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XXXVI.—*The* Staphylinidæ *of Japan.*

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This memoir is intended to add to our knowledge of the Coleoptera of Japan by description of the new species of Staphylinidæ obtained by Mr. George Lewis during his tour in the islands in 1880–81. Previous to the year 1874 only three or four species of the family Staphylinidæ were known as occurring in Japan; but in that year I enumerated, in the 'Transactions of the Entomological Society of London,' 190 species that had been obtained in the islands by Mr. Lewis during his first residence there; this total has since been increased by Weise and others to 218, as recorded in Herr von Schönfeldt's recent Catalogue of the Coleoptera of Japan. To this number I am now able to add 249, making a total of 467 species of the family at present known as inhabiting the archipelago.

Thanks to the efforts of Mr. Lewis we have attained a fair knowledge of the Coleoptera of the Japanese islands, his entomological work there having resulted in the formation of a collection of about 4000 or 5000 species of the order. Some considerable parts of this large and interesting collection have

been thoroughly examined—the Geodephaga, with 406 species, and the Longicorns, with 236 species, by Bates; the Chrysomelidæ, 303 species, by Baly and Jacoby *. These families, with the Staphylinidæ, make a total of about 1400 species, and as they comprise insects of very varied habits, they may be taken for statistical purposes as probably fairly representative of the whole collection. Bates has already discussed † the relations of the Coleopterous fauna, so far as the ground-beetles and Longicorns are concerned, to that of the various adjacent regions; but as we can now make use of a much larger material, and as he followed Wallace's plan of using generic statistics for the purposes he had in view, it is still of interest to make a somewhat similar comparison, making use of the species of the four great groups I have mentioned above instead of the genera of the two groups treated by Bates.

Of the 1406 species found in Japan only 210 are known to occur in Europe and Siberia; so that only about 15 per cent. are common to the two subregions. A similar proportion appears to be maintained in the rest of the order Coleoptera, as von Heyden has stated, in the introduction to Schönfeldt's Catalogue of Japanese Coleoptera, that out of the 2682 species recorded in it 391, or rather less than 15 per cent., are also known to occur in Siberia or Europe. This is a very small amount of community for the two provinces; but there is considerable reason for supposing that the discrepancy between the two faunas is at present much greater than it will prove to be when our information is more exhaustive. Lewis's collections have been formed chiefly in the southern islands, whereas it is of course in the more northern island of Yezo that we should expect to find the greater amount of similarity with Siberia. Moreover the Coleoptera of the extreme east of Siberia are not very well known, so that I consider it far from improbable that as much as 30 or 40 per cent. of the species of Japanese Coleoptera may ultimately be proved to exist also in Siberia, though at present the amount is only 15 per cent.

A comparison of the Coleoptera of Japan with the fauna of the parts of the Asiatic continent more to the south than Siberia can at present be made only in a very imperfect manner; it is probable that we do not know more than one tenth of the species of Coleoptera inhabiting Mantchuria,

* Some other families have been worked through by Lewis himself and by Gorham and Reitter, but to these, for my present purpose, I need not specially refer.

† Trans. Ent. Soc. Lond. 1883, p. 205 *et seq.*, and Journ. Linn. Soc. xviii. pp. 205–207.

Northern China, and Korea, so that no useful purpose would be served by estimating what percentage of the Japanese Coleoptera is at present known from there. A paper has recently been published by Herr Kolbe that gives us some, if only a little, information on the question of the relation between the Coleopterous faunas of Japan and of the other portions of Wallace's Mantchurian subregion. Describing * a small collection of 142 species of Coleoptera made by Dr. Gottsche in Korea, he has entered fully into the question of the geographical relations of the species, and announces that Korea is "faunistically extraordinarily closely related to Japan," 77 out of the 142 species detected there being known as occurring also in Japan. This certainly leads us to infer that a considerable amount of community exists between the two provinces; but it appears to be by no means so great as might have been expected, for although we have a fair knowledge of the Coleoptera of the southern islands of Japan, it appears that out of 142 species from the Korea 65, that is nearly 46 per cent., are not known to be Japanese. Kolbe states also that the Korea has more in common with Japan than it has with China; but this is probably connected with the fact that we know so much more of Japanese than we do of Chinese Coleoptera.

I think it will be admitted that with such imperfect data as we possess we cannot pretend to form any trustworthy estimate of the exact relations of the Coleopterous fauna of Japan to those of other provinces. At present what we know seems to indicate a larger amount of endemicity than we should have expected from its geographical position and from its proximity at more than one point to other lands; its fauna, too, seems to have affinities extending over a wide area, including some undoubted and even striking points of resemblance with North America and with East India.

The geographical position of the islands gives their fauna a considerable interest, which is much increased by the fact that the islands themselves are well separated from one another: a comparison of the fauna of the island of Yezo with those of Nipon, Saghalien, and Mantchuria could not fail to throw light on such questions as the exact relation between endemicity and geographical isolation, and as the correlation between present climatic conditions and the distribution of species; but for all such purposes it is necessary to have a complete knowledge of the faunas of the various regions involved, and this we are very far from possessing. Mr.

* Arch. f. Nat. 1886, i. pp. 139–240.

Lewis has probably obtained somewhere between 50 and 80 per cent. of the beetles of Japan; but Yezo has been comparatively neglected, and of the Coleoptera of Saghalien and the Kurile Islands we know really nothing, whilst our knowledge of the beetles of the adjacent parts of the continent of Asia is quite rudimentary.

One of the points that has seemed to occasion some surprise is the occurrence in Japan of forms we were previously only acquainted with from the eastern tropics; but this is probably due to our great ignorance as to the fauna of extreme eastern Asia. In most other parts of the northern hemisphere, as is indeed well known, the tropical fauna is separated from that of the temperate regions by intervening zones of barren country, very different in climate and in capacity for supporting life from the regions adjacent to them. In the extreme east of Asia there seems to be no such barrier to the spread of tropical forms of life into temperate regions, or of temperate forms into tropical regions, and such information as we possess about this region seems to show that a great mixture exists. Bates has already pointed out that there is a large tropical element in the Coleoptera of Japan; and Fairmaire tells us * of Yunnan, far to the south, that there is a great mingling of European genera with tropical forms; and Sémenow again, in remarking † on the Coleoptera collected in China and Mongolia by Potanin, says that three faunas are represented, one of them eminently palæarctic. At present therefore it appears very doubtful whether in this part of the world any natural separation between Palæarctic and Oriental regions exists.

In the present paper I have not included the names of all the species of Japanese Staphylinidæ, those that have been recorded in my previous paper on the subject (Trans. Ent. Soc. 1874, pp. 1–103) only being mentioned when I have some addition or correction to make. I have, however, included the names of all other species that I know of as recorded from the islands; so that this and the paper just mentioned give a complete list of Japanese Staphylinidæ up to this date.

* Ann. Soc. ent. Belg. 1887, p. 87.
† Hor. Soc. ent. Ross. xxi. p. 390.

Subfam. *Aleocharidæ.*

Group Aleocharina.

Aleochara claviger.

Aleochara claviger, Sharp, Tr. Ent. Soc. Lond. 1874, p. 7.

Mr. Lewis has brought from Hakodate a single specimen, having the elytra of a clear pale red colour. I do not know whether it is distinct or only a variety of *A. claviger*. It comes very near to *A. celebensis*, Fauv., but is more finely punctate.

Aleochara discoidea.

Aleochara discoidea, Sharp, Tr. Ent. Soc. Lond. 1874, p. 7.

A small series of examples from different localities on the main island show that this is either a very variable species or that there may be two or three species in Japan very closely allied to *A. fuscipes*, L.; but the material is quite insufficient to form a judgment on.

Aleochara lata?

Aleochara lata, Gravenhorst, Col. Micr. p. 186.

Kiga and Miyanoshita; two specimens. These examples do not agree exactly with either European or North-American specimens, and may possibly be distinct; they are very broad and densely punctate.

Aleochara asiatica.

Aleochara asiatica, Kr., Wiegm. Arch. f. Nat. xxv. p. 13 (sep. pag.).
Aleochara japonica, Sharp, Tr. Ent. Soc. Lond. 1874, p. 8.

We have not yet obtained in Japan any examples with red elytra, such being, according to Kraatz, the ordinary form in Ceylon; but both Kraatz and myself have pointed out that the species is variable in colour, and I have no doubt that the two forms are not distinct.

Aleochara niponensis, n. sp.

Nigra, fusco-pubescens, antennarum basi pedibusque testaceis; dense punctata; antennis apicem versus latioribus, articulis 5°–10^m^ transversis.
Long. 6 millim.

Antennæ short, rather stout, the three basal joints sordid red; ninth and tenth joints quite similar to one another. Thorax strongly transverse, densely and finely punctate and pubescent. Elytra about as long as the thorax, densely, moderately finely punctate, the hind margin very slightly red. Hind body much narrowed to the extremity, densely, moderately finely punctate; last dorsal plate with the hind margin simple.

Kiga, Nagasaki, and Nikko; four specimens.

The place of this species is between *A. bipunctata* and *A. asiatica*; from the former it is distinguished by the finer punctuation and shorter and thicker antennæ, and from *A. asiatica* by denser and finer punctuation and the unemarginate last dorsal plate.

Aleochara nitida.

Aleochara nitida, Grav. Col. Micr. Bruns. p. 97.

Found on the main island at Inoshima and in Yezo at Hakodate; several examples.

Aleochara squalithorax (Fauvel in litt.), n. sp.

Opaca, fusco-nigra, breviter flavo-setosa; prothorace peropaco, obsolete punctato; elytris abdomineque densissime punctatis; antennarum basi pedibusque fuscis.

Long. 4 millim.

Antennæ small and not thick, penultimate joint evidently transverse. Head narrow, quite dull, almost impunctate. Thorax transverse, remarkably dull, sparingly and obsoletely punctate, along the middle an obscure, rather broad, scarcely elevated space quite free from sculpture. Elytra scarcely longer than the thorax, very densely and roughly sculptured. Hind body very densely punctate. Mesosternum very strongly carinate quite to the apex.

Hagi (*Fauvel*), Hakodate (*Lewis*).

I have preserved the name proposed for this curiously sculptured species by the well-known French savant.

Aleochara trisulcata.

Aleochara trisulcata, Weise, Deutsche ent. Zeitschr. 1877, p. 88.

Hagi (*Weise*), Hakodate (*Lewis*).

Only one example of this very peculiar little insect was obtained by Mr. Lewis.

Homœusa acuminata.

Eurynsa acuminata, Märkel, Stett. ent. Zeit. 1842, p. 143.

Miyanoshita, May 1880; one example, agreeing exactly with European specimens.

Homœusa lævigata, n. sp.

Nigra, subnitida; antennis, pedibus anoque rufo-sordidis; subtilissime punctulata; thorace fere lævigato.
Long. $3\frac{1}{2}$ millim.

Antennæ rather short, much thicker externally, fifth to tenth joints transverse, terminal joint elongate, nearly as long as the preceding three together. Thorax strongly transverse, considerably broader than the elytra, bisinuate on each side at the base; hind angles acute, sharply defined, the surface sparingly and excessively finely punctate, somewhat shining. Elytra about as long as the thorax, very finely punctate. Hind body acuminate behind, very finely punctate.

Seba, July 30th, 1881; one specimen in an ant's nest.

Homœusa longicornis, n. sp.

Picea, haud nitida, thoracis lateribus anoque testaceis; elytris brunneis; antennis pedibusque rufis; subtiliter punctata; antennis sat elongatis, articulo penultimo vix transverso.
Long. $3\frac{1}{2}$ millim.

This insect is considerably larger than *H. japonica* and has quite different antennæ, these organs being more slender and elongate than they are in *H. japonica* or the other known species of the genus. The thorax is strongly transverse, a little rounded at the sides, bisinuate behind, the hind angles slightly acute; the surface finely punctate and pubescent. Elytra about as long as the thorax, rather closely and finely punctate. Legs rather long.

Sapporo; one specimen.

ASPIDOBACTRUS, nov. gen.

Tarsi anteriores 5-articulati. Antennæ breves, crassæ, fusiformes, rigidæ. Pronotum magnum, anterius semicirculare, posterius bisinuatum. Coxæ intermediæ contiguæ.

Of this peculiar insect Mr. Lewis obtained only one example, and although I can see its characters only very im-

perfectly, I have little or no doubt that it is allied to *Homœusa*, and distinguished from it and other neighbouring genera by the very peculiar antennæ, the joints of which are consolidated, so that they cannot be easily counted; the terminal joint is elongate, acuminate, about equal in length to the rest of the consolidated mass; the first joint is distinct, the second and third small and slender, the following joints considerably larger, consolidated.

Aspidobactrus claviger, n. sp.

Ferrugineo-testaceus, abdomine obscuriore apice testaceo, subtiliter punctulata; thorace anterius rotundato, abdomine acuminato.
Long. 3 millim.

Antennæ short, thick, rigid, subacuminate. Head immersed under the large thorax; this latter completely rounded at the front and sides, the base strongly bisinuate, the hind angles acute and projecting backwards, the surface finely punctate and pubescent. Elytra considerably shorter and narrower than the thorax, strongly sinuate near the outer hind angle, finely punctate; scutellum not visible. Hind body strongly narrowed from base to apex, feebly punctate, rather strongly pubescent. Tarsi rather short, very slender, especially at the extremity.

Nikko; one specimen.

This is one of the most remarkable of the Staphylinidæ captured by Mr. Lewis, and is pretty certainly either myrmecophilous or termitophilous in its habits.

Thiasophila oxypodina, n. sp.

Elongata, subparallela, minus depressa, subtilissime punctata, evidenter pubescens, opaca, rufo-testacea, abdomine medio nigricante.
Long. $2\frac{1}{2}$ millim.

Antennæ red, thick, thicker externally, second and third joints subequal, fifth to tenth strongly transverse. Head rather narrow. Thorax slightly transverse, densely punctate, base scarcely bisinuate, hind angles very minutely acute. Elytra slightly longer than the thorax. Hind body slender, rather sparingly punctate, basal two segments deeply transversely impressed at the base.

Hakone, Suyama, Miyanoshita, in company with a small ant.

This little insect seems better placed in *Thiasophila* than

in *Oxypoda*, but will probably prove to belong to a distinct genus between these two and also related to *Homœusa*.

Oxypoda luridipennis, n. sp.

Elongata, angustula, nigra; elytris fusco-ferrugineis, antennis pedibusque testaceis; dense subtilissime punctulata, opaca; antennis sat elongatis.
Long. 4 millim.

Antennæ slender, not thicker externally, each joint longer than broad; terminal joint elongate, but not so long as the two preceding together. Head orbicular, not much more than half as broad as the elytra. Thorax not strongly transverse, but evidently broader than long, rounded at the sides and a little narrowed in front, very densely punctate. Elytra rather long, distinctly longer than the thorax, very finely punctate. Hind body excessively finely and densely punctate. Legs clear yellow.

Yokohama, Oyama; two specimens.

Oxypoda subrufa, n. sp.

Elongata, angusta, rufa, opaca, dense subtilissime punctulata pubescensque; thorace elytrisque obscurioribus, capite nigricante, pedibus testaceis.
Long. $2\frac{3}{4}$ millim.

Antennæ short, third joint shorter than second, fourth short, slightly transverse, fifth to tenth differing little from one another, each rather strongly transverse, terminal joint obtuse, not twice as long as the tenth. Head narrow, closely and finely punctate. Thorax rather broader than long, front angles extremely depressed, rather broader at the base than in front, very finely and densely punctate. Elytra longer than the thorax. Hind body elongate and narrow, very densely and finely punctate, and delicately pubescent, not so dull as the front parts.

Nagasaki, in February and March; three specimens.

Oxypoda hilaris, n. sp.

Angustula, rufa, dense subtilissime punctata pubescensque, opaca; capite, elytris posterius abdomineque ante apicem fuscescentibus, pedibus testaceis.
Long. 3 millim.

Antennæ short and stout, third joint longer than the second,

fifth to tenth strongly transverse, terminal joint as long as the two preceding joints together. Head infuscate red, rather broad and short, very finely punctate. Thorax strongly transverse, nearly twice as broad as long, base much rounded, very finely punctate. Elytra yellow at the base, fuscous for a large space at the outer apical angle, a good deal longer than the thorax, very densely punctate. Hind body with the basal two segments yellow, the following three fuscous, closely very finely punctate.

Nikko, Yokohama, Kuromazu; five examples.

Oxypoda læta.

Oxypoda læta, Weise, Deutsche ent. Zeitschr. xxi. (1877) p. 97.

Hagi; not found by Lewis.

Calodera desdemona, n. sp.

Elongata, angustula, fusco-testacea; antennis pedibusque pallidis, abdomine medio nigricante; dense subtilissime punctata; prothorace sat elongato.

Long. 3 millim.

Antennæ entirely pale red, fourth joint much broader than the third, fourth to tenth very similar to one another, each transverse, terminal joint twice as long as the tenth. Head suborbicular, piceous. Thorax about as long as broad, densely and very finely punctured, with a transverse impression in front of the base in the middle. Elytra a little longer than the thorax, finely, very densely punctate. Hind body closely and finely punctate.

Yokohama; one specimen.

Closely allied to *C. æthiops*, but about twice the size.

Porocallus, nov. gen.

Tarsi omnes 5-articulati. Palpi maxillares triarticulati, articulo tertio lato, cyathiformi.

This genus is most nearly allied to *Callicerus*, agreeing with it in the peculiar structure of the maxillary palpi, which are of the type seen in some genera of Pæderidæ, the penultimate joint being broad and truncate at the apex and no doubt receiving the fourth joint, which is invisible; the labial palpi are triarticulate, the basal joint stout, the terminal joint minute and slender; the genæ are very obsoletely margined. The middle coxæ are distinctly separated, the mesosternum

much produced between them, but not quite meeting the raised margin of the metasternal process. The basal joint of the hind tarsus is very long, longer than the three following together. By this character the genus is well distinguished from *Callicerus*. In *Callicerus* the anterior tarsi are said to be only four-jointed; in *Porocallus* they appear to me to be five-jointed, but I may possibly be mistaken, as I have only one example at my disposal, and in it the feet have been clogged with gum-tragacanth.

Porocallus insignis, n. sp.

Niger, capite, thorace elytrisque fusco-nigris, densissime punctatis, opacis; abdomine nitido, crebre punctato; antennis, palpis pedibusque rufis.
Long. 6 millim.

Antennæ elongate, rather stout, but little thicker externally, third joint longer than the second, little longer than the fourth, longer than broad, terminal joint elongate, considerably longer than the tenth. Head broad and short, extremely densely punctate, quite dull. Thorax a little narrower than the elytra, transverse, slightly narrowed behind, extremely densely, moderately coarsely punctate, quite dull. Elytra broad, longer than the thorax, dull, densely punctate, the colour towards the hind margin brown, the punctuation there rather coarser and less dense. Hind body with each of the basal segments depressed at the base, and there densely punctate, each behind more sparingly and finely punctured.

Yuyama, May 11th, 1881; one specimen, probably a female.

Group Myrmedoniina.

Saphocallus, nov. gen.

Tarsi anteriores 4-, intermedii et posteriores 5-articulati. Palpi maxillares triarticulati, articulo tertio sat gracili, apice truncato.

Antennæ elongate. Head narrow, with convex eyes. Thorax quadrate. Middle coxæ slightly separated, but neither the metasternum nor the mesosternum is much produced between them, so that a great space in the longitudinal direction exists between the margins of these two parts. Legs elongate. The hind tarsi long, the basal joint elongate, not twice as long as the second joint, this latter a little longer

than the third, the two together about as long as the basal joint; terminal joint slender, about as long as the basal joint.

The place of this genus will be between *Myrmœcia* and *Callicerus*; the insect resembles *Callicerus obscurus* in appearance, but it is well distinguished by the structure of the breast.

Saphocallus parviceps, n. sp.

Angustulus, fuscus, antennis pedibusque rufis; elytris fusco-ferrugineis; thorace subquadrato, densissime punctato, opaco, elytris illo longioribus, fortiter punctatis.
Long. $3\frac{1}{2}$ millim.

Antennæ elongate, red, darker at the base, third joint quite as long as the second, tenth as long as broad, terminal joint elongate, nearly twice as long as the tenth. Head narrow, and considerably narrowed behind the prominent eyes. Thorax evidently narrower than the elytra, nearly as long as broad. Elytra rather roughly punctured, conspicuously emarginate near the outer hind angle. Hind body slender, shining, the base of each segment punctate and somewhat depressed. In the male there is a tubercular elevation on each wing-case near the suture behind; a short denticle on the middle near the hind margin of the penultimate dorsal plate of the hind body; the hind margin of the terminal dorsal plate is emarginate, and the genital armature projects as two short, stout, corneous processes.

Nagasaki, 6th April, 1881; one specimen.

Atemeles sinuata, n. sp.

Rufula, capite, thorace (lateribus exceptis), abdomine ex parte pectoreque nigris; thorace punctulato utrinque foveolato, lateribus valde emarginatis, basi in medio longe lateque lobato.
Long. 5 millim.

Antennæ moderately long and stout, penultimate joint slightly transverse. Head small, narrow, black, quite dull. Thorax transverse, irregular in shape, sides much elevated, a large fovea on each side, the base much produced in the middle. Elytra a little longer than the thorax, densely, very finely punctate. Hind body densely tufted at the sides and less conspicuously at the apex.

This is allied to *A. emarginata*, but has the thorax considerably more eccentric in form.

Chiuzenji; a single specimen, 21st August, 1881, in company of *Myrmica*.

Hoplandria convexa.

Hoplandria convexa, Weise, Deutsche ent. Zeitschr. xxi. (1877), p. 88.

Hagi. Described by Herr Weise from a single example; the genus is doubtful.

Myrmedonia optata, n. sp.

Nitida, capite, thorace, pectore elytrorumque angulis externis nigris, pedibus flavis; antennis, elytris abdomineque testaceo-ferrugineis, hoc apicem versus piceo-variegato; prothorace parce profundeque punctato, basi in medio profunde foveolato; elytris crebrius profunde punctatis.
Long. 6 millim.

Antennæ long and stout, penultimate joints strongly transverse. Head very shining, with a few deep punctures. Thorax broader than long, very distinctly punctate. Elytra a little longer than the thorax. Hind body with the terminal segments marked with black; at the base of each segment a fine punctuation.

Kashiwagi and Chiuzenji; two specimens.

This is closely allied to *M. Haworthi*, but is much smaller, has the antennæ comparatively larger, and the elytra more finely punctate.

Myrmedonia Haworthi.

Aleochara Haworthi, Steph. Ill. Brit. Ent. v. p. 126, pl. xxvi. fig. 3.

Hitoyoshi and Kashiwagi; two examples.

Myrmedonia fugax, n. sp.

Capite cum antennis, elytris, pectore abdominisque apice nigris; thorace abdomineque læte rufo-testaceis, pedibus flavis, antennis articulo ultimo testaceo; thorace transversim subquadrato parce obsoleteque punctato.
Long. 5 millim.

Antennæ thick, fourth to tenth joints strongly transverse. Head shining black, smooth in the middle, sparingly punctate at the sides. Thorax a good deal broader than long, sparingly and subobsoletely punctured, with a basal depression in the middle, very shining, bright yellowish red. Elytra only slightly longer than the thorax, black, shining, rather closely and coarsely punctate. Hind body bright

yellowish red, with the terminal segments black, shining, with some fine punctures at the base of each segment.

Kioto, June 10th, 1881; one specimen.

A distinct species of the subgenus *Zyras*.

Myrmedonia particornis, n. sp.

Capite cum antennarum basi, elytris, pectore abdominisque apice nigris; thorace abdomineque rufo-testaceis; antennis extrorsum albidis, pedibus flavis; thorace subquadrato, obsolete punctato. Long. 5 millim.

Antennæ black at the base, the apical joints quite white, fifth to tenth joints transverse. Head shining black, obsoletely punctate. Thorax a good deal narrower than the elytra, slightly broader than long, a little narrowed behind, foveolate at the base in the middle, sparingly and obsoletely punctured. Elytra slightly longer than the thorax, shining black, coarsely, moderately closely punctate. Hind body with a few fine punctures at the base of each segment.

Kioto, July 2nd, 1881; one specimen.

This also belongs to the subgenus *Zyras*; it is very remarkable on account of the colour of the antennæ.

Myrmedonia picta.

Ilyobates pictus, Sharp, Trans. Ent. Soc. Lond. 1874, p. 11.

This insect was met with again near Nagasaki. There are only four joints in the front feet, so the species must be removed to *Myrmedonia* and placed in the subgenus *Zyras*.

Myrmedonia cognata, var. *japonica*.

Myrmedonia cognata, Märkel, Stett. ent. Zeit. 1842, p. 142.

On his previous visit to Japan Mr. Lewis found only a single example of this insect; but more recently he has procured a good series in the nests of *Formica japonica* at Bukenji. These examples differ from European examples of *M. cognata* in being of a more uniform and dark colour and more densely punctate; but as they agree in other respects I prefer to treat them as a variety, though, if these slight characters prove to be constant when examples have been found in other localities, the two forms may be really distinct. In Europe *M. cognata* inhabits the nests of *F. fuliginosa*, a species closely allied to *F. japonica*.

Myrmedonia similis.

Myrmedonia similis, Märkel, Germar's Zeitschr. v. p. 200.

Kiga and Miyanoshita; four examples. The species is rather rare in Europe, where it inhabits the nests of *Formica fuliginosa.* The ant to whose nest it is attached in Japan has not been noted.

Myrmedonia indiscreta, n. sp.

Fusco-picea, minus nitida, subtiliter punctata; antennis pedibusque rufis, abdominis segmentis basalibus piceis; thorace valde transverso, basi et lateribus rotundatis.
Long. 4 millim.

Antennæ rather short, much thicker externally, fourth to tenth joints transverse, the last twice as broad as long, terminal joint moderately acuminate, quite twice as long as the tenth. Head black. Thorax about twice as broad as long, moderately closely and finely punctate; hind angles very obtuse and indistinct. Elytra a little longer than the thorax, densely and very finely punctate. Hind body impunctate.

Seba and Hakodate; six specimens.

This is similar to the European *M. laticollis,* but is much smaller and narrower and differs in numerous minor points.

Myrmedonia spreta, n. sp.

Nigra, elytris brunneis, antennis pedibusque rufis; antennis brevibus, apicem versus latioribus; prothorace fortiter transverso, lateribus rotundatis, sat crebre asperato-punctato, basi in medio foveolato.
Long. 5–6 millim.

Basal three joints of antennæ clear red, the others more obscure, third joint much longer than the second, fifth to tenth each transverse, each narrower at the base; penultimate joint more than twice as broad as long, terminal quite acuminate. Head broad and very short; eyes large. Thorax nearly twice as broad as long, sides and base rounded; hind angles very obtuse, the surface very distinctly, not densely punctate, minutely pubescent. Elytra a little longer than the thorax, closely and finely punctate, of a pale brown colour, darker at the outer apical angle. Hind body shining, impunctate.

Sapporo and Hakodate.

A very distinct species, somewhat similar to *M. laticollis* and *M. similis,* but with peculiar punctuation on the thorax.

Thamiarœa diffinis, n. sp.

Fusco-cinnamomea, abdomine nigro, segmentis basalibus ad latera rufo-maculatis, antennarum basi pedibusque testaceis; capite, thorace elytrisque subtiliter punctatis, abdomine nitido, fere impunctato.
Long. 5 millim.

Antennæ moderately long and slender, setose, third joint elongate, longer than the second, fifth nearly as long as broad, sixth to tenth transverse, terminal joint acuminate, more than twice as long as the tenth. Head broad and short, not much more than half as broad as the elytra, sparingly and finely punctured. Thorax strongly transverse, the base rounded, the surface even, finely, moderately, closely punctate, shining. Elytra a little longer than the thorax, and rather more distinctly punctured.

This is larger than the European *T. cinnamomea*, and has longer and more slender antennæ, and the upper surface is more shining.

Homalota.

Mr. Lewis's collection contains examples of several species of this genus in addition to those I have described or determined; but the specimens are not sufficiently numerous or well preserved to describe from in this most obscure genus—the most difficult to deal with of all the genera of Coleoptera.

Homalota variolosa.

Homalota variolosa, Weise, Deutsche ent. Zeitschr. xxi. 1877, p. 89.

Hagi; one specimen. This has not been found by Mr. Lewis. The genus is doubtful.

Homalota Hilleri.

Homalota Hilleri, Weise, Deutsche ent. Zeitschr. xxi. 1877, p. 90.

Hagi, on the sea-shore.

Homalota niponensis, n. sp.

Parva, nitida, nigra; elytris fusco-testaceis, pedibus testaceis; prothorace transverso, medio late profundeque impresso, abdomine crebre punctato.
Long. $2\frac{1}{3}$ millim.

Antennæ small, rather slender, but little thicker externally,

basal joint fuscous, the others black; fourth to tenth joints slightly transverse. Head black, shining, impunctate, almost without pubescence. Thorax about as broad as the elytra, not twice as broad as long, rounded at the sides, very slightly narrowed in front, very delicately punctulate, shining, on the middle with a very large depression, not extending quite to the front. Elytra a little longer than the thorax, sordid testaceous, blackish at the base, very finely punctate. Hind body with all the segments finely, moderately closely punctate.

Nagasaki, 22nd February, 1881; two examples.

This may be placed near the European *H. nigra*, to which it is not, however, at all closely allied; if the remarkable thoracic depression be sexual, the two examples are no doubt males, but there is no peculiar structure of the hind body to indicate this.

Homalota lutulenta, n. sp.

Parva, rufula, antennarum basi, thorace, elytris pedibusque testaceis; antennis extrorsum, capite abdomineque ante apicem fuscescentibus; crebre punctata, abdomine fortiter acuminato, crebrius conspicueque setosello.

Long. $2\frac{1}{2}$ millim.

Antennæ short and rather stout, thicker externally, third joint rather shorter than the second, fifth to tenth joints transverse, the last of them rather strongly so; terminal joint about as long as the two preceding together. Thorax convex, rounded at the sides and base, and narrowed in front, bright yellowish red, finely punctate, rather feebly transverse. Elytra slightly longer than the thorax, coloured like it, rather more closely punctate. Hind body very acuminate, rather closely punctate, evidently pubescent, and with the exserted setæ very distinct.

Yokohama and Nagasaki.

This is one of the species with most strongly acuminate hind body; it may be easily distinguished from the equally bright-coloured *H. vivida* by its smaller size, thicker antennæ, and more closely punctate hind body.

Homalota oligotinula, n. sp.

Parva, brevis, subdepressa, testaceo-ferruginea, pedibus flavis; subtilissime punctulato; antennis brevibus, crassis.

Long. 2 millim.

Antennæ stout, very short, thicker externally; fourth to

tenth joints transverse, the tenth quite twice as broad as long. Head stout, about half as broad as the elytra. Thorax quite twice as broad as long, base and sides greatly rounded, the surface without depressions, scarcely visibly punctate. Elytra a little longer than the thorax, very minutely punctate. Hind body shining, almost impunctate, narrower behind.

Suyayama and Kumamoto; two specimens.

Homalota gyrophœnula, n. sp.

Brevis, subdepressa, rufo-testacea; antennis extrorsum, pectore abdominisque segmentis 4°–6^{m} nigricantibus; elytris fusco-testaceis; antennis brevibus, apicem versus crassioribus.
Long. 2 millim.

Antennæ very short, third joint small, fifth much broader than the fourth, fifth to tenth transverse, the last of them strongly so; terminal joint short, obtuse. Head small, about half as broad as the elytra. Thorax strongly transverse, quite twice as broad as long; base strongly rounded, surface even, delicately pubescent, scarcely visibly punctate. Elytra longer than the thorax, very finely punctate. Hind body broad and short, finely punctate.

Thectura armata, n. sp.

Elongata, angusta, parallela, depressa, nigra; elytris fuscis; antennis, palpis pedibusque testaceis; capite fortiter punctato, thorace medio longitudinaliter impresso.
Long. 2¼ millim.

Antennæ short and rather stout, reddish, outwardly more obscure, fifth to tenth joints transverse. Head subquadrate, slightly narrower than the thorax, rather closely and coarsely punctate. Thorax feebly transverse, very finely punctate. Elytra longer than the thorax, very finely punctate. Hind body narrow and elongate, very obsoletely punctate. In the male the last dorsal plate is armed in the middle behind with a projection, close to which on each side there is a fine spine; the outside of the hind margin has a long conspicuous spine.

This differs from *T. cuspidata* in the male characters and is of larger size.

Falagria myrmecophila, n. sp.

Brunnea, antennis pedibusque testaceis, dense subtiliter punctata,

subopaca ; antennis crassiusculis ; thorace profunde canaliculato, scutello simplice.
Long. 3 millim.

Antennæ stout, fourth to tenth joints transverse. Thorax nearly as long as broad, narrower than the elytra, much narrowed behind, closely and finely punctate, deeply canaliculate from the front to near the base, where the channel expands into a fovea. Elytra a little longer than the thorax, a little narrowed at the shoulders, densely punctate ; scutellum densely punctate. Hind body a little narrower towards the base, densely punctate, the basal segments slightly paler than the others.

Kashiwagi, Nara, Sheba, Shimonosuwa, Bukenji, Sapporo.

This is closely allied to *F. thoracica*, but it is rather larger and of a nearly uniform brown colour, the antennæ are considerably thicker, and the punctuation is denser. Like the European species it inhabits the nests of ants in trees.

Falagria sulcata.

Staphylinus sulcatus, Payk. Mon. Staph. Suec. p. 32.

Yokohama and Hakodate.

[To be continued.]

XXXVII.—*Notes on the Palæozoic Bivalved Entomostraca.*—No. XXVI. *On some new Devonian Ostracoda.* By Prof. T. Rupert Jones, F.R.S., F.G.S. *With a Note on their Geological Position*, by the Rev. G. F. Whidborne, M.A., F.G.S.

[Plate XI.]

I.

The new Ostracodous genus herein described is founded on numerous specimens discovered by the Rev. G. F. Whidborne, F.G.S., in a Devonian Limestone at Daddy-Hole Cove, near Torquay, Devonshire.

Kyamodes, gen. nov.

Carapace bivalved, subconvex ; dorsal edge straight, ven-

and long, jointed, superior spinners it would be impossible to relegate the specimen to the genus *Atypus* with absolute authority. Neither would one be warranted in characterizing a new genus by the absence of eyes and spinners, since these organs were doubtless present, but have simply failed to impress themselves upon the matrix. I have therefore felt compelled on the one hand to propose a new generic place for this fossil, and on the other to present no sharply defined generic characteristics. Indeed, it must be admitted that besides expressing the general facies of the fossil, as above described, the generic value of the name *Eoatypus* consists largely in assigning the specimen rank as a fossil spider.

On one side portions of all the four legs are preserved, the first three showing the articulations at the trochanter, femur, and patella. The second leg shows also the patella entire, indicating the articulation with the metatarsus. On the other side a portion of the femur of the first leg is shown with the patella and its articulations. Both hind legs are represented by the apical parts of the femora.

The horizon from which this new fossil was obtained is that from which most European fossil spiders have been taken, viz. the Eocene Tertiary. It is also that from which have come our American Aranead fossils as recently studied by Mr. S. H. Scudder from specimens collected at Florissant, Colorado.

L.—*The* Staphylinidæ *of Japan.*

By Dr. D. Sharp.

[Continued from p. 295.]

Tachyusa coarctata.

Tachyusa coarctata, Er. Käf. Mark-Brand. i. p. 308.

Apparently a common species in the Japanese archipelago, and found by Mr. Lewis as far north as Hakodate. The species is very variable in Japan as well as in Europe.

Xenusa rufescens.

Tachyusa rufescens, Sharp. Trans. Ent. Soc. Lond. 1874, p. 11.

The genus *Xenusa*, recently established by Rey for a part

of *Tachyusa*, appears to be a valid one, and we have two species of it in Japan. Fauvel thinks it the same as *Myrmecopora*, Saulcy, but this appears to me very doubtful. *T. algarum* is also a *Xenusa*.

Ectolabrus, nov. gen.

Corpus sat latum, posterius acuminatum, fortiter punctatum, pubescens, thorace transverso, anterius rotundato, posterius bisinuato. Antennæ sat graciles, laxe articulatæ. Palpi maxillares articulo ultimo sat elongato, gracillimo, præcedente gracili, latitudine plus duplo longiore. Genæ marginatæ. Prosternum brevissimum. Coxæ intermediæ subcontiguæ, mesosterno inter eas processum elongatum tenue, tenuiter carinatum formante. Pedes graciles; tarsi anteriores 4-articulati, intermedii et posteriores 5-articulati; posteriorum articulo basali secundo haud duplo longiore.

The insect for which I establish this genus is in appearance somewhat intermediate between *Homœusa* and *Dinarda*. None of the examples brought back by Mr. Lewis are in good preservation, and the structure of the tarsi has not been very clearly perceived by me; but I feel pretty sure that the intermediate feet are five-jointed.

Ectolabrus laticollis, n. sp.

Fusco-niger, haud nitidus, prothoracis marginibus elytrisque ferrugineis; antennarum basi pedibusque rufis; fortiter punctatus; thorace valde transverso, elytris paulo latiore, angulis posterioribus acutis.

Long. 4 millim.

Antennæ with the three basal joints yellow, the others darker; third joint a little longer than second, fourth to tenth each a little broader than its predecessor, the fourth longer than broad, seventh to tenth each transverse. Head broad and short, scarcely half as broad as the thorax, closely and coarsely punctate. Thorax twice as broad as long, sides rounded and narrowed in front, the base rounded in the middle, nearly concealing the scutellum, the hind angles slightly acute, the surface closely and coarsely punctate, with a vague depression in front of the base in the middle. Elytra a little longer than the thorax, roughly punctate, hind margin deeply sinuate on each side. Hind body acuminate behind, moderately closely punctate and pubescent, beneath densely pubescent.

Miyanoshita and Nikko; main island.

Group Bolitocharina.

Autalia rufula, n. sp.

Rufula, tenuiter pubescens ; abdomine ante apicem nigro ; thorace tricanaliculato.
Long. $2\frac{1}{2}$ millim.

Antennæ rather slender, third joint shorter than the second, penultimate joints slightly transverse. Head almost impunctate, neck slender. Thorax small, only half as broad as the elytra, about as long as broad, with a deep channel on the middle in front and with a lateral channel or depression on each side, these latter convergent behind. Elytra elongate, deeply marked at the base with four depressions.

Nagasaki, in March ; four examples.

This minute insect is not one half the size of its European congener *A. impressa*, to which, however, it appears to be rather closely allied in other respects.

Bolitochara varipes, n. sp.

Nitida, picea, abdomine basi rufo, nigro-variegato ; antennis basi pedibusque testaceis, femoribus fuscis ; subtiliter punctulata, elytris crebrius fortiusque punctatis.
Long. 4 millim.

Antennæ thicker externally, second and third joints equal in length, fourth and fifth each about as long as broad, sixth to tenth transverse, terminal joint stout, obtuse, longer than the two preceding together, its extremity paler. Head very feebly punctate. Thorax considerably narrower than the elytra, not quite so long as broad, feebly punctate, shining, with a very distinct fovea in front of the base in the middle. Elytra much longer than the thorax, closely and coarsely punctate, the humeral angle reddish. Hind body shining, almost impunctate, varied with red and black, the red predominating on the basal, the black on the apical segments. Legs yellow, the middle and hind femora infuscate.

Kashiwagi, June 22nd, 1881 ; two specimens.

Leptusa impressicollis, n. sp.

Minus elongata, subdepressa, rufo-ferruginea, capite fusco, pedibus testaceis ; prothorace fortiter transverso, basin versus longitudinaliter biimpresso.
Long. $2\frac{1}{4}$ millim.

Antennæ short, thicker externally, fourth joint small, fifth to tenth transverse, the last of them strongly so. Head nearly black, dull, obsoletely, moderately closely, rather coarsely punctate. Thorax rather narrower than the elytra, twice as broad as long, rather coarsely punctate, with two rather indefinite impressions on the middle near the base. Elytra short, a little broader and a little longer than the elytra, moderately closely granulose-punctate, somewhat shining. Hind body shining, the basal segments sparingly punctate, the apical nearly impunctate.

Yokohama and Nagasaki in early spring; found under the bark of fir-trees.

Tachyusida velox, n. sp.

Elongata, angustula, rufo-brunnea; abdomine ante apicem picescente; antennis pedibusque rufis; opaca, densissime subtiliter punctata; prothorace vix transverso, basin versus angustato.
Long. 5 millim.

Antennæ elongate, rather stout, third joint slightly longer than the second, fourth to tenth each slightly longer than its predecessor, the tenth slightly transverse, terminal joint acuminate, not so long as the two preceding together; palpi slender. Head elongate, narrowed behind, much narrower than the thorax, extremely densely and finely punctured, quite dull. Thorax about as broad as the elytra, nearly as long as broad, very densely and extremely finely punctured, quite dull, much narrower at the base than in the middle. Elytra scarcely longer than the thorax, densely and finely punctured, dull. Hind body elongate and slender, rather shining, finely punctate. Legs elongate. Tarsi long and slender, the basal and the apical joint each very long. Male with a short carina or elongate tubercle on each of the terminal and penultimate dorsal plates.

Kashiwagi, June 1881; two specimens.

Silusa rugosa, n. sp.

Rufa, opaca, fortiter dense punctata; abdomine nitido, ante apicem nigro; elytris fortiter granulatis.
Long. 3 millim.

Antennæ rather short, thicker externally, third joint slightly shorter than the second, sixth to tenth joints transverse. Head extremely densely punctured, quite dull. Thorax strongly transverse, slightly narrower than the elytra, the

sides rounded in front, considerably narrowed behind, coarsely, extremely densely punctured, quite dull. Elytra short, but distinctly longer than the thorax, very coarsely and densely punctured, so that the surface appears to be granulate. Hind body with the basal segments rather closely punctured, the apical nearly impunctate. Legs rather short. Male with a fine carina on the middle of the terminal and penultimate dorsal plates.

Nagasaki, in early spring.

I have not been able to see the labial palpi in this and the allied insects, all of which appear to be rare, and I cannot say whether they are two-jointed or three-jointed; if the latter be the case, this insect would be placed in *Bolitochara*; but I think it will prove to be more nearly allied to *Silusa* (*Stenusa*) *rubra*.

Silusa rorida, n. sp.

Rufo-nigra, opaca, densissime punctata, abdomine basi rufo; antennis fusco-testaceis, tarsis testaceis; pube albida vestita, præsertim in capite densa.
Long. $2\frac{1}{4}$ millim.

Antennæ rather short and slender, first joint infuscate yellow, second and third paler, fourth to tenth fuscous, terminal joint short, a little paler than the preceding, tenth transverse. Head extremely densely punctured, quite dull. Thorax a little narrower than the elytra, rather strongly transverse, much narrowed behind, like the head excessively densely punctate and quite dull. Elytra a good deal longer than the thorax, quite dull, densely covered with finely rugose-granular sculpture. Hind body very sparingly punctured, shining. Legs nearly black, with the tarsi pale.

Oyama; one specimen.

Closely allied to *S. rugosa*, but smaller, darker in colour, with more slender antennæ and less coarse sculpture.

Silusa punctipennis, n. sp.

Rufo-nigra, capite thoraceque densissime punctatis, opacis; elytris fortiter punctatis, subnitidis; abdomine basi sanguineo; antennis rufis, pedibus piceis.
Long. 3 millim.

Antennæ rather short and slender, thicker externally. Head much narrower than the thorax, extremely densely punctured, quite dull. Thorax rather strongly transverse,

distinctly narrowed behind, very densely rugose-punctate, quite dull. Elytra rather longer than the thorax, densely and coarsely punctate. Hind body shining, rather closely punctate.

Nikko; one specimen.

Though allied to the preceding two species by the sculpture of the head and thorax, this differs by the more normal sculpture of the elytra; it is more like a *Bolitochara* in appearance than are the other two species.

Silusa conferta, n. sp.

Subdepressa, fusco-rufa, densissime subtiliter punctata; abdomine parce punctato, nitido; antennarum basi, elytrorum marginibus pedibusque rufo-testaceis, abdomine ante apicem nigro.
Long. $2\frac{1}{2}$ millim.

Antennæ short, moderately stout, thicker externally, fifth to tenth joints transverse. Head a little narrower than the thorax, extremely densely punctured, dull. Thorax rather strongly transverse, a little narrowed behind, extremely densely, rather finely punctate, quite dull. Elytra considerably longer than the thorax, densely punctate, not quite dull, the punctuation being coarser than that of the head and thorax; the hind margins and shoulders are more distinctly rufescent than the other parts. Hind body very sparingly punctured, basal segments rufescent, the others black; legs sordid yellow.

Miyanoshita; two specimens, in bad preservation.

In this species I have been able to get a rather unsatisfactory view of the labial palpi; they are apparently slender and elongate, only two-jointed. *S. conferta* is distinguished from the preceding species by the more depressed form and finer sculpture.

Silusa crassicornis, n. sp.

Minus depressa, rufo-testacea, abdomine ante apicem fuscescente; antennis articulis 4°–10^{m} fuscescentibus; capite thoraceque densissime punctatis, opacis, hoc fortiter transverso, basin versus angustato.
Long. $2\frac{1}{3}$ millim.

Antennæ rather stout, second and third joints equal, sixth to tenth transverse, terminal joint elongate and paler in colour than those preceding it. Head much narrower than the elytra, very densely punctate. Thorax twice as broad as long, its punctuation like that of the head. Elytra short and

broad, rather longer than the thorax, rather roughly and coarsely punctate. Hind body convex and setose beneath, flat and shining above, sparingly punctate.

Yokohama; two specimens.

In this species the basal joint of the hind tarsus is as long as the two following together and the middle coxæ are rather more distant than in the previous species; the labial palpi, so far as I can gather from an imperfect view, are of the *Silusa* type of construction.

Silusa lanuginosa, n. sp.

Nigra, pubescens; antennis, pedibus, elytris abdominisque basi et apice rufis; thorace transverso, basi in medio impresso; abdomine parce punctato.

Long. 4 millim.

Antennæ moderately long and stout, third joint equal to second, fifth to tenth differing little from one another, each transverse, terminal joint quite twice as long as the tenth. Head finely punctate. Thorax slightly narrower than the elytra, twice as broad as long, not narrowed behind, closely and rather finely punctate, very distinctly pubescent, with a transverse impression in front of the base in the middle; in colour red suffused with black. Elytra a good deal longer than the thorax, closely and somewhat coarsely punctate. Hind body finely and sparingly punctate. Male with an extremely fine crenulation of the hind margin of the last dorsal plate.

Nagasaki, 16th February, 1881; three specimens.

This is a true *Silusa* with the labial palpi elongate and rigid.

Placusa infima.

Placusa infima, Er. Gen. et Spec. Staph. p. 196.

Nagasaki, in March and April.

The specimens are in very bad condition, and there is no male in which the characters can be seen, so that the determination is doubtful; if not *P. infima*, the species is no doubt new.

Epipeda granigera, n. sp.

Piceo-ferruginea, capite, thorace elytrisque densissime punctatis, opacis, abdomine punctato, nitido, pedibus flavis; prothorace subquadrato, medio vage depresso.

Long. $2\frac{1}{2}$ millim.

Antennæ short and stout, red at the base, darker beyond, third joint a little shorter than the second, fifth to tenth joints strongly transverse, terminal joint elongate, acuminate, nearly three times as long as the tenth. Head much narrowed behind the prominent eyes, densely punctate, quite dull. Thorax narrower than the elytra, not so long as broad, very densely covered with a granular sculpture, and broadly vaguely depressed along the middle. Elytra scarcely longer than the thorax, sculptured like it, but not quite so dull. Hind body finely punctate, the terminal segments almost impunctate.

Nagasaki, 16th March, 1881 ; one specimen.

Epipeda fraterna, n. sp.

Valde depressa, nigra ; elytris fuscis, pedibus sordide testaceis ; subtiliter punctata, subopaca ; prothorace plano, medio vix perspicue impresso.

Long. $2\frac{1}{2}$ millim.

This obscure little insect is in all respects very similar to the common European *E. plana*, but is apparently a little smaller and narrower, and the male characters are not sufficiently similar to allow it to be considered a mere variety. In this sex the raised processes on the last dorsal plate are more distinct and enclose a much wider space, and each projects beyond the hind margin, so as to form a short, acute, free spine ; the hind margin in the middle is rounded, and there is a slight emargination on each side close to the spine.

Miyanoshita, December 22nd, 1880 ; five specimens.

Epipeda Lewisa.

Homalota Lewisa, Sharp, Trans. Ent. Soc. Lond. 1874, p. 14.

Brachida clara.

Homalota (*Brachida*) *clara*, Weise, Deutsche ent. Zeitschr. xxi. 1877, p. 90.

Hagi (*Hiller*) ; Yokohama, Nagasaki, and Hitoyoshi, in spring, rare (*Lewis*).

Gyrophæna triquetra.

Gyrophæna triquetra, Weise, Deutsche ent. Zeitschr. xxi. 1887, p. 91.

Gyrophæna sapporensis, n. sp.

Brevis, subdepressa, fusca, capite abdomineque nigricantibus ; an-

tennis pedibusque flavis ; elytris fulvis, margine exteriore nigro ; thorace parcissime punctato, elytris parce subtiliterque granulatis.
Long. 2½ millim.

Antennæ short, clear yellow, fourth joint small, fifth to tenth similar to one another, each transverse. Head broad and short, almost impunctate. Thorax strongly transverse, narrower than the elytra, with three or four punctures on each side of the middle, forming an irregular series. Elytra a little longer than the thorax, bearing distant, minute, flattened granules. Hind body very finely and distantly punctate. In the male there is a series of very minute granules extending across the penultimate dorsal plate just in front of the hind margin ; the terminal plate bears some coarser flat granulations irregularly placed, and its hind margin forms a triangular prominence.

Sapporo ; three specimens.

In addition to these two species Mr. Lewis's collection contains a third *Gyrophæna* of very pallid colour ; but the examples are not in a fit condition for examination.

Myllæna japonica, n. sp.

Elongata, angusta, omnino subtilissime punctulata, opaca, fusco-ferruginea ; antennis palpis pedibusque testaceis ; thorace transverso, basi utrinque leviter sinuato ; elytris illo paulo longioribus.
Long. 3½ millim.

Antennæ very slender, scarcely any thicker externally, tenth joint much longer than broad. Head about half as broad as the elytra. Thorax nearly twice as broad as long, convex transversely, much narrowed in front, the punctuation excessively minute, the base a little sinuate on each side near the hind angles, these rectangular.

Nagasaki and Miyanoshita, in April and May.

This is similar in size and colour to the European *M. elongata*, Rey, but has more slender antennæ, and its thorax more transverse and distinctly sinuate at the base on each side.

Group Oligotina.

Protinodes, nov. gen.

Tarsi omnes breves, quadriarticulati, posteriores articulo basali brevissimo ; antennæ 11-articulatæ ; coxæ intermediæ fere contiguæ.

The number of genera of Aleocharidæ with only four joints to the posterior tarsi is so small that the above characters are sufficient at present for the identification of the insect from which they are taken. It is of short convex form, somewhat intermediate in appearance between *Brachida* and *Oligota*. The maxillary palpi are small and short, the sides of the prothorax are very acutely inflexed, and the front coxæ are oblique, rather perpendicular in direction; the mesosternum is produced between the middle coxæ, forming a process very slender at the extremity and touching the raised margin on the front of the metasternum, which forms an angle immediately behind the coxæ without being produced between them. The basal joint of the hind tarsus is extremely short, projecting but little beyond the apex of the tibia; the second and third joints are short and equal, the fourth joint is longer than the other three together, and has beneath an excision giving rise in certain positions to an appearance of its forming two joints.

In an arrangement of the Aleocharidæ where predominance is given to the tarsal structure, the genus will be placed at the commencement of the Oligotina.

Protinodes puncticollis, n. sp.

Brevis, convexus, dilute rufus, brevissime pubescens; thorace elytrisque fortiter punctatis, abdomine subtiliter punctato.
Long. $2\frac{1}{2}$ millim.

Antennæ rather short, not stout, fourth joint small, very much smaller than the fifth, fifth to tenth differing little from one another in length, each a little broader than its predecessor, tenth about as long as broad, terminal joint longer than the tenth. Head small, with convex eyes, densely and coarsely punctate. Thorax strongly transverse, short at the sides, the base greatly rounded, the surface closely and coarsely punctured. Elytra rather longer than the thorax, coarsely punctate, rather shining. Hind body short, convex beneath, the upper surface finely and rather indistinctly punctured, the penultimate segments vaguely darker in colour.

Tokio; three very mutilated specimens.

Subfam. *Tachyporinæ*.

This subfamily proves to be extremely well represented in Japan, and the fauna is in this respect more similar to that of North America than to that of Europe.

Tachinus obesus.

Tachinus obesus, Weise, Deutsche ent. Zeitschr. xxi. 1887, p. 92.

A unique female; Hagi (*Hiller*). Not found by Lewis.

Tachinus japonicus, n. sp.

Major, nigricans, nitidus; antennarum basi et articulo ultimo, palpis pedibusque testaceis; prothorace picescente, marginibus dilutioribus; elytris fuscescentibus, subrufis; prothorace fere impunctato, evidenter striguloso, elytris parce sat fortiter punctatis.
Long. 9–11 millim.

Antennæ with the four basal joints red, the terminal joint also pale, the intermediates darker, the penultimate joints not so long as broad. Thorax only excessively finely and sparingly punctate, but with the fine reticulation dense and evident. Hind body shining, moderately closely and distinctly punctate.

In the male the terminal dorsal plate is slender, little produced in the middle, with the apex of this short broad lobe emarginate; the lateral angles form each a broad, extremely short prominence; the corresponding ventral plate is produced into two very long laciniæ, which are not widely separated, are curved downwards, and nearly contiguous at their apices; the preceding ventral plate is very deeply and broadly emarginate, with the sides of the emargination twisted so as to be perpendicular at the angles; in front of the emargination the surface is depressed, the posterior part of the depression being broadly asperate.

In the female the last dorsal plate is trilobed, the three lobes being of one length and the middle one separated by a narrow space from the lateral; the middle lobe is the broadest and is obtuse behind, the lateral lobes are also obtuse; the last ventral plate is truncate in the middle behind, the margin of the truncation being setulose; each side of this middle lobe is armed with a short, slender, but truncate spine, and each lateral angle is produced to form a longer truncate spine, which does not, however, extend so far back as the intermediate spine, this latter itself extending considerably less backward than does the middle lobe.

A distinct species, somewhat allied to *T. humeralis*, but the individuals are larger, with very different punctuation, and strongly marked distinctions exist in the sexual characters.

The species is probably abundant in the northern parts of

the archipelago; it was found at Awomori, at Chiuzenji in August, and at Nikko in June.

Tachinus trifidus, n. sp.

Niger, nitidus; antennarum basi pedibusque testaceis; elytris ad basin late vageque rufis, prothoracis lateribus angustissime piceis; prothorace subtilissime parce punctulato, elytris crebrius fortiusque punctatis.
Long. 6 millim.

Antennæ rather short and moderately stout, the two basal joints yellow, the others dark, tenth joint about as long as broad. Thorax and elytra finely strigulose, the former only finely punctate, the latter red about the base and shoulders. Hind body shining, finely and moderately closely punctate.

This species closely resembles *T. basalis*, Er., but the female characters are totally different. In this sex the last dorsal plate ends in four acuminate spines, the lateral interspace being nearly twice as long as the middle one; the lateral spines project slightly further backwards than do the middle pair. The last ventral plate is six-toothed, the lateral tooth and the intermediate on each side being elongate and slender; the lateral tooth is in fact considerably longer than the median pair.

In the male the last dorsal plate terminates in two rather short distant teeth; the external angle of the plate is not dentate and only projects as far back as the base of the notch separating the two middle teeth; the last ventral plate forms two extremely large laciniæ, a little incurved at their apices; the hind margin of the preceding segment is broadly but slightly emarginate and somewhat deflexed, the surface in front of it being flat and smooth; there is also a corresponding smooth space on the preceding segment.

This has only been met with in the main island, six individuals having been found at Kiga, Miyanoshita in May, and Nikko.

Tachinus bidens, n. sp.

Angustulus, niger, nitidus, antennarum basi, pedibus prothoracisque lateribus testaceis; elytris ad humeros rufis; abdomine crebrius subtiliter punctulato.
Long. 6 millim.

Antennæ slender, the four basal joints yellowish, the rest darker, tenth joint distinctly longer than broad. Thorax

black, broadly, especially at the posterior angles, reddish or yellowish at the sides, finely and not closely punctate, and finely strigulose. Punctuation of elytra fine, though a good deal coarser than that of the thorax; their colour is dark, but a large vague red mark exists at the shoulder. The punctuation of the hind body is close and fine, and the hind margins of the segments are yellowish.

In the male the last dorsal plate forms in the middle an angular projection, the apex of the projection being divided by an angular notch that is evidently longer than broad, and each outer angle of the plate projects as a short but quite distinct tooth; the corresponding ventral plate terminates in two slender, parallel, linear, widely separated laciniæ, and each outer angle forms a rather long tooth; the hinder part of the preceding plate is deeply and rather broadly circularly emarginate, and the posterior part of the emargination is set with asperities; at each side of the emargination behind the surface is elevated in a plicate manner.

This species resembles *T. bipustulatus*, but is more slender and has longer and thinner antennæ and very distinct male characters; the slender, parallel, distant laciniæ of the last ventral plate are remarkable, as is also the fact that the sides of the emargination of the preceding segment are plicate in such a manner as to form the rudiments of laciniæ. The female is unknown.

Three specimens have been found; Nikko, 25th August, 1881, and Sapporo.

Tachinus luridus, n. sp.

Niger, nitidus; elytris ex parte majore luride rufescentibus, antennarum basi piceo, pedibus rufis; thorace elytrisque subtilius punctatis, dense strigulosis; abdomine sat crebre vix subtiliter punctato, tenuiter sed perspicue pubescente.
Long. 6 millim.

Antennæ black, with the basal joints rather paler, tenth joint about as long as broad. Thorax entirely black, only very finely and sparingly punctate, but very evidently strigose. Elytra more closely and coarsely punctate, but still only finely; they are of a rufescent colour, becoming darker behind and about the suture.

In the male the middle part of the last dorsal plate is only a little prolonged and forms in the middle two short teeth, which project only slightly further back than do the short, broad, lateral teeth. The last ventral plate is divided in the middle by a deep, narrowly oval excision; the sides of the

excision are not prolonged into laciniæ, and there is only an extremely short lateral tooth on each side; the posterior part of the preceding plate has in the middle behind a narrow deep depression, the anterior part of which is furnished with coarse granules. In the female the last dorsal plate is divided into three lobes by two incisions, but the lobes are not separated from one another and the last ventral plate is nearly simple, it being scarcely produced in the middle; but its hind margin is for a considerable breadth finely ciliate.

Though very similar to *T. trifidus* and *T. bidens* this species is very distinct; it will, apart from the sexual characters, be easily recognized by the entirely black thorax and the more distant pubescence of the hind body. Only two individuals have been found.

Hakone and Kiga.

Tachinus nigrinus, n. sp.

Niger, subnitidus; antennarum basi rufo, pedibus piceo-rufis; capite, thorace elytrisque subtiliter punctulatis, minus subtiliter strigulosis; abdomine dense subtiliter punctato.
Long. 7 millim.

Antennæ short and stout, four basal joints red, the others dark, third joint only a little longer than the second, tenth a good deal broader than long; palpi red. Thorax and elytra with their punctuation fine, but the reticulate strigulosity rather coarser and more evident than usual. Legs short and rather stout.

In the male the last dorsal plate is but little produced in the middle, and is divided in the middle by a short angular notch; the lateral teeth are quite short and extend about as far back as the middle notch; the last ventral plate is very deeply divided and the sides are prolonged into laciniæ, which are much curved downwards; the preceding plate has the hind margin broadly emarginate in the middle and the hind margin of the emargination set with a narrow band of asperities. In the female the last dorsal plate is quadrispinose, the two middle teeth are rather slender and are widely separated by a deep and rounded notch, the lateral teeth are very elongate and reach slightly further back than do the middle ones; the last ventral plate is sexdentate, the intermediate and external teeth being of about equal length and longer than the middle teeth, the latter, however, projecting rather farther backwards.

Kiga and Miyanoshita, but only two specimens. The

species is quite different from any other I am acquainted with.

Tachinus sibiricus, n. sp.

Niger, nitidus; antennarum basi pedibusque rufis; thorace elytrisque subtiliter strigulosis, illo parce subtiliter, his crebrius et magis fortiter, punctatis; abdomine subtiliter fere dense punctato.
Long. 6 millim.

Antennæ moderately long and stout, the four basal joints red, the others darker, tenth about as long as broad. Thorax scarcely at all picescent at the sides.

This is similar to the common European species of *Tachinus*, especially to *T. pallipes*, but the individuals are only about half the size of those of that species, so that the resemblance to *T. laticollis* is still greater: but from that species it differs by the sexual characters, which, however, are sufficiently similar to warrant the two species being really allied.

In the male the middle lobe of the last dorsal plate is divided by a rather deep narrow notch, and each outer angle forms a rather stout, not very short tooth; the last ventral terminates in two rather long, slender, widely separated laciniæ, the space separating the laciniæ being continued backwards as a narrow excision; external to the laciniæ on each side there is a long slender tooth; the preceding plate has a very deep excision, the margin of which is broadly set with asperities; at the hind margin on each side of this excision there is a slight additional cavity, also asperate, and forming as it were an adjunct or continuation of the excision, and outside of this the surface is a little plicate, elevated and prolonged backwards; in the female the last dorsal plate ends in four long acuminate spines of about equal length, the middle notch being quite narrow; the last ventral is sexdentate, the external tooth on each side being rather long.

This species is described from individuals found at Lake Baikal, in Eastern Siberia; a single female found by Mr. Lewis at Chiuzenji, 22nd July, 1881, apparently agrees with the Siberian individuals except in slight details; but it would be proper to examine Japanese individuals of the other sex before positively coming to a decision on this point.

Tachinus mimulus.

Tachinus mimulus, Sharp, Trans. Ent. Soc. Lond. 1874, p. 16.

Only four or five individuals have been brought this time.
Nagasaki, Tokio, Nikko.

Tachinus nigriceps, n. sp.

Piceus, nitidus; capite nigro; antennis, palpis, thorace pedibusque flavis; thorace breviore, parce subtilissime punctulato; elytris abdomineque crebrius minus subtiliter punctatis.
Long. 4 millim.

Antennæ rather long and slender, entirely yellow, third joint much longer than second, tenth about as long as broad. Head quite black, very shining, broad and short. Thorax strongly transverse, shining yellow, broadly rounded at the hind angles. Elytra and hind body shining, very distinctly, not altogether finely, punctate.

In the female the last dorsal plate is trifid, the middle lobe being broad, parallel-sided, and terminated behind by a broad short emargination, so that each angle of the lobe is slightly acute; this central lobe is separated by only a small notch from the short broad lateral tooth, which projects just as far back as the middle lobe. The last ventral is sexdentate, the two middle teeth being broad and very short, the external tooth longer and slender.

This distinct species is somewhat similar to *T. collaris*. Only a single example has been found.

Tachinus impunctatus, n. sp.

Nitidus, niger; antennarum basi, palpis, thorace pedibusque testaceis; fere impunctatus; abdomine nitidiore; antennis gracillimis.
Long. 7–8 millim.

Antennæ elongate, very slender, one or two of the basal joints yellow, the others dark, tenth joint three times as long as broad; palpi elongate. Head narrow, impunctate, black. Thorax quite shining, impunctate, yellow, the hind angles much rounded. Elytra nearly black, pitchy at the hind margin, without punctuation, and only very obsoletely strigulose. Hind body shining black, almost impunctate. Legs long and slender.

In the male the last dorsal plate terminates in four nearly similar and equidistant teeth, like those of a saw; the last ventral plate is divided by a deep, not broad, nearly parallel-sided fissure; the lateral portion on each side would be rounded, except that there is an extremely slight production of its hind part; the preceding ventral plate is very peculiar, it has in the middle behind a very large triangular depression, the surface of which is coarsely asperate; this part of the

segment projects further back than the lateral portions, and its hind margin is pectinate with coarse rigid cilia. The female has the central part of the last ventral plate prominent and split in the middle, but the two divided portions are not separated at all from one another, except that each is separately rounded at the apex, and each rounded part bears about three cilia; on each side there is a short broad tooth, and the outer angle forms also a short slender tooth; the last dorsal plate ends in four elongate spines, the external of which, though slender, is broader than the middle spines; the elongate middle notch is not quite so broad as the rather longer lateral notch.

Of this remarkably distinct species four individuals have been found.

Junsai Lake, under reeds, also at Sapporo.

Tachinus diminutus, n. sp.

Minimus, niger, nitidus; antennis fuscis, basi pedibusque rufis; prothorace lævigato; elytris crebre fortiter punctatis.
Long. 3 millim.

The antennæ are rather small and slender, the penultimate joint about as long as broad. The thorax is strongly transverse, broader than the elytra, its hind margin piceous. The elytra are much longer than the thorax, unicolorous.

Although I am not able fully to describe this species, owing to two examples only having been found and to their bad preservation, yet it cannot fail to be recognized owing to its small size, which is far less than that of any other species of the genus. The terminal dorsal plate in the male is almost unarmed, and the last ventral ends in two elongate, slender, extremely widely separated laciniæ. In the female the last dorsal has in the middle two very short obtuse processes, and on each side a slender tooth projecting quite as far back as the median processes; while the terminal ventral plate has behind four short, nearly equidistant teeth, of which the middle two are ciliated.

Kiga and Sendai.

Tachinus punctiventris, n. sp.

Nigerrimus, antennis crassiusculis, fulvis, pedibus piceo-rufis; prothorace nitidissimo, sublævigato; elytris sparsim profunde punctatis, nitidis; abdomine minus nitido, fortiter profundeque punctato, tenuiter pubescente.
Long. 10 millim.

Antennæ largely developed, being both elongate and stout, third joint elongate, greatly longer than the second, fifth to eleventh extremely dull, tenth a good deal longer than broad; palpi yellow. Head small, very shining. Thorax large, rather broader than the elytra, remarkably polished, and with only a few distant very fine punctures; the hind angles project very slightly backwards. Elytra longer than the thorax, the hind margin at the outer angle oblique, not rounded, the surface very shining, with deep and distinct punctuation. Hind body with coarse, close, elongate, deep punctures, from each of which springs a fine rather elongate hair.

In the female the last dorsal plate is trifid, the central lobe being small and minutely emarginate at the extremity, and separated by a rather broad interval on each side from the lateral teeth, which are broad and short and project a little further back than the central lobe; the last ventral plate is rounded in the middle and very slightly notched, the hind margin being set with very coarse setæ; on each side of the notch the lateral angles form on each side only an extremely short projection.

The above description is made from two females, one from Oyayama, one from Nikko, agreeing closely; besides these I have five other individuals before me which may be either varieties of this remarkable species or may represent two or more closely allied distinct species, viz. a female from Nikko, which has the punctuation of the hind body and also of the elytra less coarse, the prolongations of the last dorsal plate slightly longer, the lateral teeth of the last ventral a good deal longer; in other respects this agrees with the type. Another female from Nikko is considerably smaller (8 millim. long) and narrower, and has the punctuation of the hind body much finer; the prolongations of the last dorsal plate are evidently shorter than in the type, but the lateral tooth of the last ventral is slightly longer. Another female, from Subashiri, is still smaller (only $6\frac{1}{2}$ millim. long), and has the punctuation of the hind body a good deal coarser, the prolongations of the last dorsal plate evidently shorter than in the type, and the tooth of the side of the last ventral very obscure. There are also two males present from Nikko, one similar in size and form to the type female, but with the hind body more densely punctate; the last dorsal plate is at the hind margin a little prolonged in the middle, so as to form a well-marked prominence, rounded behind, but minutely emarginate in the middle of the rounding; the last ventral plate is very deeply cleft, the sides, however, not being prolonged as laciniæ, the sides of the fissure within its margin deeply and broadly impressed;

the preceding plate is simply emarginate in the middle, and in front of this has a rather small space covered with minute asperities. The second male is considerably smaller than the first and has the hind body coarsely punctate; the prominences of the last dorsal plate are rather longer, the central lobe being comparatively narrower, less rounded, and more emarginate; the ventral structure is nearly the same as in the other individual, except that the lateral portions of the last plate are rather more prolonged and less obtuse. In neither of these males are the front tarsi dilated. My impression is that these seven specimens represent three or four distinct species, in which the specific sexual characters are much more feebly differentiated than in the normal *Tachini*; but without further material or evidence as to the cohabitation of the sexes I cannot venture to attempt to characterize more than one species. In any case, however, *T. punctiventris* is at once distinguished by the polished surface of head, thorax, and elytra, and the punctuation of the hind body, the largely developed antennæ, and the very short metasternum. It will probably be found that it should be generically separated from the normal *Tachini*.

Erchomus scitulus.

Erchomus scitulus, Weise, Deutsche ent. Zeitschr. xxi. 1877, p. 91.

Mitzudake, near Nagasaki; Hitoyoshi, in Higo.

[To be continued.]

LI.—*On the Bib and Poor-Cod.*

By Francis Day, C.I.E., F.L.S., &c.

Professor M'Intosh, in your last issue, admits that he was in error in having stated in the Ann. & Mag. Nat. Hist. for May 1886 that the bib and poor-cod were the same species; but as he also, possibly in error, misquotes some of my statements, or observes upon omissions made by me, but which do not exist, I beg for a short space in order to reply.

He says that "the main point contended for in my note was the confusion on the subject and the apparent uncertainty of the author of the 'British Fishes'" (p. 349)—an uncertainty which I think no one would have discovered but Dr.

and the anterior part of the disk (the middle excepted) pale blue; the sides behind the lateral spines, the basal part of the disk, and a narrow, longitudinal, median space black and glossy. The scutellum pale blue. The elytra, without granules and impressed with only a few small punctures behind each shoulder, are of a deep dark blue which is almost black. They are crossed by four pale blue pubescent bands, of which the most anterior or basal is made up of three spots on each elytron—one below the shoulder, the second in the depression above the shoulder, the third smaller and confluent with the second nearer to the suture. The second band consists of a single large transverse spot on each elytron which reaches neither the suture nor the outer margin. The third band is similar to the second. The fourth is a row of four quadrate spots—two on each elytron. In addition there is a large rounded pale blue spot on each at the apex. A single broad spot on the side of each abdominal segment, the sides of the metasternum and the mesothoracic episternum are also coloured pale blue. The tarsi on their upperside, the tibiæ towards their middle, and the apices of the femora are bluish, the remaining parts of the legs black. The antennæ, rather stout and scarcely more than half as long again as the body, are ringed with bluish grey, each ring comprising the apex of one joint and the base of the succeeding joint; the intervening parts are of a dull pubescent black, the scape only being somewhat naked and glossy. The latter is provided with a distinct and complete cicatrice. The mesosternum is horizontal behind, vertical and strongly tubercled in front.

The spots and bands of pale blue pubescence on a shining ground of very dark blue give this insect a handsome appearance.

LX.—*The* Staphylinidæ *of Japan.*

By Dr. D. Sharp.

[Continued from p. 387.]

Tachyporus terminalis, n. sp.

Testaceus; elytris circa scutellum nigricantibus, metasterno infuscato; abdomine rufo, apice nigro.
Long. 4 millim.

Antennæ elongate, evidently thicker externally, testaceous, the terminal joints scarcely more obscure. Head and thorax clear yellow. Elytra more reddish yellow, with a definite

black patch about the scutellum; sparingly punctate. Hind body with first four segments red, the two terminal clear black. Mesosternum yellow; metasternum blackish.

A distinct species to be placed near *T. obtusus*.

A single male was found at the Shimonosuwa Lake, 31st July, 1881.

Tachyporus celatus.

Tachyporus celatus, Sharp, Trans. Ent. Soc. Lond. 1874, p. 17.

This is apparently one of the commoner species of Staphylinidæ in Japan, and though I have not seen very many specimens, is, I think, very variable in colour.

Yokohama, Nikko, Hakone, Miyanoshita, and Kamiichi.

Tachyporus suavis, n. sp.

Niger, nitidus; antennis, palpis, prothoracis lateribus pedibusque testaceis; elytrorum apice plus minusve evidenter pallido; antennis extrorsum evidenter crassioribus; prothorace elytris conspicue latiore.

Long. 5 millim.

Var. Antennis extrorsum fuscescentibus.

Antennæ rather stout, tenth joint about as long as broad. Prothorax curved at the sides and much narrowed in front, black, but yellow at the sides, the yellow colour being broadest near the hind angles. Elytra considerably longer than the thorax. Hind body with a sparing but distinctly impressed punctuation.

This is readily distinguished from the darker specimens of *T. celatus* by its thicker antennæ, as well as by the more elegant coloration; it is remarkable from the fact that the punctuation of the hind body is a true punctuation, consisting evidently of fine impressed punctures; this is best seen near the base of each segment, the punctures becoming quite obsolete on the hinder part of each plate.

Single individuals have been four times met with, at Yuyama in May, at Fukushima at the end of July, at Chiuzenji and at Nikko in August, 1881. Of the variety with darker antennæ single individuals were twice found, viz. at Shimonosuwa on the 31st July and at Nikko on the 18th August.

Tachyporus oculatus, n. sp.

Fusco-niger, abdomine nigro; antennis fuscis basi dilutiore, palpis

pedibusque testaceis; elytris thoracis longitudine, vix rufescentibus; abdomine parce obsoletissimeque punctato.
Long. 3½ millim.

This species is of the size and form of *T. humerosus*, but is one of the most easily recognized species of the genus; the head is broader than usual, the eyes being larger and more distinctly faceted; the penultimate joint of the maxillary palpus is but little broader than the preceding. The thorax is but little curved at the sides and but little narrowed in front; its sides are more or less distinctly sordid yellow. The elytra are of a very dull and obscure red colour, only very sparingly punctured. The punctuation of the hind body is extremely indistinct. The tarsi are elongate and slender, the anterior of the male not dilated.

Five individuals were found at Miyanoshita and a single individual at Hakone, a few miles distant.

Tachyporus orthogrammus, n. sp.

Niger; prothorace margine laterali et basali, elytris margine apicali vittaque recta intra-laterali, pedibus antennisque testaceis, his extrorsum fuscescentibus.
Long. 3 millim.

Antennæ quite slender, a little thickened externally. Head broad, with large eyes. Thorax strongly transverse, not much narrowed in front. Elytra considerably longer than the thorax, feebly punctate and pubescent, and with a few erect, short, black setæ distributed over their surface; of a lurid black colour, at some distance from the outer margin but parallel with it, bearing a broad straight yellow stripe extending from front to hind margin. Hind body black, hind margin of each segment narrowly yellow.

This has longer elytra than *T. oculatus*, and cannot fail to be distinguished by the peculiar coloration of the wing-cases.

Kiga; a single example.

Conosoma pumilum.

Conurus pumilus, Sharp, Trans. Ent. Soc. Lond. 1874, p. 18.

Found near Nagasaki in March.

Conosoma germanum.

Conurus germanus, Sharp, Trans. Ent. Soc. Lond. 1874, p. 17.

About a dozen specimens have been found in various localities in Kiushiu and the main island, Hakone, Fukushima,

and Nagasaki. The species is no doubt quite distinct from the European *C. pubescens*.

Conosoma fimbriatum, n. sp.

Majus, nigrum, subopacum, sat dense punctatum, pedibus rufis; antennis fuscis basi et articulo ultimo testaceis, hoc elongato; tibiis intermediis apice nigro-ciliatis, ciliis intus vix ascendentibus.
Long. 6 millim.

Antennæ elongate, the tenth joint quite as long as broad, the three or four basal joints pale, and the apical joint also pale, this latter elongate, a little longer than the ninth and tenth together. Thorax with the base truncate and the hind angles rounded, not at all produced, the hind margin more or less picescent. Elytra slightly longer than the thorax. Hind body entirely black. Mesosternum with a strong carina; epipleuræ at shoulders much developed in the perpendicular direction; middle tibiæ rather stout, the black fimbriæ with which they are armed at the extremity only just extending along the rounded angle.

Found in the main island, at Yokohama, and in fungi at Nikko.

Conosoma tibiale, n. sp.

Sat crassum, fusco-nigrum, subopacum; antennis pedibusque testaceis, illis in medio fuscis, articulo ultimo sat elongato, decimo latitudine fere longiore; elytris ad basin vage rufescentibus; abdomine ferrugineo-cingulato; tibiis intermediis apice nigro-ciliatis, ciliis ad marginem interiorem evidenter ascendentibus.
Long. $5\frac{1}{2}$ millim.

This insect is very similar to *C. fimbriatum*, but differs in the important fact that the black cilia of the apex of the middle tibiæ are conspicuously continued for a short distance upwards along the inner margin. The punctuation of the surface is not nearly so dense as in many species of the genus; when the hind body is extended it is seen that the segments are broadly cingulate with reddish colour, and that the hind part of the penultimate segment and the greater part of the terminal segment at the base are yellowish. In the strongly carinate mesosternum and the epipleural development at the shoulders *C. tibiale* and *C. fimbriatum* are similar.

Two individuals found in fungi at Nikko and one at Oyayama, April 26, 1881.

Conosoma tristiculum.

Conosoma tristiculum, Weise, Deutsche ent. Zeitschr. 1877, p. 92.

Mr. Lewis has brought back only a single specimen that I can consider to be this species; it has the middle tibiæ simple and the epipleuræ nearly simple at the shoulders, and is thus readily distinguished from *C. tibiale*, while from *C. varicorne*, which also it greatly resembles, the slender antennæ with elongate terminal joint conspicuously separate it.

The precise locality of this individual has not been recorded.

Conosoma varicorne, n. sp.

Sat crassum, nigro-fuscum, subopacum; antennis rufo-obscuris, basi et articulo ultimo pedibusque testaceis; antennis haud gracilibus, apicem versus incrassatis, articulis penultimis transversis, ultimo haud elongato; tibiis intermediis simplicibus, ad apicem flavo-ciliatis.

Long. 5 millim.

The punctuation is not very dense and usually there is no marked cingulation of the hind body in this species; it resembles *C. tristiculum* and *C. tibiale*, but is readily distinguished by the simple intermediate tibiæ; these when looked at from the inner face are not at all enlarged towards the extremity, which is simply truncate and armed with minute yellow cilia; the mesosternal carina is only moderately elevated and the epipleuræ are a little impressed at the shoulders. I have seen but few specimens, mostly in bad preservation; although the colour is in some individuals more variegate with red—somewhat as in *C. tibiale*—I see no characters for separating them specifically.

Found in several localities on the main island; and also one individual of a large dark variety from Sapporo.

Conosoma pedicularium.

Tachyporus pedicularius, Grav. Col. Micr. p. 133.

A few individuals were collected about Nagasaki in February 1881. I am not able to point out any satisfactory characters for separating the Japanese insect from the European species.

Conosoma armatum, n. sp.

Parvulum, ferrugineum; elytris abdomineque plus minusve nigro-

signatis; antennis ante apicem sæpius fuscescentibus; elytris ad latera setis erectis majusculis armatis.
Long. 3 millim.

This little insect is extremely similar to *C. pedicularium*, but is readily distinguished by the large black setæ with which the sides of the elytra are armed; it is also more or less spotted with black, but apparently in a very variable manner. It is nearly allied to the Australian *C. personatum*, Fauv., but that insect is smaller and has the antennæ shorter and more clavate.

A few specimens were found on the main island at Kashiwagi, Nikko, and Oyama.

Bolitobius.

It appears probable that Eastern Siberia and Japan are the metropolitan regions for this genus. I am enabled to bring the number of species from the latter country up to nine, and in addition to these Mr. Lewis obtained single examples, not in a condition suitable for study, of five others.

Bolitobius principalis, n. sp.

Elongatus, capite præsertim elongato, angusto, nigerrimus; antennis basi flavescente articulis tribus ultimis pallide flavis; abdomine segmentis tertio quartoque rufis.
Long. 13 millim.

This remarkable *Bolitobius* is no doubt allied to the Siberian *B. prænobilis*, Kr., that species having, however, the hind body in greater part red and the antennæ different at the extremity. Here the three terminal joints are pale, almost white, and form an abrupt contrast to the preceding joints, which are quite black, the elongate and slender basal joint being flavescent, with a dusky streak above. The narrow head is conico-subcylindric. The thorax and elytra entirely black, the sutural and dorsal series of punctures on the latter each about nine in number. The hind body is coarsely punctate, with strong outstanding setæ. The legs black, becoming paler towards the extremity, so that the tarsi are reddish at any rate towards the extremity.

Nikko, Miyanoshita; seven examples.

Bolitobius daimio, n. sp.

Elongatus, capite præsertim elongato, niger, nitidus; antennarum

basi et articulo ultimo pedibusque testaceis; elytris margine apicali vittaque obliqua ad humerum extrorsum expansa flavis.
Long. 11 millim.

Antennæ rather elongate, ninth and tenth joints each about as long as broad, terminal joint rather longer, yellow, the elongate basal joint also yellow; palpi piceous, with the terminal joint flavescent. Head elongate and narrow, subcylindric. Thorax entirely black. Elytra not very long, in larger part black, but each with a yellow mark starting from the suture at the apex and extending to the shoulder, where it is much dilated, the hind margin also narrowly yellow; the sutural and discoidal series of punctures each about eleven or twelve in number. Hind body rather coarsely punctate, with distinct erect setæ. Legs flavescent, with the tips of femora and tibiæ infuscate.

One of the two examples has the base of the hind body obscurely rufescent, due, I expect, to its being a little immature.

Nikko.

Bolitobius irregularis.

Bolitobius irregularis, Weise, Deutsche ent. Zeitschr. xxi. (1877) p. 93.

Yokohama, Miyanoshita, and Kumakuni in Higo (*Lewis*); Hagi (*Hiller*).

Bolitobius semirufus, n. sp.

Elongatus, angustulus, antice et postice acuminatus; antennarum basi et articulo ultimo, palpis pedibusque testaceis; capite thoraceque nigris, hoc ad latera et ad basin, illo antice, testaceis; elytris testaceis, circa scutellum et late ad angulos posteriores nigris; abdomine rufo, apice nigro, segmento penultimo apice flavo-cingulato.
Long. 7 millim.

Antennæ slender, the three basal joints and the terminal joint yellow, the tenth joint about as long as broad. Head elongate, black, yellow in front of the antennæ. Thorax as long as broad, black, the sides yellow, more broadly so behind, the basal margin narrowly yellow. Elytra rather long, yellow, with a very large black mark on each behind; these marks nearly join at the suture, and leave the hind margin narrowly yellow; there is also a black triangular mark on the scutellar region; the sutural series of punctures is about seven in number, and the discoidal the same. The abdominal punctuation is scanty, being nearly absent on the two basal

segments and only moderately close on the penultimate. The legs, including the front coxæ, are yellow; the breast is black. This is about the size of our European *B. trinotatus*, but has a much longer head and is differently coloured.

Nikko and Chiuzenji; five examples.

Bolitobius cinctiventris, n. sp.

Niger, antennarum basi, palpis, pedibus elytrisque testaceis, his ad angulos posteriores nigro-maculatis; abdomine fortiter punctato, segmentorum margiuibus posterioribus testaceo-cingulatis.
Long. 7½ millim.

Antennæ rather short; fifth to tenth joints subequal, no one of them longer than broad; terminal joint short, pale at the tip. Head black, short. Thorax black, scarcely so long as broad. Elytra yellow, with a large diagonal black mark at each outer hind angle, and with a small dark mark round the scutellum extending backwards along the suture; the sutural and dorsal series consist each of about eight punctures. Hind body dark, each segment with the hind margin remarkably definitely testaceous, the basal segments very sparingly punctate, those behind rather coarsely though not densely so.

This may be placed near *B. trinotatus*, but is not very close to any species I know.

Oyama, Miyanoshita; only three ill-preserved examples were obtained.

Bolitobius breviceps, n. sp.

Niger, antennarum basi, palpis, pedibus elytrisque testaceis, thorace ad latera flavescente; elytris ad angulos posteriores nigris, seriebus dorsalibus et suturalibus circiter 9-punctatis.
Long. 6 millim.

Antennæ with the four basal joints pale, tenth joint about as long as broad, terminal joint elongate, about twice as long as the tenth. Head black, very short, eyes but little distant from the thorax. Thorax not so long as broad, black, with the sides yellow, this colour rather broader behind. Elytra yellow, not marked with black round the scutellum, but with each outer angle diagonally black, the dark colour extending quite to the hind margin, scarcely reaching the suture, but at the outer margin extending far forwards. Hind body black, with the penultimate segment broadly ringed with yellow, rather finely punctate.

Nikko, June 1880; two ill-preserved examples.

Bolitobius pallidiceps, n. sp.

Niger, antennarum basi et articulo ultimo, palpis, pedibus capiteque testaceis, hoc vertice fuscescente; elytris ad humeros flavescentibus, serie dorsali circiter 8-punctato.
Long. $5\frac{1}{2}$ millim.

Antennæ rather short, the penultimate joints not quite so long as broad, terminal joint also quite short, pallid. Head moderately long and acuminate. Thorax as long as broad, the base and hind angles very rounded, entirely black. Elytra rather short, in greater part black, but with a rather large ill-defined pale mark at each shoulder, the punctures of the dorsal series unusually coarse. Hind body black, rather sparingly and finely punctate, each segment ringed with yellow behind.

Kashiwagi, 16th June, 1881; unique.

Bolitobius simplex, n. sp.

Elongatus, angustulus, rufo-testaceus, capite nigro; antennis (basi excepta), elytris versus apicem abdominisque apice fuscescentibus.
Long. $5\frac{1}{2}$ millim.

Antennæ rather slender, the three basal joints pale, the penultimate joint rather longer than broad, terminal joint elongate, yellow at its extremity. Head quite short, black. Thorax clear yellow, about as long as broad. Elytra elongate, yellow, vaguely fuscescent towards the extremity, the sutural and dorsal series consisting each of about twelve fine punctures. Hind body slender, sparingly punctate, basal half of penultimate segment fuscescent, the other half reddish, apical segment blackish.

Nagasaki and Bukenji; one example from each locality.

Not closely allied to any other species, and in appearance perhaps more similar to *Mycetoporus splendidus* than to the typical *Bolitobii*.

Bolitobius felix, n. sp.

Major, latus, rufo-testaceus, abdomine, elytrorum apice antennisque nigris, harum basi pedibusque testaceis; prothorace basi subtiliter marginato; elytrorum seriebus circiter 10-punctatis.
Long. 9–13 millim.

Antennæ rather stout, four basal joints yellow, the next six blackish, terminal joint rather long, fuscous yellow, each of fifth to tenth joints about as long as broad. Head rather

broad, not acuminate. Thorax not quite so long as broad, much narrowed in front, like the head bright reddish yellow. Elytra rather longer than the thorax, the apical margin black, the black colour broader towards the outer angle and along the outer margin extending far forwards, but not reaching the shoulder, the dorsal series of punctures placed in a well-marked depression, the epipleural line very closely and coarsely punctate. Hind body black, coarsely and rather closely punctate, the two basal segments impunctate on the middle. Anterior coxæ scabrous. The male has the hind margin of the penultimate ventral plate produced somewhat in the middle, and in front of this there is a carina becoming behind gradually more elevated. The hind margin of the terminal plate is densely hispid.

Although the characters of the scabrous front coxæ and the margined base to the thorax in conjunction with the rather slender sublinear palpi are sufficient to make this a distinct genus, I do not propose a name for it, as much discrepancy of opinion prevails concerning the allied genera.

Nikko, Yuyama, Kashiwagi, and Nara, in the early summer, ten examples; also in Eastern Siberia.

Megacronus.

Under this name I unite for the present purpose the genera distinguished by Rey under the names *Bryocharis*, *Megacronus*, and *Bryoporus*, feeling that in the present early and extremely incomplete state of our knowledge of the insects of this family it is not advisable to make use of more generic names than are necessary.

Megacronus prolongatus, n. sp.

Elongatus, subdepressus, rufus; abdomine rufo-obscuro; elytris crebre fortiter irregulariter punctatis.
Long. 8 millim.

Antennæ elongate, third joint very long, of fourth to tenth each is shorter than its predecessor, the fourth being greatly longer than broad, the tenth about as long as broad, terminal joint a little longer than the tenth; the middle joints are a little infuscate. Head rather small, concolorous with the thorax; this latter with two punctures on the disk in front of the middle. Elytra longer than the thorax, rather coarsely punctate, the punctuation not serial. Hind body elongate and slender, of a dusky red colour, with the apex clearer red, rather coarsely punctate.

This is allied to the European *M. inclinans*, and belongs to the subgenus *Bryocharis* of Thomson and Rey.

Nara, 1st July, Chiuzenji, 19th August, 1881; one example from each, both apparently females.

Megacronus princeps.

Megacronus princeps, Sharp, Trans. Ent. Soc. Lond. 1874, p. 19.

Mr. Lewis has now found the male of this species; it possesses on the penultimate plate two series of cilia separated by a moderately broad space; the cilia are so arranged and so densely packed as to appear like a solid carina. The species belongs to the subgenus *Bryocharis*.

Hitoyoshi and Miyanoshita; a single example in May from each locality.

Megacronus setiger.

Megacronus setiger, Sharp, Trans. Ent. Soc. Lond. 1874, p. 18.

The characters previously given by me as those of the male are, I presume, really those of the female, as Mr. Lewis has brought back two examples, one of which, by extraction of the œdeagus, I find to be certainly a male; it has the terminal ventral plate provided in the middle behind with a large broad depression, and terminated behind by a large, peculiar, ligular prolongation.

Ichiuchi and Kiga; one example from each place.

Megacronus striatus.

Staphylinus striatus, Oliv. Ent. no. 42, pl. v. fig. 47.

In Europe this species has not been found to be variable; but in Japan, to judge from the few examples obtained by Mr. Lewis, it is quite the contrary. The eight Japanese examples represent four forms, viz.:—1, similar to our European type; 2, similar to the European type, but with more densely punctured hind body; 3, rather smaller and more slender than the European type, and with the elytra entirely black; 4, considerably smaller than the European type, and thorax and elytra red, the latter with a black spot behind. It is far from improbable that these may prove to be four distinct species.

1. Nikko; 2. Oyama and Nikko; 3. Nikko; 4. Nikko and Sapporo.

Megacronus optatus, n. sp.

Niger, nitidus; elytris sordide rufis, antennarum basi, palpis pedibusque testaceis; abdomine parce punctato, segmentorum marginibus rufo-cingulatis.
Long. $5\frac{1}{2}$ millim.

Antennæ rather slender, thickened externally, four basal joints yellow, fifth joint as long as broad, penultimate joints slightly transverse, hind margin picescent. Elytra slightly longer than the thorax, the dorsal series consisting of four or five subobsolete punctures. Hind body sparingly punctate, distinctly though scantily pubescent.

This is readily distinguished from *M. striatus* by the comparatively slender antennæ and the red immaculate elytra. It is more like our European *B. rugipennis*, from which it is distinguished by the colour of the head and thorax and the absence of any rugæ on the elytra. It is a member of the genus or subgenus *Bryoporus*, Rey, which, however, is scarcely sufficiently distinct from *Megacronus* as defined by the French systematist.

Kiga; unique.

Megacronus gracilis, n. sp.

Angustulus, rufus, capite nigricante, antennarum basi, palpis pedibusque testaceis; elytris regulariter multiseriatim punctatis.
Long. 5 millim.

This also from the structure of its palpi must be assigned to the subgenus *Bryoporus*; but it is very distinct by the regular coarse punctuation of the elytra, which is arranged in seven or eight series, somewhat as it is in the Central-American species of the genus. The antennæ are short, thickened externally, with the penultimate joints rather strongly transverse; the middle joints are infuscate. The head is small and narrow, black. The thorax is slightly transverse, and is remarkable from possessing along the middle three pairs of setigerous punctures, one near the front, one near the base, and one behind the middle; there are also a few lateral punctures irregularly placed, and in addition a scanty very minute punctuation. The elongate and narrow elytra are much longer than the thorax. The hind body is elongate and slender, rather closely punctate.

Otsu, Kobé, Fukushima, in June and July; one example from each locality.

MYCETOPORUS.

The Japanese species of this genus are better placed in the subgenus *Ischnosoma*, Rey: *Mycetoporus*, i. sp., which contains all the European species of the genus except two, not being represented in the Japanese fauna so far as we know it at present.

Mycetoporus convexus, n. sp.

Angustulus, nitidus; antennis crassiusculis, testaceis; capite thoraceque fusco-testaceis, pernitidis; elytris sordide testaceis, seriebus dorsalibus et discoidalibus remote punctatis; abdomine fusco, segmento penultimo late testaceo-cingulato.
Long. 4 millim.

Antennæ stout, clear yellow, the penultimate joint about as long as broad. Thorax very convex, about as long as broad. Elytra rather longer than the thorax, the dorsal series consisting of four or five indistinct punctures, the sutural series of about six rather more distinct. Hind body slender, its setæ very largely developed and conspicuous; the colour is nearly black, the hind margins of the segments being reddish, that of the penultimate segment very broadly so.

Hitoyoshi and Hosokuté; one example from each locality.

Mycetoporus discoidalis, n. sp.

Angustus, fusculus; antennis, palpis, thorace, pedibus elytrisque testaceis, his disco late fuscescente; abdomine segmentis posterius testaceo-marginatis, dense punctato; elytris seriebus dorsalibus et suturalibus crebre punctatis.
Long. 5 millim.

Antennæ only moderately long and not stout, penultimate joints hardly so long as broad, the middle joints a little infuscate. Head narrow, infuscate yellow. Thorax rather small, scarcely so long as broad, clear yellow. Elytra longer than the thorax, infuscate on the middle, so as to leave the hind margin broadly yellow and a yellow mark at each shoulder; the punctures of the dorsal and sutural series, though fine, are very distinct and numerous, there being from twelve to fifteen in each series. The slender hind body is densely punctate; the hind margins of the segments are broadly yellow, that of the penultimate segment very broadly. The male has the middle of the last ventral plate deeply depressed behind, the depression surrounded by a scabrous margin, and a tuft of setæ on each side projecting backwards beyond the hind margin. The hind margin of the preceding segment is feebly emarginate in the middle and

set with fine pale pubescence, on either side of which are black setæ.

This is nearer than any other of the Japanese species to our European *M. splendidus*, but is not very close to it.

Yokohama, Kiga, Miyanoshita.

Mycetoporus duplicatus, n. sp.

Rufo-testaceus; elytris nigricantibus, basi late rufo-testaceo, serie suturali multipunctato, serie dorsali duplicato.
Long. 5 millim.

Antennæ moderately long, penultimate joints scarcely so long as broad. Head yellow, slightly infuscate. Thorax clear yellow, broader than long. Elytra rather elongate, more than half of their surface black, the base being clear yellow; the punctures of the sutural series are numerous and distinct, about fifteen in number; the dorsal series is duplicate. The hind body is clear pale red, rather closely punctate. The legs are yellow.

Chiuzenji, 21st August, 1881; two examples.

Mycetoporus Lewisius.

Bryoporus Lewisius, Sharp, Trans. Ent. Soc. Lond. 1874, p. 19.

Mr. Lewis has now obtained other specimens of this insect, and it is clear from the structure of the palpi that the species would be better placed in the subgenus *Ischnosoma* of *Mycetoporus* than in *Bryoporus*. This species and *M. duplicatus* connect, however, *Mycetoporus* rather closely with *Bryoporus*.

Nagasaki in April; four examples.

[To be continued.]

LXI.—*Notes from the St. Andrews Marine Laboratory* (*under the Fishery Board for Scotland*).—No. IX. By Prof. M'Intosh, M.D., LL.D., F.R.S., &c.

1. On *Lesueuria*, a Ctenophore new to Britain.
2. On the Development of Mussels (*Mytilus edulis*).
3. On a Post-larval Pleuronectid (Turbot?).
4. On a Post-larval *Cottus* contrasted with the Gadoids.
5. On the appearance and disappearance of *Lucernaria* and other Forms.

1. *On* Lesueuria vitrea, *M.-Edwards.*

Comparatively little attention has been given by British