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XXIV.—*On some new Genera and Species of Araneidea.*
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[Plate XVII.]

THE spiders described here belong to widely separated localities: five are from Australia, one from Natal, and one from Brazil. All are of great interest, especially the new genus *Mutusca* (from Australia); the abnormal position of the inferior spinners in this spider is almost unique, occurring only, as far as is known (but in a still more striking way), in one other species, *Liphistius desultor*?, Schiödte. In *Attus volans*, sp. n., from near Sydney, New South Wales, the wing-like development of the superior epidermis of the abdomen is also, as far as I am aware, hitherto quite unexampled.

Details of these and the remaining species, with all known particulars concerning them, will be found in the descriptions given below.

One other circumstance connected with two of the spiders recorded here is perhaps worth noting in this short introduction; and that is the occurrence in North Australia of two remarkable genera, *Miagrammopes* (Cambr.) and *Amycle* (Cambr.), first discovered not long since in Ceylon. The species representing these genera in Australia are exceedingly closely allied to those found in Ceylon; in fact (as below remarked) it seems doubtful whether one of them, *Amycle albo-maculata*, may not eventually prove to be a mere variety of the only as yet known *Ceylon* species. How does this affect the theory of the entire separation of the faunas of

Australia and the Malay archipelago, by which latter alone there would seem to be any existing connexion between Ceylon and Australia? Are there any and what *known insects* common to Ceylon and North Australia?

Family Colophonides.

Nov. gen. COLOPHON (nom. propr.).

Characters of the Genus.

Cephalothorax oblong-oval, moderately convex above, with the normal indentations strongly marked. Clypeus long, impressed, and prominent.

Eyes eight, unequal in size, closely grouped in a transverse oblong-oval figure on a slight tubercular elevation, towards the fore part of the caput; the two largest occupy the centre of the group in a transverse line; and three others on either side form a curved row, the curves directed outwards.

Legs moderately long, relatively 4, 1, 2, 3, strong, particularly those of the first and second pairs. Tarsal claws strong, three in number, the two superior ones strongly pectinated.

Falces small and rather projecting; fangs folding down over the inner edge of the falces.

Maxillæ moderate in length, broad and strong near their base, somewhat bluntly tapering from the insertion of the falces to their extremities, strongly inclined to the labium, and broadly and obliquely impressed in a transverse direction on the middle of their outer surface.

Labium long, rather broadest near the middle, where it is broadly compressed, and whence it tapers gradually to the apex, which is drawn out into an obtuse point to the same length as the maxillæ.

Abdomen elongate-oval, joined to the cephalothorax by a strong and distinct pedicle. Spiracular openings four in number, the two extra ones placed immediately in front of the usual pair. Spinners six, those of the superior pair largest and longest; and beneath them the remaining four, of equal length, form a straight transverse row.

Colophon natalensis, n. sp. Plate XVII. fig. 1.

Adult male, length 4 lines.

The whole of the fore part of this spider is of an orange-yellow colour, that of the abdomen being a pale dull straw-yellow.

The *cephalothorax* is very thinly clothed with short hairs; the *legs* are tolerably furnished with hairs, but no spines: the

ocular tubercle is strongly suffused with black: the three eyes which form each lateral curved row are nearly equal in size, irregular in form, and separated from each other by about half of an eye's diameter; the two hinder eyes of these rows are further from each other than the two front ones; those of the central pair are the largest of the eight and round, separated from each other by about half a diameter's space, and forming with the middle eye of each of the lateral rows a straight, transverse, equally divided line.

The *palpi* are strong, moderately long, and furnished with short hairs: the cubital and radial joints are very short, the latter devoid of projection or apophysis: the digital joint is oval, bent, and of inordinate size, length, and tumidity, almost equalling in length the whole of the rest of the palpus. The palpal organs are simple, resembling in their character those of the Theraphosides and Dysderides; they consist of a largish oval bulb, produced at its extremity, on the outer side, into a very long, strong, contorted apophysis, with two more slender, spine-like, sharp-pointed projections at its extremity, the larger one being bifid, or rather, perhaps, furnished with another spine towards its termination.

The *falces* are weak, straight, and rather projecting forwards; they have a pale prominence on their inner sides near their extremities; the fangs are not very long nor strong, except near their base, a little way from which they become abruptly weaker.

The *maxillæ* and *labium* have been sufficiently described above among the generic characters.

The *sternum* is large, and short-oval in form, truncate before, pointed behind; its surface appears to be thickly covered with small pock-marks or shallow punctures.

The *abdomen* is of an elongate-oval, somewhat subcylindrical form, and is thinly but uniformly clothed with short dark hairs: the four spiracular openings and six spinners have already been described above.

The genital aperture in the female is scarcely perceptible; but in the male it is of a deep black red-brown colour. In colours and other general respects the female resembles the male; the digital joint of the palpus in the female is long, thickly clothed with hairs, and devoid of any terminal claw; the *maxillæ* are less impressed transversely than in the male.

Adults of both sexes of this very interesting spider were received in 1873 from Natal. It furnishes the type of a distinct family, which appears to connect the Theraphosides and Dysderides, and has also strong affinities with the Filistatides.

Family Agelenides ?

Nov. gen. MUTUSCA (nom. propr.).

Characters of the Genus.

Cephalothorax moderately convex above, nearly round (in fact, broader than long) behind, constricted laterally, but very little produced before; hinder slope short and abrupt, and thence falling gradually to the eyes.

Eyes eight, considerably unequal in size, very similar in position to those of *Enyo* and *Miltia*; six form nearly a circle, with about a third part of its circumference wanting in front; a little way within this point of deficiency are two others, the largest of the eight, round, and almost contiguous to each other, the form of the rest being either oval or irregular.

Maxillæ strong, greatly enlarged, and roundly gibbous at their base, obliquely and transversely impressed near the middle, greatly inclined towards the labium, being, in fact, a little behind that part where they approach it most nearly: the palpi are inserted rather more than halfway towards their fore extremities.

Labium short and nearly quadrate, slightly rounded at its apex.

Sternum short, heart-shaped, and strongly indented between the points opposite to the insertion of the legs.

The *legs* were unfortunately all absent, except the basal joints: these are very strong; and their relative lengths are 4, 1, 2, 3; the difference between 4 and 1 is scarcely perceptible. It does not, however, follow that the relative lengths of the entire legs should agree with those of the basal joints, though they usually follow those of the femoral joints.

The *palpi* are strong, and the digital joint has a strong Ageleniform appearance.

The *abdomen* is of moderate size, and oblong-oval in form. The position and relative size of the spinners (of which only *four* could be detected) is very characteristic and remarkable: two, so short as to be scarcely perceptible, are in the usual position just beneath the anus; the other two, of which one joint each only remained, are of great length, nearly cylindrical in form, and strong, springing from underneath the abdomen not far behind the spiracular plates, and, extending backwards in close contact with the inferior surface of the abdomen, project a little beyond its extremity: I could not ascertain certainly; but I suspect that a second joint, with perhaps a third, had here been broken off.

Mutusca mammosa, n. sp. Plate XVII. fig. 2.

Adult male, length $2\frac{1}{4}$ lines.

The *cephalothorax* has the normal grooves and indentations pretty strongly marked; and the junction of the cephalic and thoracic segments is indicated by a strong and deep indentation or fovea; its colour is a dark yellow-brown, and its surface is glossy: the height of the clypeus, which projects considerably, is rather less than half that of the facial space.

The *eyes* are in the form of two thirds of a circle, the deficient portion being in front; across and within the deficiency are the two largest of the eight, in a transverse line; these are round, dark-coloured, and are separated from each other by less than half of an eye's diameter: the rest do not differ greatly in size; they are, however, of irregular form and pearly white; those of the hinder pair are oval, the others somewhat bluntly subangular; none of the six forming the circumference of the circle are contiguous to each other; the interval is least between those of the lateral pairs respectively: taking the eight eyes as forming two curved rows, those forming the hinder row are equally separated from each other; each fore central eye is very nearly but not quite contiguous to the fore lateral nearest to it.

The *legs*, judging from the basal joints (which were all that remained), are strong, and rather lighter in colour than the cephalothorax, and their relative length probably 4, 1 (or 1, 4), 2, 3.

The *palpi* are moderately long, strong, and of a light yellow-brown colour: the cubital joint is short, bent, and clavate: the radial is longer, slightly bent, and has its upperside towards the fore extremity produced into a strongish, tapering, slightly bent-downwards, pointed apophysis; underneath this joint, towards the outer side, is a group of strongish hairs; there are a few hairs on other parts of the palpi, and a single short, curved spine, directed forwards, near the fore extremity of the humeral joints: the digital joint is long and strong, longer than the radial and cubital joints together, of an oval form, drawn out at its fore extremity, like those of spiders of the genera *Agelena* and *Tegenaria*. The palpal organs are prominent and well developed, but not very complex; they consist of a principal, large, roundish, corneous lobe, rather broken up at its fore part (where there is a small independent corneous projection) and on the outer side.

The *falces* are small, projecting, and cut away towards their inner extremities; their length is just about equal to that of the height of the facial space; and their colour is light yellowish brown.

The *maxillæ* and *labium* (whose form is described in the generic characters above) are of a very pale dirty yellow-brown colour; the *sternum* is rather darker.

The *abdomen* is oblong-oval and of a somewhat cylindrical form; it projects slightly over the base of the cephalothorax; its colour is a dark blackish brown, finely mottled (in spirit of wine) with yellowish points; a largish patch on the upperside just above the anus is of a pale yellowish colour. The peculiarity of the spinners, which are four in number, has been sufficiently described above among the generic characteristics; they are of a yellow-brown colour, the underside of the abdomen being dull whitish yellow-brown.

A single example (minus all the legs and apparently a portion of the longer spinners) was received in the present year (1874) from Mr. H. H. B. Bradley, by whom it was found on Shelley's Flats, Australia.

I have placed it provisionally in the family Agelenides, with which, by its long inferior spinners and the form of the digital joints of the palpi, as well as the position of the eyes, it has considerable affinity. Generically, however, it is very distinct from any hitherto characterized genus. The position of the inferior pair of spinners is, as far as I am aware, only paralleled in one other instance—that of *Liphistius desultor* (Schiödte), in which, from an example in the British Museum, all the four spinners are in a similar position. Schiödte appears to have overlooked these, and describes that curious Theraphosid as without any spinners at all.

Family Gasteracanthides.

Nov. gen. CALYDNA.

Characters of the Genus.

Cephalothorax, from above, quadrate, nearly as broad as long, moderately convex above; upperside of fore part of caput projecting; a deep horizontal transverse cleft or chasm on each side divides the upper part from the lower, the lower being again divided in the middle by a longitudinal cleft; these portions, being thin, flattish, transparent, and angular, hardly appear at first sight to be integral parts of the cephalothorax, having more the appearance of being corneous projections connected with the base of the falces, over which they stretch forwards.

Eyes eight, in three groups; four central eyes close together at the extreme point of the upperside of the caput form a

quadrangular figure, whose fore side is shortest; and at the extreme outer point of each of the flat divisions of the lower part of the caput are two eyes contiguous to each other; these correspond to the usual lateral pairs of eyes.

Legs short and not very strong, their relative length being apparently 1, 2, 4, 3; they are furnished only with hairs and bristles.

Palpi short, slender; but the digital joints (with palpal organs) epeiriform and of great size.

Falces long, strong.

Maxillæ strong, moderately long, enlarged and rounded at their extremities; greatly inclined towards and meeting over the *labium*, which is short, broad, pointed at the apex, and with the appearance of a short piece cut off across the base.

Sternum somewhat subtriangular, the apex of the triangle directed backwards; the base, where the *labium* joins, hollow.

Abdomen short, subtriangular, the three sides curvilinear, broader than long; the upperside covered with a corneous shield, and greatly projecting over the base of the cephalothorax; the underside rugulose; the pedicle connecting the cephalothorax and abdomen projects under and is, to all appearance, articulated or at least joined to the hinder part of the sternum.

Calydna prospiciens, n. sp. Plate XVII. fig. 3.

Adult male, length nearly 2 lines.

The *cephalothorax* is of a uniform yellow-brown colour, with a greenish metallic reflection in some lights, and its surface is finely punctuose: the caput is large, nearly equal in width to the thoracic region, but easily distinguished from it by the ordinary lateral compressions and oblique furrows: the peculiar form of the ocular region has been fully described above among the generic characters.

The *eyes*, placed as described above, are of moderate size; those forming the central square are on black spots and are of equal size; the two hinder ones are separated from each other by rather more than an eye's diameter, the two foremost by rather less; those of each lateral pair (seated at the extreme points of the projecting portions of the caput) are small, obscure, and contiguous to each other.

The *legs* are short, moderately strong; relative length 1, 2, 4, 3; they are furnished with hairs and bristles only, each tarsus terminating with two curved superior, one smaller inferior, and, below the latter, one or two supernumerary opposed claws: the colour of the legs of the third and fourth pairs

is pale brownish yellow, the anterior portion of the femora of the fourth pair suffused with sooty brown; those of the first and second pairs have the genual and femoral joints darker yellow-brown, the latter suffused with a deeper hue towards their fore extremities, the tibiæ, tarsi, and metatarsi being of a sooty brown.

The *palpi* are short, and similar to the legs in colour; the humeral, cubital, and radial joints are not strong; the two latter are very short, the radial being rather the longest and of an oval form, but apparently without prominence or apophysis: the digital joint is very large, and oval in form: the palpal organs are directed outwards, very prominent, highly developed and complex, consisting of strong corneous lobes, processes, and spines.

The *falces* are long and strong, well rounded and slightly prominent near their base in front; they are rather directed backwards; looked at from the front their sides are hollow, and they are somewhat depressed near their extremities in front; their colour is similar to that of the cephalothorax, and the fangs are short and strong.

The *maxillæ*, *labium*, and *sternum*, whose form and structure have been described above among the characters of the genus, are of a dark reddish yellow-brown colour.

The *abdomen* is broader than long, of a subtriangular form with the corners rounded; its upper integument is corneous and moderately convex, of a dull suffused yellowish-brown colour, minutely mottled (in spirit of wine) with yellow points, marked also rather obscurely with depressed spots of a darker hue, and some pale brownish-yellow lines; the underside is dusky brownish yellow, suffused on the sides (where it is obliquely rugulose) with greenish black: the spinners are short, six in number, and placed in a compact group beneath the hinder part of the abdomen, but some distance in front of the termination of the corneous epidermis: the pedicle connecting the abdomen and cephalothorax is joined at its fore extremity, by a projecting process, to the hinder part of the sternum.

A single adult male of this spider was received from Minas Geraës, Brazil, where it was found by Mr. Henry Rogers in 1870. It is generically allied to *Cyrtogaster* (Keys.) [changed to *Cyrtarachne*, Thor.], *Eurysoma* (Koch), and *Gasteracantha* (Walck.); but its various peculiarities of structure appear to make it necessary to found a new genus for its reception.

Family **Miagrammopides**.Genus **MIAGRAMMOPES** (Cambr.).*Miagrammopes Bradleyi*, n. sp.

Adult female, length $3\frac{3}{4}$ lines.

In size, form, general colours, and appearance this spider is scarcely distinguishable from *M. Thwaitesii* (Cambr.), described in Linn. Journ., Zool. vol. x. p. 401, pl. xiv. figs. 1-12a. It may, however, be at once distinguished by the deep-black-brown tapering band which runs longitudinally through the middle of the upperside of the abdomen from its fore extremity almost to the spinners; the legs are also less strong and shorter.

The whole of the fore part, including the legs and palpi, is of a light yellow-brown colour, clothed with greyish-yellow hairs and pubescence, most of which, however, had been rubbed off in the example described: the *abdomen* is of a uniform pale yellowish buff or dirty cream-white colour, the whole surface as if thickly covered with almost confluent cretaceous spots; and along the middle of the upperside, in a longitudinal direction, is a very distinct deep-black-brown stripe tapering from the fore extremity to its termination, not far from the hinder extremity, where it appears to dilate a little and to be abruptly truncated.

The *legs* are rather shorter and less strong than in *M. Thwaitesii*, those of the fourth pair, when extended backwards, reaching but very slightly beyond the extreme hinder point of the abdomen; the metatarsi of this pair have the calamistrum along their uppersides; and the correlative inframammillary organ likewise exists in front of the six ordinary spinners.

A single adult female was submitted to me by Mr. H. H. Burton Bradley, of Sydney, New South Wales. It was found in Northern Australia; but I have no other information respecting it.

The occurrence of a species of this curious genus so far from the place where the typical species were not long since discovered (Ceylon) is very interesting, more especially because, as above noted, this is so very closely allied to one of them.

It is with great pleasure that I have conferred Mr. Bradley's name upon the present species.

Family Thomisides.

Genus AMYCLE (Cambr.).

Amycle albomaculata, n. sp.

This spider is remarkably similar to *A. forticeps* (Cambr.) (P. Z. S. 1873, p. 122, pl. 13. fig. 6) both in form, general colour, and structure. In the present species, however, the abdomen has none of the dark markings of *A. forticeps*, but has instead on the upperside a tolerably regular pattern of distinct white spots of different sizes; these are most conspicuous in the female; they form two longitudinal lines enclosing a very elongated subdiamond-shaped area, with a few other similar spots on the sides. The two round black blotches so conspicuous on the hinder part of the upperside of the abdomen of *A. forticeps* are also present in *A. albomaculata*. It is possible that the comparison of a lengthened series of examples of both these species might prove them to be merely varieties of each other; but as the only two examples of the present spider that have yet been found differ in the above-mentioned particulars from all the six known examples of *A. forticeps*, and the respective localities of the two are so widely removed from each other, I have thought it best to record the present as a distinct species.

The occurrence of this genus in Northern Australia (whence it was received by Mr. H. H. B. Bradley and kindly submitted to me) so soon after its first discovery in Ceylon, is, like that of *Miagrammopes* (*suprà*, p. 177), exceedingly interesting; one would expect now to find these, as well as other Ceylon genera and species, occurring all along the Sumatran and Javan chain of islands, which form the only present connexion of any kind with Australia.

Two examples, an adult male and female, were received from Mr. Bradley.

Family Salticidae.

Genus SALTICUS (Latr.).

Salticus (*Attus*, Sim.) *volans*, n. sp. Plate XVII. fig. 4.

Adult male, length rather above 2 lines.

The *cephalothorax* of this spider is of ordinary form; the thoracic region and sides of the caput are black, with a margin of white hairs; the upper part of the caput between the eyes is banded longitudinally with alternate bands of a soft greyish green and bright scarlet, three of the former to two of the latter; and on the upper part of the thorax are three large spots of white hairs in a transverse row, the lateral spots being

considerably the largest: the clypeus, which is retreating, is clothed with numerous fine pale hairs; and the surface of the cephalothorax is furnished with others both pale and dark, and erect.

The *eyes* are in the ordinary position; they form very nearly a square, the fore side being very slightly longer than the hinder one; the small central eye of each lateral row is slightly within the straight line of the other two forming that row, and is also a trifle nearer the hinder than the fore one of these two; the four eyes which form the front row are of a dark shining greenish colour; the two centrals are, like those of most other species of the genus, far the largest; the row is curved, the curve being directed forwards.

The *legs* are moderate in length and strength; their relative length is 3, 4, 2, 1 or 3, 4, 1, 2, the difference between those of the first and second pairs being very slight; they are of a pale yellowish colour, irregularly marked and banded with dark brown, and hairy, numerous short adpressed hairs of a greyish white being mixed with others dark-coloured and erect: the metatarsi of the third pair are furnished with a tuft-like group of bristly black hairs on either side; the tibiae and metatarsi are also furnished with spines.

The *palpi* are short and similar to the legs in colour. The cubital and radial joints are short, the latter being the longest; they are furnished pretty thickly with greyish-white hairs, especially on the inner sides of the radial and on the digital joints; these latter are oval, and of moderate size: the radial joint has a small tapering pointed projection at the extremity of its outer side. The palpal organs appeared to be of very simple structure, and to consist of a largish oval corneous lobe.

The *falces* are small, conical, placed far back behind the frontal margin, and are of a yellowish-brown colour.

The *abdomen* is of an elongated oval form and rather flattened; its upperside is furnished with an epidermis, which is continued laterally on either side to an extent considerably exceeding the width of the abdomen, and of a semioval or elliptical form; the outer portion of this epidermis on either side is capable of being depressed and folded round beneath the abdomen, or elevated and expanded to its full width, after the manner of wings. The whole of the epidermis is densely covered with short scale-like hairs, which give the different tints and hues to the abdomen; the portion which covers the abdomen itself is striped longitudinally for rather more than two thirds of its length alternately with scarlet and greyish green, the latter reflecting brighter green and blue metallic hues;

the hinder part is striped transversely, but, except the first of the stripes, not so distinctly, with similar colours; the lateral flaps are of a soft yellowish colour, tinged with olive-green, and each is marked with two somewhat oblique, curved, narrow stripes or lines of greyish green, following nearly the curve of the hinder part of the flap, and thickly fringed with greyish hairs. The underside of the abdomen is of a dull brownish-yellow colour, marked longitudinally, but not very regularly, with dark brown; and the underside of the flap is of a uniform, pale, dull yellowish hue: four small black impressed points form a quadrangular figure near the middle of the upperside of the abdomen; and there are numerous upturned, bristly, black hairs just beneath the fore extremity.

It is difficult to describe adequately the great beauty of the colouring of this spider; but the unique lateral flaps or appendages of the abdomen will serve to distinguish it readily from all other at present known *Saltici*. It is probable, from the great development of these flaps, as above described, that they are sexual; but no doubt the female, when discovered, will have some traces of them more or less developed. Mr. H. H. B. Bradley, of Sydney, New South Wales, to whom I am indebted for examples of this exceedingly interesting and remarkable spider, tells me that he has observed them elevating and depressing the flaps, and also actually using them as wings or supporters to sustain the length of their leaps. That this, as with an analogous appendage in the flying squirrel, should be intended for such sustentation, one could have but little doubt after examining it even in the preserved specimens. It appears to be a very rare spider, Mr. Bradley having been able to procure but three examples (all males in the adult state) during many occasions of special hunting for it. The three examples were all found on one spot near Sydney in the month of October, running and jumping on low plants and flowers.

Salticus (Attus) speciosus, n. sp. Plate XVII. fig. 5.

Adult male, length nearly $2\frac{1}{2}$ lines.

The *cephalothorax* of this beautiful species is of ordinary form; its colour is a dark reddish brown, nearly black on the quadrangular area enclosed by the eyes; this space is clothed with short reddish-yellow hairs, mixed with others fewer and longer, both dark-coloured and of a hoary hue, the latter chiefly round the eyes on the anterior portion: the lower part of the sides all round is thinly clothed with fine hoary hairs; and there is a largish, oblong, longitudinal, central

patch of white hairs on and behind the occiput; behind each of the eyes of the hinder row is also a small spot of similar hairs.

The *eyes* are mother-of-pearl-like, those of the first row being of a soft green colour, changing to amethyst and bluish grey; they form a quadrangular figure, whose transverse is considerably longer than its longitudinal diameter; the minute eye between the laterals of the first and third rows on each side is intermediate between and in the same straight line with them; the fore lateral eyes are rather less than half the diameter of the fore centrals, being but very slightly (if at all) larger than those of the third or hinder row: the height of the clypeus, which retreats, is less than half the diameter of the fore central eye.

The *legs* are moderate in length and strength; their relative length is apparently 3, 4, 1, 2 (1 and 2 being almost equal); they are of a brownish-yellow colour, paler in parts, and irregularly, but pretty distinctly and boldly, marked and blotched with blackish brown: the tibiae and metatarsi of the hinder pair are strongly fringed on each side with black bristly hairs; other ordinary hairs clothe the rest; all are furnished with a few spines, and have a strong claw-tuft at the extremity of each tarsus.

The *palpi* are short and similar to the legs in colour; they are clothed with long hairs, nearly all of which are white. The radial joint is considerably shorter and less strong than the cubital, and has its outer extremity continued in the form of a rather slender, tapering, sharp-pointed, thorn-like apophysis, equal in length to the joint itself, but not easy to be seen among the long hairs by which it is concealed; the digital joint is oblong-oval, not very large, but somewhat truncated at its fore extremity, and darker-coloured than the rest of the palpus. The palpal organs consist apparently of a large oval lobe, most prominent towards the hinder part.

The *falces* are small, inclined backwards, placed a good way back, beneath the ocular region, and of a dark yellow-brown colour.

The *abdomen* is of a broad-oval form and flattish, sloping gradually (when seen in profile) from the fore part to the spinners; the upper surface is densely clothed with short adpressed scale-like hairs, among which are a few erect ordinary ones; the lateral margins, quite round to the spinners, appear to project slightly, and are furnished with a rather dense fringe of long, buff and pale yellowish-white, silky hairs; these fringes are very characteristic; and, from their appearance in the six examples that have come under my notice, I suspect that the

living spider has power to raise and depress or expand them as a peacock does its train, and that when so expanded they assist to sustain the spider in its leaps. The slightly projecting lateral margins of the upper epidermis appear also to connect this spider with *Salticus volans* (last described); and there is a general similarity in the colouring of the two species: the upper side of the abdomen in the present spider is broadly and transversely banded with alternate and somewhat wavy bands of scarlet maroon and brilliant emerald-green, changing to blue with the different incidences of the light; there are three bands of the scarlet-maroon colour, and four of emerald, the foremost and hindmost bands being of this latter colour; the under-side is of a uniform brownish yellow, marked and spotted with dark brown, and clothed with hoary hairs.

Six examples of this interesting and lovely species were received in 1864 from the Swan River, New South Wales.

List of Spiders described.

Family COLOPHONIDES.

Colophon natalensis, n. sp., ♂ & ♀, p. 170, Plate XVII. fig. 1. Natal.

Family AGELENIDES ?

Mutusea mammosa, n. sp., ♂, p. 173, Plate XVII. fig. 2. Sydney, Australia.

Family GASTERACANTHIDES.

Calydna prospiciens, n. sp., ♂, p. 175, Plate XVII. fig. 3. Minas Geraës.

Family MIAGRAMMOPIDES.

Miagrammopes Bradleyi, n. sp., ♀, p. 177. North Australia.

Family THOMISIDES.

Amycle albomaculata, n. sp., ♂ & ♀, p. 178. North Australia.

Family SALTICIDES.

Salticus volans, n. sp., ♂, p. 178, Plate XVII. fig. 4. Sydney, New South Wales.

Salticus speciosus, n. sp., ♂, p. 180, Plate XVII. fig. 5. Swan River, New South Wales.

EXPLANATION OF PLATE XVII.

Fig. 1. Colophon natalensis, ♂ & ♀: *b*, spider, enlarged; *a*, ditto, in profile, with legs truncated; *c*, eyes, from above and behind; *d*, under-side, showing maxillæ, labium, and spiracular orifices; *e*, left palpus, from outer side; *f*, portion of digital joint with palpal organs of right palpus, from the front and behind; *g*, palpal organs of left palpus, from beneath and in front; *h*, leg of first pair, ♀; *k*, *m*, portion of tarsus of first pair, showing tarsal claws; *n*, natural length of spider.

Fig. 2. Mutusea mammosa, ♂: *a*, spider, in profile, enlarged; *b*, ditto, from above; *c*, eyes and falces; *d*, maxillæ and labium; *e*, under-side of abdomen; *f*, right palpus, from outer side; *g*, cubital and

radial joints of right palpus, from above and behind; *k*, natural length of spider.

Fig. 3. Calydna prospiciens, ♂: *a*, spider, from above, enlarged; *b*, ditto, in profile; *c*, caput and falces, from the front; *d*, maxillæ, labium, and sternum; *e*, *e'*, natural length, and spider in outline, of natural size.

Fig. 4. Salticus volans, ♂: *a*, spider, from above, enlarged; *b*, ditto, without legs, showing abdominal flaps folded; *c*, ditto, ditto, with flaps extended; *d*, abdomen, from beneath, showing underside of extended flaps; *e*, natural length of spider.

Fig. 5. Salticus speciosus, ♂: *a*, spider from above, enlarged; *b*, ditto, without legs, in profile; *c*, underside of abdomen; *d*, natural length of spider.

XXV.—On three new Species of Toucans pertaining to the Genus *Aulacorhamphus*. By JOHN GOULD, F.R.S. &c.

THE remarkable South-American family of Rhamphastidæ, or Toucans, of which about six kinds were known to Linnæus, now amount to over fifty very distinct species, each possessing good and tangible specific characters. The entire family has been subdivided into five groups, to which the following generic appellations have been applied—viz. *Rhamphastos*, *Pteroglossus*, *Selenidera*, *Andigena*, and *Aulacorhamphus*.

It is to the genus *Aulacorhamphus* (or little green toucans) that the three new species pertain. They all inhabit the fine countries of Venezuela and Columbia.

Aulacorhamphus calorhynchus.

Entire plumage green, with the following exceptions:—above and surrounding the bare space in which the eye is placed bright blue; throat grey, washed with blue; tail-feathers green, inclining to blue towards the tips. Bill yellow, with the central portions of both mandibles greenish yellow, bounded behind by a narrow line of white; bare skin surrounding the eye reddish brown; legs greenish blue.

Sexes alike in colour; female rather smaller than the male.

Measurements of male—total length 14 inches, wing 5, tail 5, bill $3\frac{1}{2}$, tarsus $1\frac{1}{4}$.

Hab. Merida. Collected by Mr. Goering.

This is by far the finest species of the little section of the Rhamphastidæ to which it belongs—a section differing from the rest of the green toucans by the tail-feathers being uniform in colour. The present species is altogether larger than the old *A. sulcatus*, and very different in the marking of its bill.



Pickard-Cambridge, Octavius. 1874. "On some new genera and species of Araneidea." *The Annals and magazine of natural history; zoology, botany, and geology* 14, 169–183.

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