

THE ANNALS

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[FIFTH SERIES.]

“..... per litora spargite muscum,
Naiades, et circùm vitreos considite fontes:
Pollice virgineo teneros hic carpite flores:
Floribus et pictum, divæ, replete canistrum.
At vos, o Nymphæ Craterides, ite sub undas;
Ite, recurvato variata corallia trunco
Vellite muscosis e rupibus, et mihi conchas
Ferte, Deæ pelagi, et pingui conchyliis succo.”

N. Parthenii Giannettasii Ecl. 1.

No. 49. JANUARY 1882.

I.—*Notes on British Spiders, with Descriptions of three new Species and Characters of a new Genus.* By the Rev. O. P. CAMBRIDGE, M.A., C.M.Z.S., &c.

[Plate I.]

UPWARDS of two years have passed since my last communication reporting progress on British araneology (*Ann. & Mag. N. H.* (5) iv. p. 190, pl. xii., Sept. 1879). In the meantime part ii., completing ‘*Spiders of Dorset*,’ has been published*, and contains notices and descriptions of all the species of British spiders known up to the beginning of 1881. Figures of several of the new species described, but not figured, in that work are now given, in the hope that they may assist collectors in their determination of the species. The number of spiders recorded in Great Britain and Ireland (including those here described as new) is 520; but there is little doubt that this number might be considerably increased by diligent search in many as yet untried localities, especially when we consider that a small area of Dorsetshire alone has produced nearly 400 species.

* Proceedings of the Dorset Natural-History and Antiquarian Field Club, 1879–81, pp. 1–625, pls. i.–vi. (Sherborne, Dorset: L. H. Ruegg.)

Order ARANEIDEA.

Fam. Drassidæ.

Genus CLUBIONA, Latr.

Clubiona cærulescens, L. Koch.

Clubiona cærulescens, L. Koch, Die Arachn.-Fam. der Drassiden, p. 331, Taf. xiii. figs. 213-215; Cambridge, Spiders of Dorset, p. 29.
Clubiona voluta, Cambr. Linn. Soc. Journ. xi. p. 553, pl. xiv. fig. 3.

Two adult males of this fine and striking species were found by myself on the 6th of September, 1881, on low plants among short underwood near Bloxworth. This is the first recorded occurrence of the male in Britain, the only examples previously recorded (one at Bloxworth and one near Aberdeen) being females.

Fam. Dictynidæ.

Genus novum AMPHISSA (nom. propr.).

Cephalothorax rather elongate-oval, somewhat broadly truncated behind; upper convexity very moderate; profile-line even and slightly curved; lateral constriction at caput as well as the normal indentations very slight. Clypeus low.

Eyes not very large, subequal, closely grouped together in two parallel, transverse contiguous rows, of which the posterior is nearly straight. The interval between the eyes of the hind central pair (which are smaller than the hind laterals, and of a somewhat misshapen form) exceeds a diameter; and each is contiguous to the hind lateral eye on its side. The eyes of the anterior row are contiguous to each other.

Legs moderate in length and strength (4, 1, 2, 3), furnished with hairs and a very few spines. In the only example known (which is a male) two of these spines are short, black, and placed in a longitudinal line beneath the metatarsi of the first pair, and another, long, rather strong, prominent, and curved, beneath the tibiæ of the third pair. Each tarsus ends with three curved claws, the inferior one being very small.

Falces moderately long, not very strong, vertical, and slightly divergent at their extremities.

Maxillæ moderate in length, strong, inclined towards the labium, and obliquely truncated at their extremity on the inner sides.

Labium not very large, its apex drawn out into a point reaching to the inner extremity of the maxillæ.

Sternum heart-shaped.

Abdomen rather narrow-oval, moderately convex above, and not projecting over the base of the cephalothorax. Spinners placed beneath rather than at the posterior extremity; and immediately in front of the ordinary ones is a transverse supernumerary spinning-organ, correlated with which, in the female, there would doubtless be found calamistra on the metatarsi of the fourth pair of legs.

Amphissa spinigera. (Pl. I. fig. 1.)

Lethia spinigera, Cambr. Spiders of Dorset, p. 468.

Length of the adult male $\frac{1}{14}$ of an inch.

The general colouring of this curious and minute spider is yellow-brown, all the femora, especially of the legs of the first pair, being strongly tinged with blackish brown. The abdomen has the appearance in spirit, under a lens, of being minutely spotted with dull reddish-yellow points; and several pale transverse angular lines are visible on the hinder part of the upperside. The single longish black curved prominent spine beneath the tibiæ of the third pair of legs is very characteristic; but whether of generic or only specific value (and, if the latter, then whether only sexual) is uncertain.

When first described (*l. c. supra*) I included this spider doubtfully in the genus *Lethia*, Menge. Subsequent examination, however, of the *eyes*, *maxillæ*, and *labium* have convinced me that a new genus is necessary for its reception. It is, moreover, a much more Drassiform spider than the known species of *Lethia*.

The example above described was found in his study, and kindly sent to me, by F. M. Campbell, Esq., of Hoddesdon, in the early part of 1880.

Fam. Agelenidæ.

Genus HAHNIA, C. L. Koch.

Hahnia helveola, Sim.

Hahnia helveola, Sim. Arachn. de France, ii. p. 139; Cambridge, Spiders of Dorset, p. 72.

Several adult males were found among moss near Bloxworth (with numerous females also), on the 9th of November 1881. Up to that time I had met with the females only, this sex being more or less abundant at most other periods of the year.

Fam. Theridiidæ.

Genus DIPÆNA, Thor.

Dipæna melanogaster, C. L. Koch.

Atea melanogaster, C. L. Koch, Die Arachn. xi. p. 143, pl. ccxcii. figs. 941, 942; Cambridge, Spiders of Dorset, p. 478.

Theridion congener, Cambr. Zoologist, 1863, p. 8576.

On the 13th of June, 1881, I met with an adult male of this rare spider on a furze bush on Bloxworth Heath; its only previous record as a British species is that of a female near Lyndhurst, Hants, in July 1858.

Genus EURYOPIS, Menge.

Euryopsis flavomaculata, C. L. Koch.

Micryphantes flavomaculatus, C. L. Koch, Die Arachn. iii. p. 67, Taf. xcv. fig. 220.

Theridion flavomaculatum, Blackw. Spid. Great Brit. and Irel. p. 201, pl. xiv. fig. 132.

Euryopsis flavomaculata, Cambr. Spiders of Dorset, p. 100.

On the 14th of June, 1881, I found an adult female under a thin clod of earth on Bloxworth Heath; it had only occurred once previously in this district (an adult male, in the month of June, about ten years ago), crossing the path in a wood.

Genus NERIENE, Bl.

Nerienne innotabilis, Cambr.

Nerienne innotabilis, Cambr. Spiders of Dorset, pp. 131 and 574.

Adult females were found among dead leaves in woods near Hoddesdon at the beginning of July 1881. I have usually found the males adult at Bloxworth in May and the beginning of June. The epigyne is large and very prominent.

Nerienne agrestis, Bl. (Pl. I. fig. 2 b.)

Nerienne agrestis, Bl. Spid. Great Brit. & Irel. p. 276 (excluding references to the figures in pls. xix. and xxii.); Cambr. Spiders of Dorset, p. 486.

While on a visit to Mr. F. M. Campbell at Hoddesdon, in July 1881, I met with several examples of both sexes of this spider among low plants, and under stones in the damp oozy bed of a small stream, where it appears to be of frequent occurrence, though confined to that one spot.

The *female*, in respect to the form of the genital aperture

(Pl. I. fig. 2 *b*), very nearly resembles that of the species which I take to be *Neriene fusca*, Bl. (Pl. I. fig. 2 *a*); but its colours, like those of the male, are much richer, the legs being of a bright reddish orange, and the abdomen quite black, without any longitudinal pale stripe on the upperside, which is always present in *N. fusca*. It is very difficult to decide with absolute certainty on the identity of *N. agrestis*, Bl., and *N. fusca*, Bl. The female of *N. agrestis*, described by Mr. Blackwall, agrees best with those females which I have found always in company with the males of his *N. fusca*, while the female of this latter agrees better in some respects with those I found in company with the males above recorded at Hoddesdon. It seems to me very probable that, as both species occurred in Mr. Blackwall's district, and apparently in equal abundance, he may have confused the females of the two. Another element of confusion has arisen from Mr. Blackwall having lost all his types of both species, and supplied his artist with examples for the illustration of each, in his work above quoted, furnished by myself, but which, it has been since ascertained, all belong to one species only. This species is the one which, after much consideration, I conclude to be *N. fusca*, Bl. It is very abundant in this district, where, as yet, I have never met with the other. The males of *N. fusca*, Bl.-Cambr., are the smallest and lightest-coloured of the two, and have the occiput distinctly and decidedly gibbous in profile, while the females, similar in general colouring, have always, or very nearly always, the median longitudinal line on the upperside of the abdomen paler than the rest, often amounting to a distinct stripe, the general colour of the abdomen being yellowish brown. In the other species, which I conclude to be *N. agrestis*, Bl., the males are not only larger than those above mentioned, but the colouring is much darker and richer, the legs being of a bright orange red-brown, and the abdomen black, while the profile of the occiput shows no gibbosity, being merely convex or simply curved.

At Hoddesdon I also found both sexes of the species which I take to be *N. fusca*, Bl., but not in the same locality as that in which the other species occurred.

In the same month (July 1881) an adult male of *N. agrestis*, Bl.-Cambr., was found by my nephew, F. O. P. Cambridge, near Southwell, in Nottinghamshire. I have also received it from Dr. L. Koch from Nuremberg; and Mons. Simon tells me that he finds it, though less commonly than its near ally *N. fusca*, Bl.-Cambr., in France.

Nerienne excisa, Cambr.

Nerienne excisa, Cambr. Spiders of Dorset, p. 487, and Trans. Linn. Soc. xxvii. p. 440, pl. lvi. no. 29.

Adult males of this very distinct species were found in a swamp near Bloxworth by Mr. F. M. Campbell on the 8th of September 1881; and subsequently both sexes have been met with on several occasions on the same spot by myself. This is its first record in the south of England, the typical examples having been found some years ago and kindly sent to me from Northumberland by Mr. James Hardy, of Old Cambus.

Nerienne uncata, Cambr.

Nerienne uncata, Cambr. Spiders of Dorset, p. 433; and Trans. Linn. Soc. xxviii. p. 546, pl. xlv. fig. 17.

On the 16th of September, 1881, and again in November of the same year, I found adults of both sexes of this fine species, the females in considerable abundance, in a swamp near Bloxworth.

Nerienne formidabilis, Cambr.

Nerienne formidabilis, Cambr. Spiders of Dorset, p. 135.

On the 22nd of November, 1881, I met with an adult female of this spider in a swamp near Bloxworth. This example measures a little over $\frac{1}{2}$ of an inch in length; but in other respects it exactly agrees with the typical specimen. The spiracular plates in both examples are of a pale yellowish hue.

Nerienne lapidicola, Thor.

Nerienne rufipes, Bl. Spid. Great Brit. & Irel. p. 251.

Nerienne lapidicola, Thor., Cambr. Spiders of Dorset, p. 489.

Two adult females (found in the same locality and at the same time as the last species) differed in being smaller; the eyes also are smaller, and those of the hinder row are divided by equal intervals, whereas in *N. formidabilis* the interval between those of the hind central pair is distinctly smaller than that between each and the hind lateral eye next to it. The general colouring and appearance, however, of the two spiders is very similar; the spiracular plates are also pale yellowish in both; and the genital apertures are much alike. I am inclined to think that the two examples now recorded are the females of *N. rufipes*, Bl., a spider to which Dr. Thorell has given the specific name of *lapidicola*, in consequence of the name *rufipes* being preoccupied by a species of the same group named by Prof. Sundevall of Sweden. Whether these two or the spiders I have named *N. formidabilis* are the true

N. rufipes of Blackwall can scarcely be determined until I shall have been fortunate enough to meet with their respective males; either of them would fairly answer to Mr. Blackwall's description, though, in regard to the type of *N. formidabilis*, it may be remarked that the late Mr. Blackwall examined it some years ago, and returned it to me as unknown to him.

Nerienne laudata, Cambr. (Pl. I. fig. 3.)

Walckenaëra laudata, Cambr. Spiders of Dorset, p. 591.

I have again met with this spider during the summer of 1881 on Bloxworth Heath; and further examination leads me to remove it from the genus *Walckenaëra* to *Nerienne*, to which last the position of the eyes appears to bring it nearer than to the former.

Genus WALCKENAËRA, Bl.

Walckenaëra diceros, Cambr.

Walckenaëra diceros, Cambr. Spiders of Dorset, p. 145, pl. iii. fig. 6.

On the 14th of April I met with an adult male of this exceedingly minute and rare spider among grass and weeds near the riverside at Hyde, near Bloxworth. I had not met with it previously for more than twelve years. The example now recorded differs from the type specimens only in being of a deeper, richer yellow-brown colour.

Walckenaëra penultima, sp. n. (Pl. I. fig. 4.)

Adult male, length $\frac{1}{16}$ of an inch.

The caput is slightly but roundly elevated; and in profile the spider has somewhat the look of *Walckenaëra pumila*, Bl., the darker colouring of which species, however, as well as its very characteristic palpi and palpal organs, will prevent any confusion between the two. The height of the clypeus is about equal to half that of the facial space; and from just above each lateral pair of eyes a strong longitudinal tapering indentation runs back nearly to the occiput; a few bristly hairs are directed forwards from just behind and within the ocular area, in the median line.

The colour of the *cephalothorax* is pale yellow margined by a fine black line, the elevated portion of the caput yellow-brown; the legs light yellow, strongly suffused with sooty-brownish on the tibiæ and metatarsi, chiefly of the first and second pairs. The abdomen is dull yellowish brown, suffused towards and on the underside with a dusky brown hue.

The *eyes* are very small, seated on small black spots, those of the fore central and two lateral pairs form a transverse curved row, each fore central eye being separated from the fore lateral next to it by an eye's diameter. The eyes of the hind central pair are separated by rather more than a diameter's interval, and, with those of the fore central pair (which are the smallest and nearly contiguous to each other), form a long narrow trapezoid, whose length is about double its width at the upper (or hinder) part.

The *palpi* are similar in colour to the legs, and short; the radial is shorter but stronger than the cubital joint, and has its fore extremity on the upperside a little prominent, with two very small points at its most prominent part, one of these points (the largest) being obtuse and black, and the other acute and pale. The digital joint is small, oval; the palpal organs are simple, not much developed, and have a small, fine, black, curved, filiform spine at their extremity.

The *falces* are rather weak, straight, and slightly inclined backwards towards the labium.

The *legs* are short, tolerably strong; the tibiæ only a little less strong than the femora; they are furnished with coarsish hairs and a few erect bristles.

The *sternum* is convexly prominent, margined narrowly with black, and strongly suffused with dusky brown. It is of a short heart-shape or somewhat subtriangular.

The *abdomen* is oval, and projects considerably over the base of the thorax.

An adult and an immature male of this spider (which in colours nearly resembles *Walckenaëra ludicra*, Cambr.) were found among heather on Bloxworth Heath, on the 8th and 29th of April, 1881.

Walckenaëra melanocephala, Cambr. (Pl. I. fig. 5.)

Walckenaëra melanocephala, Cambr. Spiders of Dorset, p. 596.

Three adult examples (two females and one male) were found on the 24th of July, 1881, among grass in paths in a wood at Bloxworth, where I had found the typical examples in the same month of the previous year. It is perhaps one of the most striking species, from the strong contrast of its colours, among those found in Great Britain.

Walckenaëra mitis, sp. n. (Pl. I. fig. 6.)

Length of the adult female $\frac{1}{16}$ of an inch.

The colour of the cephalothorax, legs, palpi, falces, maxillæ,

and labium is yellow-brown, the sternum yellowish, and the abdomen pale dull luteous.

The *cephalothorax* is of an oblong form, slightly rounded at each end, the hinder part being rather broader than the fore part. The normal indentations are indistinct, and the lateral constriction of the caput very slight. The height of the clypeus equals, or is perhaps rather less than, half that of the facial space.

The *eyes* are small, in two curved rows, forming a tolerably compact transverse oval figure. The posterior row is the longest and most curved, and its eyes are equally separated from each other by about an eye's diameter; those of the lateral pairs are rather the largest. The fore central pair are very minute and, with the hind centrals, form a trapezoid, whose length is a little greater than its breadth at the hinder part, and the anterior side is much the narrowest.

The *legs* are short and slender, 4, 1, 2, 3, the difference between those of the first and fourth pairs being very slight.

The *falces* are of moderate size and strength, straight and vertical.

The *maxillæ* are short, strong, straight, and obliquely truncated at their extremity on the outer side.

The *labium* is short and semicircular.

The *abdomen* is oval, bluff at the hinder extremity, considerably convex on the upperside, and projects a good deal over the base of the cephalothorax. The genital aperture is of characteristic structure, and is comprised in a rather large dark yellow-brown and blackish horseshoe-shaped area, forming a very conspicuous object in contrast to the pale colour of the abdomen.

Four examples of this little spider were found among moss near Bloxworth on the 29th of April, 1881.

It seems to be allied to *W. ingrata*, Cambr., but may be easily distinguished by the form and colour of the genital aperture.

Walckenaëra miser, sp. n. (Pl. I. fig. 7.)

Length of the adult female 1 line.

The colour of the *cephalothorax* is dull yellow (slightly tinged with orange-brown) margined with a black line, and more or less suffused on the sides (towards the margins) and at the thoracic junction with blackish. All the rest of the fore part is also of a similar colour, excepting the tibiæ of the first and second pairs of legs, which are deep yellow-brown, and the sternum, which is strongly suffused with blackish brown. The metatarsi also of the legs above mentioned are suffused, but less strongly, with yellow-brown.

The caput is broadish and bluff before, and slightly constricted on the lateral margins. Looked at in profile the occipital region is very slightly but perceptibly and roundly raised, just sufficiently so to interrupt the even curve of the general profile-line; at the posterior part of the occiput is a small blackish suffusion, into which a suffused line of a similar colour runs from each hind lateral eye.

The height of the clypeus is rather less than half that of the facial space.

The *eyes* are of moderate size, seated on black spots, and form a largish area on the anterior upper slope of the caput; the posterior row is the longest and very strongly curved, the anterior row being very nearly straight. The intervals between the eyes of the posterior row are similar, being each equal to about an eye's diameter. Those of each lateral pair are seated obliquely on a slight tubercle.

The *legs* are strongish but not very long, nor greatly unequal in length, furnished with hairs and a few fine erect bristles; 4, 1, 2, 3.

The *falces* are moderate in length, strong, straight, and vertical; armed with a few very minute teeth on each side of the groove in which the fang lies when at rest.

The *maxillæ*, *labium*, and *sternum* do not present any noteworthy characters.

The *abdomen* is oval, and projects strongly over the base of the cephalothorax; it is of a dull brownish-yellow colour, the sides and underpart more or less suffused with blackish brown; and it is thinly clothed with short fine hairs.

The genital aperture is inconspicuous and very simple in form, consisting of a small oblong aperture with an oblique narrow oblong-oval dark brown marking on each side of it, probably denoting the position, beneath, of the spermathecæ.

An example of this spider was found among moss in October 1879, at Bloxworth; and another has been since received from Northumberland. It does not appear to me to belong to any species of which the male has yet been described; and its colours and form rendering it a characteristic species, I am induced to describe it as new.

If it were not that the eyes are so much larger, I should have considered that it might be the female of *W. penultima*, to which in colours it bears a strong resemblance.

Genus LINYPHIA, Latr.

Linyphia pallida, Cambr.

Linyphia pallida, Cambr. Spiders of Dorset, p. 216; and Trans. Linn. Soc. xxvii. p. 435, p. lvi. no. 26.

In June 1880, and again in June and July 1881, I have

found several examples of both sexes of this very distinct species, among grass and low herbage, in woods at Bloxworth. I had not met with it since March 1867. An adult male was also found at Hoddesdon, Hertfordshire, in June 1881, by Mr. F. M. Campbell.

Linyphia experta, Cambr.

Linyphia experta, Cambr. Spiders of Dorset, p. 203; and Trans. Linn. Soc. xxvii. p. 429, pl. lv. no. 23.

Adults of both sexes in some abundance occurred in a swamp near Bloxworth, in November 1881. The only example (a male) before recorded in this district, occurred in the village schoolroom at Bloxworth, in December 1867, brought in probably among the turf and sticks used for fuel. Several examples were subsequently received from Mr. James Hardy, by whom they were found in Berwickshire.

Linyphia approximata, Cambr.

Linyphia approximata, Cambr. Spiders of Dorset, p. 199; and Linn. Trans. xxvii. p. 424, pl. lv. no. 19.

I have not met with this spider since its first discovery in May 1863, until May 1, 1880, and also during the present year (1881), when in May, and again in September and November, I found several adults of both sexes in another part of the same marsh where it had previously occurred. Adults would probably be obtained in mild weather during the whole winter.

Fam. Epeiridæ.

Genus EPEIRA.

Epeira alsine, Walck.

Epeira alsine, Walck., Cambr. Spiders of Dorset, p. 530.

An adult male of this handsome spider was found among rushes in a marshy spot near Bloxworth, on the 27th of August 1881; and a few days later another adult of the same sex, with an immature female, were met with among low plants in Berewood, adjoining Bloxworth. This is the first record of the male in Great Britain, and of the occurrence of the species in this district.

The only examples previously recorded were found near Tring, in Hertfordshire, some years ago.

Fam. Thomisidæ.

Genus PHILODROMUS, Walck.

Philodromus elegans, Bl.

Philodromus elegans, Bl. Spid. Great Brit. & Irel. p. 94, pl. v. fig. 57;
Cambr. Spiders of Dorset, p. 334.

This fine *Philodromus* has been unusually abundant during the past autumn (1881) on Bloxworth Heath; but, although I have examined numerous examples from time to time up to the 1st of November, no male in the adult state has been yet met with. Some few of the *females* were adult on the 17th and 31st of October; but all the *males* had the digital joints of the palpi still in a tumid state. On the day last mentioned I placed four males alive in separate bottles, and have since fed them with flies; they are up to the present time (December 5th) well and active; but the palpal organs are still undeveloped, leading me to conclude that they do not attain complete maturity until the early spring.

List of Spiders noted and described.

Clubiona cærulescens, <i>L. Koch</i> , p. 2.	Nerienne laudata, <i>Cambr.</i> , p. 7, Pl. I. fig. 3.
Amphissa (g. n.) spinigera, <i>Cambr.</i> , p. 3, Pl. I. fig. 1.	Walckenaëra diceros, <i>Cambr.</i> , p. 7. — penultima, sp. n., p. 7, Pl. I. fig. 4.
Hahnna helveola, <i>Sim.</i> , p. 3.	— melanocephala, <i>Cambr.</i> , p. 8, Pl. I. fig. 5.
Dipœna melanogaster, <i>C. L. Koch</i> , p. 4.	— mitis, sp. n., p. 8, Pl. I. fig. 6. — miser, sp. n., p. 9, Pl. I. fig. 7.
Euryopsis flavomaculata, <i>C. L. Koch</i> , p. 4.	Linyphia pallida, <i>Cambr.</i> , p. 10. — experta, <i>Cambr.</i> , p. 11. — approximata, <i>Cambr.</i> , p. 11.
Nerienne innotabilis, <i>Cambr.</i> , p. 4.	Epeira alsine, <i>Walck.</i> , p. 11.
— agrestis, <i>Bl.</i> , p. 4, Pl. I. fig. 2.	Philodromus elegans, <i>Bl.</i> , p. 12.
— excisa, <i>Cambr.</i> , p. 6.	
— uncata, <i>Cambr.</i> , p. 6.	
— formidabilis, <i>Cambr.</i> , p. 6.	
— lapidicola, <i>Thor.</i> , p. 6.	

EXPLANATION OF PLATE I.

Fig. 1. Amphissa (g. n.) *spinigera*, *Cambr.*, ♂. *a*, spider, enlarged; *b*, profile of cephalothorax and abdomen; *c*, eyes and falces, from in front; *d*, maxillæ and labium; *e*, left leg of third pair, from the outer side; *f*, portion of left palpus, from above and behind; *g*, natural length of spider.

Fig. 2 a. Nerienne fasca, *Bl.*, genital aperture of female.

Fig. 2 b. Nerienne agrestis, *Bl.*, genital aperture of female.

Fig. 3. Nerienne laudata, *Cambr.*, ♂. *a*, profile of cephalothorax and abdomen, greatly enlarged; *b*, outline of ditto from above; *c*, fore part of caput and eyes of male, from above and behind; *d*, right palpus of male, from outer side in front; *e*, ditto, from

inner side in front and turned upwards; *f*, genital aperture of female; *g*, natural length of spider (♂).

Fig. 4. Walckenaëra penultima, sp. n., ♂. *a*, profile of cephalothorax and fore part of abdomen, greatly enlarged; *b*, fore part of caput and eyes, from above and behind; *c*, left palpus, from above and behind; *d*, natural length of spider.

Fig. 5. Walckenaëra melanocephala, Cambr. *a*, profile of cephalothorax and abdomen of male, much enlarged; *b*, cephalothorax of male, showing form of caput and eyes, from above and behind; *c*, profile of cephalothorax of female; *d*, eyes and falces of female from in front; *e*, right palpus of male inverted, from outer side in front; *f*, genital aperture of female; *g*, natural length of spider (♂).

Fig. 6. Walckenaëra mitis, sp. n., ♀. *a*, profile of cephalothorax and abdomen, much enlarged; *b*, cephalothorax from above and behind; *c*, eyes, from in front; *d*, genital aperture; *e*, natural length of spider.

Fig. 7. Walckenaëra miser, sp. n., ♀. *a*, cephalothorax and fore part of abdomen, in profile, much enlarged; *b*, outline of cephalothorax and abdomen, from above; *c*, fore part of caput and eyes, from above; *d*, eyes, from in front; *e*, genital aperture; *f*, natural length of spider.

II.—On *Lepidoptera* collected in Japan and the Corea by Mr. W. Wykeham Perry. By ARTHUR G. BUTLER, F.L.S., F.Z.S.

MR. W. WYKEHAM PERRY, of H.M.S. 'Iron Duke,' has recently sent to the Museum an interesting series of *Lepidoptera* (all, with two exceptions, referable to the *Rhopalocera*), collected by himself in Hakodaté, Yokohama, Kobé, and at Posiette Bay, Corea, during the present year.

Although the species obtained in Japan exhibit the ordinary features of all small collections received from these islands, it is nevertheless interesting to us to obtain, for the first time, specimens from Kobé. But the most important portion of this consignment is the series from Posiette Bay, as giving us some idea of the *Lepidopterous* fauna of the Corea; it represents a combination of Japanese, European, and Chinese features which is most instructive.

If any lepidopterist should assert (upon the authority of specimens not received direct from collectors, but purchased through dealers) that the species of Japan and Amurland are for the most part identical, Mr. Perry's Corean series must present a difficulty to be solved. It contains, in several instances, Japanese and European types of closely allied species side by side; and those forms which are common in Eastern Siberia seem to be equally abundant in N.E

Corea ; those forms which have their representatives in Japan are more worn and rubbed than the typical Japanese species occurring with them, thus indicating that their time of emergence from the pupa is earlier. The fresher species are chiefly females, the males having not yet emerged when Mr. Perry left the country.

For my part, knowing that Lepidoptera said to come from the Amur fetch a higher price than their allies from Japan, I should at all times receive with the greatest caution any statement of the identity of specimens the history of which was not beyond all question.

The following is a list of the species :—

Nymphalidæ.

SATYRINÆ.

1. *Satyrus dryas*.

Papilio dryas, Scopoli, Ent. Carn. p. 153, fig. 429 (1763).

Posiette Bay, Corea, N.E., August 1881.

2. *Satyrus bipunctatus*.

Satyrus bipunctatus, Motschulsky, Etudes Entom. ix. p. 29 (1860).

Hakodaté and Kobé, in July ; Yokohama and Posiette Bay, Corea, in August.

3. *Satyrus hyperantus*.

Papilio hyperantus, Linnæus, Fauna Suecica, p. 273 (1761).

Posiette Bay, Corea, N.E., August 1881.

4. *Satyrus ocellatus*, sp. n.

♀. Nearly allied to *S. hyperantus*, but with all the ocelli of about three times the size ; those on the under surface with confluent irides and oval in form. Expanse of wings 2 inches.

Posiette Bay, Corea.

Although the ocelli in *S. hyperantus* are very variable, this variation is in a decreasing direction from the normal condition ; I have never seen them enlarged so as to give the insect the aspect of a *Mycalesis* or *Ypthima* ; and therefore I have thought it best to give this form a name.

5. *Neope Fentoni*.

Neope Fentoni, Butler, Ann. & Mag. Nat. Hist. ser. 4, vol. xix. pl. xci. (1877).

♂ ♀. Posiette Bay, Corea.

The male has the under surface of the secondaries coloured exactly as in Ménétriés's figure of the female.

6. *Lethe sicelis*.

Debis sicelis, Hewitson, Exot. Butt. iii. *Deb.* pl. i. fig. 3 (1862).

Yokohama, August 1881.

Two very much worn female examples were obtained, proving that its time of appearance must be much earlier in the year.

7. *Sadarga gotama*.

Mycalesis gotama, Moore, Cat. Lep. Mus. E. I. Comp. i. p. 232 (1857).

Yokohama, August.

8. *Ypthima argus*.

Ypthima argus, Butler, Journ. Linn. Soc. Zool. ix. p. 56 (1866).

Hakodaté (July) ; Yokohama (August).

9. *Melanargia halimede*.

Arge halimede, Ménétriés, Bull. Acad. Petr. xvii. p. 216 (1859); Schrenck's Reisen, ii. p. 37, pl. iii. figs. 6, 7 (1859).

Twelve examples, Posiette Bay, N.E. Corea, in August.

Of the specimens obtained nine are perfectly typical; but three (two males and a female) are somewhat melanized, so as to show a tendency to approach the Chinese species *M. meridionalis*; the differences on both surfaces, however, are too strongly marked to permit one for a moment to think of regarding them as truly intermediate forms; they still exhibit the characteristics of *M. halimede*.

NYMPHALINÆ.

10. *Argynnis coreana*, sp. n.

Nearly allied to *A. nerippe* of Felder, but the sexes more equal in size; the black spots on both surfaces of both sexes considerably smaller, those upon the median interspaces of the primaries not quadrate on either surface; ground-colouring paler; male with the thickened sexual patch upon the first median branch very broad and prominent, and the submarginal spots isolated instead of united into a band as on the female; on the under surface also all the spots are smaller, the silvery spots less prominent, and the discal ocelloid spots of the secondaries very small and dull in colouring; the female is altogether duller, has the bases of the wings above of an altogether greener colour, with the black lines on the basal

area thicker, the submarginal pale spots whiter, the secondaries with a black spot on the radial instead of on the subcostal interspace, thus making an uninterrupted series of four spots; the apical area of primaries and the whole ground-colour of the secondaries dull olive-green; the silver spots on the primaries better formed, and those on the secondaries larger than in Yokohama females, although decidedly smaller than in Nikko females of *A. nerippe*. Expanse of wings, ♂ 3 inches, ♀ 3 inches 4 lines.

Two males, Posiette Bay, N.E. Corea; one female, Hakodaté.

The form of this species is somewhat different from that of *A. nerippe* (seven fine examples of which are before me), the wings being somewhat more elongated and the costa of primaries consequently less arched.

11. *Argynnis japonica*.

Argynnis laodice, var. *japonica*, Ménétriés, Cat. Acad. Petr. Lep. ii. p. 102, pl. x. fig. 3 (1857).

Six males, Hakodaté; six females, Posiette Bay, Corea.

12. *Argynnis laodice*.

Papilio laodice, Pallas, Reise, i. App. p. 470 (1771).

Two males and three females, Posiette Bay, N.E. Corea.

13. *Argynnis rabdia*.

Argynnis rabdia, Butler, Ann. & Mag. Nat. Hist. ser. 4, vol. xix. p. 93 (1877).

Two females, Posiette Bay, N.E. Corea.

14. *Argynnis daphne*, var. *fumida*.

Differs from the European type in its duller and more smoky colouring and larger black spots on both surfaces; it is, however, of the same size, and therefore considerably smaller than *A. rabdia*, from which it differs also in its duller coloration.

Two females, Posiette Bay, N.E. Corea.

We have the male of this form from Yesso.

15. *Brenthis Perryi*, sp. n.

♂. Allied to *B. selene*, but larger, and with all the black markings on both surfaces considerably larger and broader, more like those of *Argynnis oscarus*, the ground-colour richer (but not red as in Eversmann's figure of *A. oscarus*); the silver spots on the under surface more metallic; the apical red-brown patch of the primaries and the two large patches on the apical

and anal areas of secondaries much broader and darker Ex-
panse of wings 1 inch 9 lines.

Posiette Bay, N.E. Corea, August.

16. *Limenitis sibilla*.

Papilio sibilla, Linnæus, Syst. Nat. 1, ii. p. 781 (1767).

Hakodaté, July.

Lycænidae.

17. *Everes hellotia*.

Lycæna hellotia, Ménéttriés, Cat. Mus. Petr. Lep. ii. p. 124, pl. x. fig. 6 (1857).

Hakodaté and Kobé, July.

18. *Lycæna ladonides*.

Lycæna ladonides, De l'Orza, Lép. Jap. p. 20 (1869).

Kobé, July; Yokohama, August.

19. *Lycæna argia*.

Lycæna argia, Ménéttriés, Cat. Mus. Petr. Lep. ii. p. 125, pl. x. fig. 7 (1857).

Hakodaté and Kobé, July; Yokohama, August.

The specimens, though numerous, were for the most part much worn.

20. *Lycæna ægon*.

Lycæna ægon, Denis, Wien. Verz. p. 185 (1776).

One worn female, Posiette Bay, N.E. Corea.

21. *Lycæna lycormas*.

Polyommatus lycormas, Butler, Journ. Linn. Soc., Zool. vol. ix. p. 57 (1866).

One worn male, Yokohama, August.

22. *Niphanda fusca*.

♀. *Thecla fusca*, Bremer & Grey, Schmett. N.-China's, p. 9 (1853); Ménéttriés, Cat. Mus. Petr. Lep. i. pl. iv. fig. 5 (1855).

♀. *Amblypodia fusca*, Bremer, Bull. Acad. Pét. iii. p. 469 (1861).

♂. *Amblypodia dispar*, Bremer, Lep. Ost-Sibir. p. 24, pl. iii. fig. 4 (1864).

One male, Posiette Bay, Corea.

23. *Chrysophanus timæus*.

Papilio timæus, Cramer, Pap. Exot. ii. pl. 186 E F (1779).

Hakodaté and Kobé, in July.

Ann. & Mag. N. Hist. Ser. 5. Vol. ix.



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