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“Nature is ever making signs to us, she is ever whispering to us the beginnings of her secrets; the scientific man must be ever on the watch, ready at once to lay hold of Nature’s hint however small, to listen to her whisper however low.”

Michael Foster.

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and *Syncalypta hirsuta*, Sharp, frequent; *Hydrothassa aucta*, F., *Aphodius erraticus*, L., in numbers; *A. sticticus*, Panz., and *A. plagiatus*, L., scarce; *A. luridus*, F., very common, both the pale and the black forms being equally well represented. Mr. Walker and I each met with one or two specimens of a handsome variety of the last mentioned species, in which the base of the elytra is black, and the apex lurid-testaceous, these colours interlacing where they meet on the alternate interstices.

Away from the flood-rubbish, chiefly on the banks of the fresh-water ditches which intersect the marshes, I met with *Dromius nigriventris*, Thoms., *Ochthebius exaratus*, Er., *Coccinella 22-punctata*, L., *Coccidula scutellata*, Herbst, and a few specimens of *Bagöus subcarinatus* of Sharp's Catalogue.

27, Hereford Square, S.W. :

January, 1899.

TRICHOPTERA, PLANIPENNIA, AND PSEUDO-NEUROPTERA,
COLLECTED IN THE DISTRICT OF THE LAC DE JOUX
(SWISS JURA) IN 1898.

BY ROBERT McLACHLAN, F.R.S., &c.

It had long been my desire to test the capabilities of the Swiss Jura in the way of Neuropterous insects, and this was carried into effect in the summer of 1898, in company with my friend Mr. H. S. Eaton, who has often been my *compagnon de voyage*. In choosing a locality I hit upon the district of the Lac de Joux, in a corner of the Canton Vaud, partly because it appeared to be little known entomologically, and also because it was out of the usual run of English tourists. It did not come up to my expectations; but I do not regret having visited a district in many other ways of great interest.

Our head-quarters were at the village of Le Pont, at the N. end of the Lac de Joux, and there I stayed from July 25th to August 10th. A comfortable old-fashioned hotel is to be found there, but its sleeping accommodation is inadequate to the demand, and the guests are mostly quartered outside its walls. A new hotel, on modern lines, probably now in course of construction, will remedy this; at the same time it will render the primitive simplicity of the village a thing of the past.

The elevation of Le Pont is about 3300 ft., and the highest point in the neighbourhood (Mt. Tendre) rises to over 5500 ft. The hills are clad with spruce fir, with some beech, and other trees that like a dry calcareous soil. Lac de Joux is 5 miles long, by $1\frac{1}{4}$ broad; a small screw steamer makes a zig-zag course on it from one end to as near as it can get to the other, and back again. It is connected with

the much smaller Lac Brenet. And there is still a third lake (not much more than a circular pond), known as Lac Ter, separated from the large lake by an elevated narrow ridge, and of quite another nature, filling a basin in a peaty hollow.

For most Neuropterological purposes the defect of the country is the scarcity of streams, torrents, and waterfalls, and the fact that what large streams there are have the habit (not unknown in other limestone districts) of running underground.

Thus, a stream known as "La Lionne" has its source underground, probably in the mountains, with an open-air course at L'Abbaye on the Lac de Joux, of about a furlong, rushing out of the face of a rock with sufficient volume and force to work powerful saw-mills. Then again the Orbe, after feeding the Lac de Joux and Lac Brenet, takes an underground course from the latter lake at a series of funnels ("*entonnoirs*"), and re-appears three miles in distance, and 750 ft. in elevation, lower down, as a foaming torrent bursting out of the base of a stupendous precipice 1000 ft. high, the spot being known as the "Source de l'Orbe;" but the actual source is far away.* Up in the mountains there is no water in summer, save occasional trickles after rain, and these are at once conducted into cattle troughs, being too precious to be lost.

The lakes produce quantities of fish; "*brochet*" (pike) appeared on the *menu* almost *ad nauseam*. The staple occupation of the inhabitants immediately round the Lac de Joux is cheese-farming, and a delicious *gruyère* is manufactured, the milk for which is produced by a fine breed of cattle, large, well-fed, and scrupulously clean, a contrast to some other Swiss districts. I am of opinion that a Lepidopterist would be well satisfied with the district; to a botanist it is hardly necessary to allude to the richness of a calcareous soil at that elevation.

TRICHOPTERA.

For Trichopterological purposes the district has three aspects, viz. :—(1) the lakes; (2) the streamlets, which are not numerous, and of small size; (3) the "Source de l'Orbe." The most important is undoubtedly the Source de l'Orbe, and to work this properly it is necessary to stay at Vallorbe. I visited it for a few hours only on two consecutive days, August 2nd and 3rd, and on the second occasion

* There is considerable mystery regarding these lakes. It is said that the *visible* sources of supply are quite inferior to the amount discharged at the *entonnoirs*, pointing to the possibility of land springs at the bottom. As there is no other outlet, the district would be flooded should any mishap occur to the *entonnoirs*. It is also said that, notwithstanding the great difference in the level, the water discharged takes many hours before it re-appears at the "Source," as tested by the introduction of colouring matter. On these points the Guide Books give no information.

collecting operations were cut short by violent thunderstorms. This locality is specially interesting, because the water-condition—a foaming torrent in a deep gorge—is not to be found elsewhere for a long distance, and those insects requiring such a condition naturally congregate at this point.

In all only 37 species were taken, a disappointing number for a Swiss excursion; and of these the only ones of importance (outside questions of local interest) are *Drusus mixtus*, Pict., *Rhyacophila philopotamoides*, McLach. (new for Switzerland), and *Rhyacophila aurata*, Brauer.

PHRYGANEIDÆ.

NEURONIA RUFICORUS, Scop.—*Tourbière* at the base of the Dent de Vaulion, near Le Pont, 1 ♂; very late.

PHRYGANEA GRANDIS, L.—A few at Le Pont, concealed in the chinks of the bark of trees; one in my bedroom. The only female is not larger than the male. This appears to be a scarce insect in Switzerland.

PHRYGANEA VARIA, F.—Le Pont, 1 ♂.

LIMNOPHILIDÆ.

LIMNOPHILUS RHOMBICUS, L.—One mutilated ♀ at Le Pont.

LIMNOPHILUS LUNATUS, Curt.—Le Pont, 1 ♀.

LIMNOPHILUS EXTRICATUS, McLach.—Near Rocheray, Lac de Joux, 1 ♂.

LIMNOPHILUS GRISEUS, L.—Same locality, 1 ♀.

STENOPHYLAX (HYPOCHIONA) PICICORNIS, Pict.—Sloping meadow at the N.E. end of Lac Brenet, 3 ♂, 1 ♀.

DRUSUS MIXTUS, Pict.—Source de l'Orbe, 1 ♂, 1 ♀. This little-known species is probably peculiar to the Jura. I had already seen it from the "Source" (*cf.* Rev. and Synops., p. 173), and it was the thing in particular I hoped to obtain during my visit. Unfortunately I did not recognise the examples until my arrival home; had I done so my plans would probably have been modified.

PELTOSTOMIS SUDETICA, Kol.—3 ♂, 1 ♀, with *S. picicornis*.

SERICOSTOMATIDÆ.

SERICOSTOMA PEDEMONTANUM, McLach.—At streamlets; abundant along the roadside between Vallorbe and Le Day. The individuals belong to a race in which the two branches of the penis-sheaths are widely divergent, and the upper only slightly longer than the lower.

CRUNECIA IRRORATA, Curt.—Source de l'Orbe, 3 ♂.

LEPIDOSTOMA HIETUM, F.—Source de l'Orbe, 4 ♀.

LEPTOCERIDÆ.

MOLANNA ANGUSTATA, Curt.—Lac de Joux at Le Pont, 1 ♀.

ODONTOCERUM ALBICORNE, Scop.—Common at streamlets, especially at one running into a corner of the Lac de Joux at Le Pont.

LEPTOCERUS CINEREUS, Curt.—Lac de Joux and Lac Brenet, abundant. The race here represented is that in which the anterior wings in both sexes are brownish, the only marking being a pale spot at the arculus.

LEPTOCERUS ATERRIMUS, Steph.—Lac de Joux at Le Pont, common. Apparently exclusively of the form or race in which the anterior wings are wholly reddish-brown (*perfusus*, Steph., *tineoides*, Brauer), and of somewhat large size. This was the first occasion on which I had seen this common species unrepresented by the type-form.

MYSTACIDES AZUREA, L.—Lac de Joux, not common.

MYSTACIDES LONGICORNIS, L.—Lac de Joux at Le Pont, and Lac Brenet, abundant.

Not more than one in twenty of the individuals have any trace of the dark fasciæ on the anterior wings. The majority have these wings wholly lightly clothed with yellowish pubescence, and with a darker pterostigmatic clouding; the hind-wings paler; the antennæ with a dark mark only at the sutures (sometimes absent). This form (which shows an approach towards *M. monochroa*, McLach.) occurs elsewhere, and is almost worthy of a varietal name, but it seems to be linked to the banded form (*quadrifasciata*, F.) by gradations.

ADICELLA FILICORNIS, Pict.—Source de l'Orbe, 1 ♂.

ÆCETIS OCHRACEA, Curt.—Lac de Joux, near Le Sentier, 1 ♂.

HYDROPTILIDÆ.

OXYETHIRA COSTALIS, Curt.—Lac de Joux, common, but only one ♂ brought home.

HYDROPSYCHIDÆ.

HYDROPSYCHE PELLUCIDULA, Curt.—Cascade du Day and Source de l'Orbe, a few.

PHILOPOTAMUS LUDIFICATUS, McLach.—Abundant at a streamlet running into the Lac de Joux at Le Pont; also elsewhere.

DOLOPHILUS COPIOSUS, McLach.—Source de l'Orbe, not common.

CYRNUM TRIMACULATUS, Curt.—Lac Brenet, 1 ♂.

TINODES DIVES, Pict.—In great profusion at rapid streamlets; also Source de l'Orbe.

CHIMARRHA MARGINATA, L.—One example on shore of Lac de Joux.

RHYACOPHILIDÆ.

RHYACOPHILA TORRENTIUM, Pict.—Source de l'Orbe, 1 ♀.

RHYACOPHILA DORSALIS, Curt.—Source de l'Orbe, 2 ♂.

RHYACOPHILA PRÆMORSA, McLach.—Source de l'Orbe, 2 ♂.

RHYACOPHILA AURATA, Brauer.—At a rapid part of a streamlet having its source at a *tourbière* at the foot of the Dent de Vaulion, a tributary of the Orbe, running parallel with the road from Le Pont to Vallorbe, 1 ♂. I was surprised to find this insect in the Jura. Its home appears to be in the Austrian Alps, but it is already known as Swiss. The example has the anterior wings less bright than in those from Austria, and more reticulated with darker markings.

RHYACOPHILA VULGARIS, Pict.—6 ♂, 1 ♀, Source de l'Orbe. One very large ♂ from La Lionne at L'Abbaye, Lac de Joux.

RHYACOPHILA PHILOPOTAMOIDEA, McLach.—1 ♂ at the same stream as *Rh. aurata*.

New for Switzerland. A widespread species, but so far never found in abundance.

RHYACOPHILA TRISTIS, Pict.—Abundant at rapid streamlets; also Source de l'Orbe.

GLOSSOSOMA BOLTONI, Curt.—Source de l'Orbe, 1 ♂.

SYNAGAPETUS DUBITANS, McLach.—Meadow at N.E. end of Lac Brenet, 2 immature ♀.

PLANIPENNIA.

Aphidivorous *Planipennia* were excessively scarce. The results of beating hundreds of fir trees, &c., were seven individuals of *Hemerobius* (in five species), and two individuals of *Chrysopa* (in two species), and it is believed that every specimen seen was captured!

PANORPA GERMANICA, L.—Fairly common; the var. *apicalis*, Steph., is frequent.

PANORPA COMMUNIS, L.—Two only. P. VULGARIS, Imhoff.—Common. I am obliged to consider the question of the specific identity or otherwise of *communis* and *vulgaris* as still *sub judice*. An inspection of considerably over 100 examples in my collection from varied localities leaves me in doubt where one form ends and the other begins: but wherever I have seen the two *alive* in the same locality their distinctness has seemed to be practically certain.

ASCALAPHUS COCCAJUS, W. V.—On the side of the Dent de Vaulion, near Le Pont, 1 ♀.

OSMYLUS CHRYSOPS, L.—Source de l'Orbe, common.

HEMEROBIUS PELLUCIDUS, Wlk.—One out of a fir tree on the ridge above Lac Ter.

H. MICANS, Oliv.—One. H. HUMILI, L. ?.—Two ♀. H. STRIGOSUS, Zett. (*limbatus*, Wesm.).—One. H. PINI, Steph.—Two (I think it probable that *phaleratus*, Schnd., and *punctatus*, Gözsy, represent a larger form of this species).

CHRYSOPA PRASINA, Burm. (*aspera*, Wesm.), and CH. VULGARIS, Schnd.—one of each.

PSEUDO-NEUROPTERA.

PSOCIDÆ.

It had never been my lot to visit a district in which these insects were so poorly represented. They were carefully looked for, and yet the few noticed below were all that could be found, with the exception of *Elipsocus unipunctatus*, which was tolerably common.

PSOCUS FASCIATUS, F. (2); PS. LONGICORNIS, L. (1). STENOPSOCUS (GRAPHOPSO-CUS) CRUCIATUS, L. (1). ELIPSOCUS ABIETIS, Kolbe (2); E. (MESOPSOCUS) UNIPUNCTATUS, Müller, common.

PERLIDÆ.

Individuals of *Leuctra* and *Nemoura* were abundant at small streamlets, and on the lake sides, but the larger caudate forms were very scarce. Mr. Morton has kindly looked over the materials, and to him I am indebted for most of the determinations.

DICTYOPTERYX INTRICATA, Pict.—At the spot where La Lionne bursts out of the rock at L'Abbaye. 1 ♂. I am quite disposed to agree with Mr. Morton as to the identification, but the apical neuration is much more regular than is usual in the species, and the elevation is less than that at which it is usually found in Switzerland.

CHLOROPERLA RIVULORUM, Pict., 3 ♀; CH. GRAMMATICA, Scop., 1 ♀.

ISOPTERYX TRIPUNCTATA, Scop.—Two examples.

LEUCTRA.—Two or three species at present undetermined.

NEMOURA VARIEGATA, Oliv.—Common; N. MARGINATA, Pict., Morton.—Common;
N. LATERALIS, Pict.—One only; N. INCONSPICUA, Pict.—A few.

EPHEMERIDÆ.

These have been already recorded by the Rev. A. E. Eaton; *cf.*
Ent. Mo. Mag. (2), ix, pp. 265, 266.

ODONATA.

A glance at the short list here given suffices to show that the district is apparently very poorly provided with dragon-flies.

LEUCORRHINIA ALBIFRONS, Burm.—A few at Lac Ter, the first occasion on which I had seen it alive.

SOMATOCHLORA METALLICA, V. d. L.—Lac Brenet, abundant.

CORDULIA ÆNEA, L.—Lacs de Joux and Brenet, common.

ÆSCHNA JUNCEA, L.—Vallée de Joux, and elsewhere, occasional.

ÆSCHNA GRANDIS, L.—Not unfrequently seen, but not captured.

CALOPTERYX VIRGO, L.—Roadside between Le Pont and Vallorbe.

ENALLAGMA CYATHIGERUM, Charp.—In great abundance at the lakes.

AGRION PULCHELLUM, V. d. L.—Lac Ter, abundant.

LESTES SPONSA, Hansm.—Lac Ter, common.

In addition to the above, a Corduline (probably *S. arctica*, Zett.) was often seen in the mountains; a Gomphine (almost certainly *Onychogomphus forcipatus*, L.) was once seen on the shore of Lac Brenet; and a rather small *Æschna* (which I suspect was *Æ. affinis*, V. d. L.) was several times observed in the mountains.

Lewisham, London:

January, 1899.

ON THE BRITISH SPECIES OF THE DIPTEROUS GENUS *LOXOCERA*, Mg. (FAM. *PSILIDÆ*), WITH THE DESCRIPTION OF A NEW VARIETY.

BY ERNEST E. AUSTEN.

While collecting last summer in the Highlands of Scotland, Col. Yerbury met with what appears to be a melanic variety of *Loxocera aristata*, Pz. (*elongata*, Mg., Schin.). After a most careful examination, I have entirely failed to discover in either sex any structural difference whatever from the species in question, but since the form may as well receive a name, I propose to term it in honour of its discoverer.

LOXOCERA ARISTATA, var. *YERBURYI*.

The new variety may be characterized as follows:—

Loxocera aristata, var. *Yerburyi* (var. nov.).—Differing from the typical form in that the *scutellum* and *dorsum of the thorax* are *wholly black*; pleuræ in ♂ shining black, except a somewhat ill-defined ferruginous area extending from the