bulbus is a stout, spiral, reddish-brown process, whose free end extends rather beyond apex of the lamina bulbi.

Falces mahogany-brown; equal cephalothorax in length, strongly porrected, divergent, fore-end somewhat incrassated; projecting from apex on upper side is a strong, tooth-like process, with a small blunt tooth on fore-half; superior row of teeth consists of 7 small teeth increasing in size, and 2 stout teeth close to base of fang, posterior tooth strongest; inferior row, 9, increasing in strength, 2 strong teeth near apex:

Maxillæ yellow-brown; long, somewhat enlarged on superior side, apex rounded.

Labium chocolate-brown, yellowish margin; conical, everted.

Sternum chocolate-brown; cordate.

Abdomen, coloration and pattern somewhat resemble the female, shade darker.

This species is rather common in the Auckland District; frequents rushy swamps. About March the female attaches to some object near her snare a subglobose, sometimes rather conical cocoon, about 5mm. in diameter, of a light, loose texture, whitish-brown, with greenish-brown tufts; the eggs are nearly spherical, and of a pale-brown colour, about 95 in number, agglutinated together into a subglobose mass.

Examples of this species were communicated to me by P. Goyen, Esq., of Dunedin, and Mr. T. Kirk's Wellington collection also contained specimens.

Tetragnatha herbigrada, sp. nov.

Male.—Ceph.-th., long, 3.3; broad, 2.8. Abd., long, 5; broad, 2. Legs, 1, 2, 4, 3 = 36, 21, 15, 10 mm.

Cephalothorax brownish-yellow, median band, which tapers from hind row of eyes, clouded with olive-green, sides are lightly speckled and margins bordered by a narrow streak of similar colour; hairs pale, fine, very sparse; oval, fairly compressed forwards; pars cephalica slightly convex above; facial index equal to nearly one-half breadth of cephalothorax; lateral index equals two-thirds of facial; pars thoracica moderately convex, fovea oval, deep; normal grooves rather slight; profile-contour represents a somewhat even low arch; *clypeus* retreats perceptibly, height scarcely exceeds the diameter of a fore-central eye.

Eyes on black spots; posterior row sensibly procurved—nearly straight; centrals nearly an eye's breadth from each other; rather more than that interval from side-eyes; anterior row recurved; centrals posited on a moderate prominence, slightly exceed hind median pair in size; separated from one

another by an interval rather exceeding their radius, and from posterior centrals by more than their diameter; lateral eyes scarcely two-thirds size of fore-centrals, seated obliquely, nearly contiguous, on separate, low, black, tubercular eminences.

Legs brownish-yellow, two or three more or less defined reddish-brown annulations; femora of first and second pairs darkest; long, slender; armature, fine erect hairs, few long slender spines on femoral, genual, tibial, and metatarsal joints.

Palpi light brownish-yellow; coxa long, more than half length of humerus; latter joint nearly twice length of cubital and radial together; penultimate joint nearly twice length of pars cubitalis, base rather slender, breadth at fore-end scarcely equal to one-half its own length; furnished with hairs; pars digitalis somewhat disciform, laminæ broad, somewhat pyriform, moderately hairy, directed towards each other; base of lamina, on upper side, produced into a broad, short protuberance projecting at each angle a short, curved process; a wide, reddish-brown, transverse band is prolonged above into a moderately long curved process; bulbus genitalis spiral, free end curved downwards and forwards, stout, about equal to diameter of bulb in length; springing from beneath base of the free end is a long, fine, black apophysis, which curves round the margin of bulbus to apex of free end.

Falces reddish-brown; stout, prominent at base in front, moderately divergent; length equal to coxa of a leg of first pair, transversely rugulose.

Maxillæ olive-tinged light chocolate-brown; long, strong, divergent, and enlarged at extremities, rounded on inferior side.

Labium dark chocolate-brown, pale apex; nearly as long as broad, everted; transverse indentation; less than half length of maxillæ.

Sternum light chocolate-colour, narrow brown border; cordate, eminences opposite coxæ.

Abdomen elongate-oval, projects over base of cephalothorax, somewhat depressed above; lateral margins rugulose; fulvous, sides suffused with pale golden flecks, those especially bordering median band reflecting a metallic lustre; fore-half of dorsal band somewhat oval, border undulating; posterior half moderately constricted, margins acute-crenate; more or less obliterated above spinners; olive-brown suffused with metallic flecks; encloses a greenish-yellow, elongated, tapering figure, which has a somewhat transverse oval form between the anterior pair of (red) impressed spots; posteriorly it throws off a series of three angular streaks, one at each pair of

impressed spots. Ventral surface displays a yellowish-green elongate-oval figure bordered with metallic flecks, extending from the branchial opercula to spinners; latter brownish, short.

Var. a.—*Cephalothorax* and *legs* shade darker. *Abdomen* dark olive-brown, lightly suffused with lake; interrupted wavy lake-coloured lines intersect the more or less pale-yellowish flecks bordering median band.

Female.—Ceph.-th., long, 3; broad, 2. Abd., long, 3·8; broad, 2·5. Legs, 1, 2, 4, 3 = 23, 14, 11·2, 7 mm.

Cephalothorax fulvous, median band suffused with olive-green; tapers posteriorly from hind row of eyes, defined on caput by a dark streak; sides suffused with similar tinge, border dark; hairs fine, sparse; oval lateral constriction at caput moderate; pars cephalica depressedly convex, facial and lateral index of nearly equal length; pars thoracica convex, fovea large, deep, longitudinal oval; radial striæ faint, caput grooves stronger; profile-contour rises at an angle of 10° across caput, dips to thoracic junction at an angle of 50°; *clypeus* inclined inwards, height about equals diameter of a fore-central eye.

Posterior row of *eyes* sensibly procurved—nearly straight; median pair on dark spots, perceptibly smaller than fore-centrals, separated from one another by rather less than their diameter, more than an eye's breadth from side-eyes; anterior row recurved, centrals posited on a dark moderately prominent eminence; interspace between them scarcely exceeds their radius, separated by rather more than an eye's breadth from hind pair; laterals rather smaller than posterior-centrals, seated obliquely on separate black tubercles, nearly contiguous.

Legs and cephalothorax concolorous; femoral joints have three-fourths of basal end lightly suffused with olive-brown, dark rings near apex; broad ring on patellæ; tibiæ and metatarsi three annulations; legs slender; armature fine erect hairs, slender spines on all joints except tarsi; superior tarsal claws, first pair long, slightly curved, 11 close teeth, increasing somewhat in strength; inferior claw 2 teeth, free end curved, apex forwards.

Palpi colour and armature of legs; palpal claw long, moderately curved, 7 close teeth, irregular in strength.

Falces yellowish-brown, clouded, apices red-chestnut; somewhat conical, gibbous in front, divergent, inclined sensibly inwards, length equal to the patellar joint of first leg.

Maxilla brown, clouded with dark-brown; long, apex rounded, enlarged on superior side, divergent.

Labium darker than maxillæ, less than twice as broad as long, roundly pointed, transverse groove.

Sternum chocolate-brown; broad-cordate, eminences opposite coxæ.

Abdomen elongate-oval; sparsely clothed with fine hairs; dorsal figure lightish-brown, clouded with olive-brown, margins black-brown; flecks dull greenish-yellow or metallic; fore-third somewhat oval, margins undulating; posteriorly constricted to nearly one-half its greatest breadth; constricted part displays two pairs of angular projections, fore-pair short, obtuse, hind pair acute, prolonged; lateral margins olive-brown, oblique dark-brown streak on basal end; flecks dull greenish-yellow with slight metallic reflections; border of creamy-coloured flecks round margin of dorsal figure; ventral surface brownish. *Corpus vulvæ* mahogany-brown; semi-oval projection, slightly convex, large, about as deep as broad across at base.

Examples of this species, especially the males, were not uncommon amongst the damp vegetation about the water-courses up the Waiorongomai Gorge, Te Aroha. Individually they differed somewhat in coloration and markings. *A. T. U.*

Fam. THERIDIIDÆ.

Gen. *Theridium*, Walck.

Theridium zebrinia, sp. nov.

Female.—Ceph.-th., long, 2. Abd., long, 3.5. Legs, 1, 4, 2, 3 = 13.1, 13, 11.5, 5 mm.

Cephalothorax, facial space and median surface yellow-brown, sides and oblong figure extending from fovea to posterior row of eyes olive-brown; glabrous; oval, lateral constriction forwards slight; pars cephalica flatly convex, roundly truncated, lateral index short; pars thoracica depressed; indentation transverse, normal grooves moderately defined; contour of profile represents two low curves; *clypeus* convex, indentation below eyes, projects forwards, depth rather exceeds one-half facial space.

Eyes of moderate and about equal size, on dark rings; posterior row slightly recurved; centrals rather further from each other than they are from laterals of same row; anterior row recurved, median pair separated from one another by an interval perceptibly exceeding an eye's diameter; less than that space from side-eyes, and more than their breadth from posterior centrals; laterals have the pearl-grey lustre of hind median eyes, posited obliquely on low tubercular eminences, nearly their diameter apart.

Legs light yellow-brown, patellæ light-brown; annuli at articulation of all joints have a similar hue; rings more pronounced at extremity of tibiæ; armature, sparse fine hairs.

Palpi colour and armature of legs.

Falces light chestnut-brown; conical, nearly vertical.

Maxillæ yellowish; linear-oval, inclined towards *labium*; this organ is brownish-yellow; oval, broader than long, equal to two-thirds the length of *maxillæ*.

Sternum olive-green, brownish median streak tapers from lip; triangular.

Abdomen oviform; mottled stone-grey; the grey and black, elongate, somewhat serrated folium encloses a yellowish rather broad median band, posterior half undulating; fore-half constricted, represents two somewhat diamond-shaped figures; lateral margins display a series of four dark-grey rib-like streaks, confluent with folium and black ventral surface; shield stone-grey, somewhat quadrate, lateral margins acutely emarginate; yellowish spot on either side of spinners. *Corpus vulvæ* light-brown; simple semi-cylindrical, longitudinal elevation, orifice wide.

Single specimen, Mr. T. Kirk's Wellington collection.

Theridium pusillum, sp. nov.

Female.—Long, 1.7mm. Legs, 4, 1, 2, 3.

Cephalothorax glossy, cephalic parts dark-brown, suffused with black; thorax light-brown, semi-pellucid; marginal band slate-colour; median streak paler shade; few black hairs on caput; clathrate; oval, fairly constricted forwards; pars cephalica convex; eye-eminence broad, projects moderately forwards; pars thoracica convex, fovea large, shallow; normal grooves moderately defined; contour of profile represents an obtuse angle; *clypeus* directed forwards, depth more than equal to one-half facial space.

Posterior row of *eyes* procurved; centrals separated by an interval equal to an eye's breadth and a quarter, perceptibly more than that space from fore-centrals; about twice their diameter from side-eyes; anterior row recurved; median pair rather larger and further apart than are the hind pair; laterals equal posterior centrals in size, have their pearl-grey lustre, posited obliquely on low tubercular eminences, contiguous.

Legs rather strong, moderately long; pale-yellowish stone-colour; fore-half of femora, tibiæ of first and second pairs, and tibiæ of metatarsi, and tarsi of third and fourth, have an orange-brown tinge; armature, coarse black hairs, few erect bristles.

Palpi colour and armature of legs.

Falces yellowish, slight olive-green tinge; somewhat conical, short, equal to about two-thirds depth of *clypeus*, directed slightly forwards and outwards.

Maxillæ elongate-oval, curve over *labium*; yellowish-brown. *Lip* chocolate-brown; semi-circular.

Sternum brownish stone-colour, margins dark; broad-cordate.

Abdomen oviform, convex, projects over base of cephalothorax; somewhat sparsely clothed with short hairs; light-brown, dorsal surface suffused with dark-brown; basal half displays a conspicuous dark-brown Maltese cross, with a rather broad pinkish border, latter prolonged as a moderately wide undulating band to spinners. Ventral surface semi-pellucid slate-colour. *Corpus vulvæ* brown; represents a small truncated cone, orifice at apex; on posterior side is a tumid lip, extending laterally rather further than base of cone. The light-brown branchial opercula placed somewhat close together; in contact with vulva.

Single example, Te Karaka, A. T. U.

Theridium sericum,* sp. nov. Plate XVII., fig. 2.

Male.—Ceph.-th., long, 4; broad, 3. Abd., long, 5; broad, 3. Legs, 1, 4, 2, 3 = 19, 17, 15, 12 mm.

Cephalothorax red-chestnut colour; glabrous; broad-oval, lateral constriction at caput rather slight; pars cephalica depressed, sides somewhat abrupt; pars thoracica convex, fovea nearly circular, deep; caput and radial striæ well-defined; profile-line represents posteriorly a moderate angle, curved slightly across base of caput, rising perceptibly to hind row of eyes. *Clypeus* convex, projects forwards, length rather less than two-thirds depth of facial space.

Anterior row of *eyes* moderately recurved, central pair rather the smallest and darkest of the eight; separated from each other by an interval equal to about three-fourths their diameter, rather less than that space from laterals of same row; posterior row perceptibly procurved, median pair somewhat oval, rather further from side-eyes than they are from one another, a space scarcely equalling their shortest diameter; laterals hardly equal hind centrals in size, have their pearl-grey lustre; posited obliquely, nearly contiguous, on low tubercular eminences.

Legs fulvous, coxæ and base of femora tinged with reddish brown; rather slender, first and fourth pairs somewhat the stoutest; armature, fine black hairs, few slender bristles.

Palpi and legs concolorous; humeral joint one-fourth longer than cubital and radial together; former article viewed from above somewhat oval, scarcely wider than pars humeralis, projects two long bristles; radial joint rather longer than broad at fore-end, tapers to base; slightly exceeds cubital in length; digital joint surpasses two former articles in length; lamina ovate, somewhat elongated, pointed; bulbus

* Female described in "Trans. N.Z. Inst.," vol. xviii., p. 198.

reddish-brown, viewed from beneath spiral; free end long, basal half broad, concave above, tapers forward into a fine black apophysis, which partially encircles the stone-grey truncated apex of genital bulb; this greyish area displays two short, conical, brown eminences; attached just above these eminences, and projecting forwards in contact with the lamina, is a remarkable milky-white, membranous, somewhat spindle-shaped process.

Falces rich red chocolate-colour; somewhat conical; profile convex, fore-half inclined inwards.

Maxilla reddish-chestnut, pale apices; linear, pointed, much inclined over *labium*, which is nearly as long as broad, pointed; mahogany-brown.

Sternum red-chestnut; broad-cordate; covered with small papillæ, projecting black hairs.

Abdomen oviform, convex above; hairs fine, sparse; ground-colour light stone-brown; base and lateral margins marked with numerous vertical and horizontal purple-brown dots and dashes; dorsal field displays a series of four purple-brown, recurved, undulating bands, decreasing in width from fore-end; four anterior impressed spots, which are large and of a reddish colour, occur on the first and second bands; ventral surface stone-brown, light margins.

Males of this species apparently rare. Te Karaka, A. T. U.

Gen. *Latrodectus*, Walck.

Latrodectus katipo, var. *atratus*, var. nov.

Cephalothorax, *legs*, and *palpi* brown; shade darker than type-form.

Abdomen black.

A female specimen of this new *Latrodectus* was handed over to me for determination by Mr. T. F. Cheeseman. The chief difference between it and *L. katipo* is the absence of the red median stripe on the abdomen.

On referring to Mr. C. H. Robson—who first brought the variety under notice—he stated that he first found the spider in 1882, on the north end of Portland Island, off the Mahia Peninsula, Hawke's Bay. The natives assert that the variety is also to be found on the Mahia; but Mr. Robson never met with examples here himself: apparently its range is limited. The localities it affects, its habits, cocoon, and eggs resemble those of *L. katipo*; "and the young are marked exactly like the young of that species." Mr. Robson further states, "but out of hundreds of mature specimens which I have examined not one had a trace of the red dorsal stripe, so distinct a feature in *L. katipo*."

The variety is known to be venomous. When bitten the

natives apply a fire-stick to the wound. Mr. Robson states that "a man engaged in erecting the lighthouse was bitten on the neck, and went quite mad for some time."

Fam. THOMISIDÆ.

Gen. *Stephanopis*, Cambr.

Stephanopis angulatus, sp. nov.* Plate XVII., fig. 8.

Male.—Ceph.-th., long, 3; broad, 2.3. Abd., long, 3.5; broad, 2.5. Legs, 1, 2, 4, 3 = 14.4, 12.5, 7.5, 6 mm.

Cephalothorax yellow-brown, lake-coloured vein-like streaks; short, black, lanceolate dorsal mark, directed forwards from fovea; hairs sparse, short, papilliform, orange-colour; broad-oval, sharply compressed forwards, depressed; caput projects forwards; median ridge slight; normal grooves faint; contour of profile somewhat horizontal, rises at occiput, dips abruptly to thoracic junction; height of *clypeus* exceeds diameter of an eye of first row.

Posterior row of *eyes* sensibly recurved, perceptibly smaller than laterals of same row, separated from one another by rather more than the diameter of an eye, and from side-eyes by a space rather exceeding the interval; anterior row represents a recurved semicircle; median pair less than one-half size of posterior centrals, separated by twice their diameter's distance, nearly that interval from side-eyes, which are about twice the size of hind laterals.

Legs yellow-brown, speckled with lake; first and second pairs stoutest; hairs sparse, papilliform hairs yellow; femora of first pair have a few short spines; tibiae 5-5; metatarsi 4-4; tibial joints of second pair 4-4; metatarsi 4-4; third and fourth pairs devoid of spines; tarsal claw of first pair short, stout, free and well-curved, inner claw 6 small and 1 strong terminal teeth, outer 3 coarse curved teeth; compound sessile hairs; claw-tuft exceeds claw in length.

Palpi yellowish; humeral joint rather exceeds cubital and radial together in length; pars cubitalis rather longer than broad, projects a short black bristle on inner side; pars radialis about equals former article in length but is somewhat sligher, produced on outer side into a membranous black-tipped apophysis, concave above, apex sharply constricted and curved; furnished with few bristles; digital joint rather longer than humeral; lamina large, ovate, base on outer side prolonged into a stout, pointed membranous process, convex above; furnished with few hairs; bulbus genitalis, basal two-thirds pale flesh-colour, brownish tinge; oval, diagonally trun-

* Female described as *Sparassus angulatus* in "Trans. N.Z. Inst.," vol. xvii.

cated in front, on face of truncation is a somewhat quadrate lobe, in relieve, of a deeper hue; two black semi-detached apophyses follow the margins of the lamina, curve downwards beyond the bulb; fore-apophysis has the shortest curve.

Falces yellowish, lake stains; vertical, somewhat conical, slightly divergent, rather shorter than pars digitalis of palpus.

Maxilla linear-conical, long, inclined toward *labium*, which is conical, more than one-half length of maxillæ; organs yellowish.

Sternum ovate; eminences opposite coxæ; few hairs; yellowish.

Abdomen aplanate above, base displays a slight angular notch; broadest between posterior subconical projections, which are directed backwards and slightly outwards; from these tubercular projections abdomen represents a triangular area dipping somewhat abruptly to spinners; sides abrupt; marginal zone longitudinally wrinkled; colour of cephalothorax, with vein-like lake-coloured streaks; blackish semi-circular patch on concave margin between tubercular prominences; lateral margins and ventral surface brownish, clouded, and streaked with black-brown and lake.

Waiorongomai Gorge, Te Aroha, A. T. U.

Fam. LYCOSIDÆ.

Gen. *Cycloctenus*, L. Koch.

Cycloctenus lepidus, sp. nov. Plate XVII., fig. 1.

Female.—Ceph.-th., long, 4.5; broad, 4. Abd., long, 5; broad, 3. Legs, 4, 2, 1-3 = 16.5, 15.5, 14.5 mm.

Cephalothorax fulvous, markings fuscous, indentation reddish; marginal band narrow, projects across the border hem 14 acute marks, 7 on each side; radial eminences have vein-like streaks, and terminate with irregular angular marks, nearly alternating with those of the marginal band; from limit of caput two lines follow the grooves, and two broader lines radiate nearly to posterior eyes; fringe of white hairs beneath marginal zone; length equal to the patella and tibia of a leg of third pair; pars cephalica somewhat quadrate, depressed above, sides moderately abrupt; pars thoracica circular, convex, indentation narrow, longitudinal; radial and caput striæ well-defined; profile-contour rises from thoracic junction at an angle of about 50°, slightly arched to base of caput, from whence it rises with a perceptible curve to hind row of eyes, dips abruptly across ocular area; depth of *clypeus* nearly equals diameter of an eye of first row.

First row of *eyes* straight, nearly one-third size of centrals of second row, posited on a brown patch, scarcely an eye's

breadth apart, perceptibly more than their breadth from median eyes of second line; second row sensibly procurved, median pair seated on oval brown spots, perceptibly smaller than eyes of posterior row, separated from them by an interval equal to their breadth and one-half, divided from each other by a space rather surpassing their diameter, and from side-eyes—which are much the smallest of the eight—by a somewhat shorter interval; eyes of third row directed obliquely backwards, seated on rather strong black-brown tubercles, at base of which are laterals of second row.

Legs pale-brown, flesh-coloured tinge, lightly suffused with reddish-brown; about three broken, somewhat acutely-crenate, dark-brown annulations on femoral joints; rings more or less obliterated on patellæ, tibiæ, and metatarsi; faint central annuli on two latter articles; legs of nearly equal strength and length; almost devoid of hairs, except on penultimate and tarsal joints; few short black spines on femora; tibiæ of first and second pairs have 13 spines, surpassing diameter of article in length; 5-5 beneath; metatarsi 12, on inferior surface 4-4; about 8 on tibiæ and metatarsi of third and fourth; superior tarsal claws—first pair stout, well-curved, 6 open somewhat coarse teeth, increasing in length and strength; inferior claw stout, 3 open rather strong teeth, increasing in length.

Palpi colour and markings of legs; pars digitalis hairy, 13 strong spines; palpal claw, 4 very open teeth.

Falces light-chestnut; conical, project at base in front, slope inwards.

Maxillæ yellow-brown; linear, slightly pointed, about one-third longer than broad; perceptibly inclined towards *labium*, which is rather broader than long, sides rounded, apex somewhat concave, chestnut-brown.

Sternum yellow-brown; cordate, breadth nearly equals length.

Abdomen oviform, base somewhat truncated, rather depressed above; sparsely clothed with bright, straw-coloured hairs; colour of cephalothorax, spotted and figured with dark-brown; most conspicuous spots on dorsal field comprise 8 small spots on basal third, and 4 large, representing a quadrilateral figure in centre of back; few broken transverse lines towards spinners; *vulva* represents a semi-oval narrow projection, apparently simple within (organ somewhat shrunk).

Two female examples of this handsome species were contained in a collection kindly communicated to me by *T. Kirk, Esq., F.L.S.*, from Wellington.

Fam. ATTIDÆ.

Gen. *Attus*, Walck.

Attus pullus, sp. nov.

Female.—Ceph.-th., long, 2·8; broad, 2. Abd., long, 4; broad, 3. Legs, 4, 3, 1-2 = 6, 5·5, 5 mm.

Cephalothorax brown-black; rather thickly clothed, except on eye-area, with pale straw-coloured and brownish adpressed hairs, and rather long erect black hairs; *clypeus* furnished with long whitish hairs, directed obliquely forwards; elevated; *pars thoracica*, sides moderately rounded; about twice the length of *caput*; *pars cephalica* flatly convex above, lateral margins abrupt; contour of profile slopes forwards with a perceptible curve, dips at an angle of 40° to thoracic junction; height of *clypeus* nearly equals diameter of a lateral eye.

Anterior row of *eyes* slightly recurved; laterals perceptibly more than their breadth from centrals; latter pair two-thirds that space from each other; posterior and anterior lateral eyes of about equal size, form a quadrilateral figure one-third broader than long; eyes of second row intermediate.

Legs yellowish; first and second pairs have a red-chestnut tinge; femoral joints clouded; brown annulations—more pronounced on two hind pairs—at articulation of joints; armature, short yellowish and long black hairs; normal spines on femoral, tibial, and metatarsal joints; patella and tibia of first leg, of about equal length and strength, together equal to two-thirds length of cephalothorax; tibia three-fourths length of metatarsus.

Palpi yellowish, faint-brown rings; whitish hairs; long black bristles.

Falces red-chestnut; vertical, somewhat conical, transversely rugose.

Maxillæ, fore-end dilated and rounded; inclined towards lip; yellow-brown, base chestnut.

Labium blackish; conical, about one-half length of *maxillæ*.

Sternum light-brown; oval; fairly clothed with whitish hairs.

Abdomen oviform, projects moderately over base of cephalothorax; dark stone-colour, clouded with indigo-black; fairly clothed with light straw-coloured, adpressed, and erect black hairs; ventral surface brown. *Vulva* stone-colour, shaded with black; displays two oval moderately-depressed areas, surrounded by rather narrow *costæ*, intersected longitudinally by a septum about one-half the width of their transverse diameter; posterior two-thirds of area occupied by two reddish, dark-margined, oval foveæ.

Single specimen, taken on *Leptospermum*, Bluff, Otago, A. T. U.

Attus scindus, sp. nov.

Female.—Ceph.-th., long, 2·5; broad, 2. Abd., long, 3·2; broad, 2. Legs, 4, 1, 2, 3 = 5, 4·5, 4, 3 mm.

Cephalothorax red-mahogany, clouded chiefly about margins with dark-brown; hairs somewhat sparse, whitish and orange; clypeus furnished with adpressed, papilliform, yellowish hairs, and whitish vertical fringe on margin; pars thoracica moderately dilated, rather more than one-third longer than pars cephalica; latter aplanate, limited by a somewhat circular depression; profile-line slopes slightly forwards across ocular area, dips rather abruptly to thoracic junction. *Clypeus* directed visibly inwards, depth scarcely equals radius of a fore-central eye.

Anterior row of *eyes* slightly recurved; centrals perceptibly closer to one another than they are to laterals, a space visibly less than the radius of a side-eye; dorsal and fore-lateral eyes of about equal size; former rather further from each other than are the latter pair; ocular area one-third broader than long.

Legs, femoral joints of two first pairs blackish-brown; patellæ, tibiæ, and metatarsi red mahogany-colour; tarsi yellowish, dark ring; third and fourth pairs yellow-brown, dark annulations; hairs sparse, yellowish; femoral, tibial, and metatarsal joints armed with spines; first and second pairs stout; patella and tibia of a leg of first pair of about equal length and strength, together one-fifth shorter than cephalothorax.

Palpi red mahogany-colour; yellowish-white hairs.

Falces bright red-mahogany; vertical, transversely rugose; length equals the tibial joint of a leg of second pair.

Maxilla chocolate-brown, reddish at apex; fore-end somewhat dilated, rounded.

Labium colour of maxillæ; oval; one-third length of latter organ.

Sternum dark chocolate-brown; oval; about breadth of coxal joint of a leg of second pair.

Abdomen oviform, projects over base of cephalothorax; moderately convex above; somewhat sparsely clothed with short orange-red and whitish hairs; integument yellowish stone-colour; dorsal band broad, tapers slightly forwards, dark-brown, fading somewhat behind, extends from summit of base nearly two-thirds along back; the greater area displays five spots arranged quincuncially; four transverse wrinkles above spinners, two brown spots on first wrinkle, one spot decreasing in size on each succeeding wrinkle; lateral margins

rugose, marked by a series of dark-brown, not clearly-defined, broken, oblique bands; ventral surface black-brown; transverse row of hairs. *Vulva* brown, represents a somewhat circular moderately-depressed area, bordered by a projecting yellowish costa, fore-edge of which is somewhat angular, and emarginate in centre; centrally placed are two brown foveæ, divided by a longitudinal, narrow,)(-shaped septum; between foveæ and fore-margin are two somewhat pyriform depressions, whose apices converge forwards.

Several specimens captured about the cliffs, Scinde Island, Hawke's Bay, *A. T. U.*

Gen. **Plexippus**, L. Koch.

Plexippus capillatus, sp. nov.

Female.—Ceph.-th., long, 3; broad, 2. Abd., long, 4; broad, 2. Legs, 4, 1, 2, 3 = 5.6, 5.2, 5, 4.5 mm.

Cephalothorax chocolate-brown, passing into a reddish-brown between hind eyes; hairs sparse, orange-colour; sides somewhat linear, base semi-oval; pars cephalica aplanate, slightly curved forwards, limited by a shallow oval depression; laterally abrupt; pars thoracica one-fourth longer than caput; contour of profile rises from thoracic junction at an angle of 70°, runs horizontally to posterior row of eyes, slopes moderately across occiput; *clypeus* directed inwards, depth equal to about one-third diameter of a fore-lateral eye.

Anterior row of *eyes* slightly recurved, nearly contiguous; irides orange-red, sparse; posterior pair perceptibly surpass anterior laterals in size; ocular area slightly wider in front; scarcely one-third broader than long; somewhat prominent above eyes.

Legs, first pair reddish-brown, femora tinged with olive-green; moderately stout; tibia strong, cylindrical, equal in length to the metatarsus and tarsus together; second pair stouter than third and fourth, which are of about equal strength; three hind pairs fulvous, femora tinged with olive-green; genual, tibial, metatarsal, and tarsal joints tinged with reddish-brown; fairly clothed with fine black hairs; few fine, erect bristles; 4 curved spines on femoral joints; 3-3 spines beneath tibiæ of two first pairs; 2-2 beneath metatarsi; about 6 irregular spines on tibiæ of third and fourth pairs; 2 or 3 and ring of 5 on metatarsi; superior tarsal claws—first pair, outer claw 1 stout tooth; inner claw about 14 fine, close teeth, terminating with 1 rather strong tooth.

Palpi, humeral joints yellowish, other articles reddish-brown.

Falces reddish-brown colour; somewhat of a broad-oval,

flat, transversely rugose, perceptibly inclined towards maxillæ; stout, length equals metatarsus of first pair.

Maxilla light reddish-brown; long, spathulate, directed slightly outwards.

Labium yellowish, tinged with olive-green; oval, one-half length of maxillæ.

Sternum yellow-brown, suffused with olive-brown; ovate, widest at posterior end.

Abdomen elongate-oviform, base somewhat truncated; rather thickly clothed with adpressed, bright, light-yellowish hairs, and fine, black, erect hairs; folium stone-brown, tinged with olive-green; lanceolate; serrations fine, irregular; basal third displays a few brown spots, and an angular broken bar; from near latter mark a stone-coloured lanceolate figure, bordered by a disconnected, brown line, extends to spinners; lateral margins brown-black, somewhat longitudinally streaked; ventral surface stone-brown; shield margined and centrally intersected by brown lines, former darkest. *Corpus vulvæ* represents a reddish-brown, moderately prominent, ovate eminence; foveæ intersected by a broad septum, dilated at posterior end; a short cleft at its base, on either side, forms two angular processes, which give the foveæ a comma-shape.

Two specimens. Te Karaka. A. T. U.

EXPLANATION OF PLATE XVII.

Fig. 1. *Cycloctenus lepidus*, sp. nov. Female, three times natural size: a, eyes.

Fig. 2. *Theridium sericum*, sp. nov. Palpus of male.

Fig. 3. *Epeira dubitabilis*, sp. nov. a, palpus of male.

Fig. 4. *E. guttatum*, sp. nov. Vulva.

Fig. 5. *E. ostri-brunnea*, sp. nov. Vulva.

Fig. 6. *Tetragnatha typica*, sp. nov. Palpus.

Fig. 7. " " sp. nov. Falces.

Fig. 8. *Stephanopsis angulatus*, sp. nov. Palpus.

