

—Mr. Schwarz exhibited a box of Theodosia (Helionica) beetles from Mount Kina-Balu, North Borneo, and spoke on the genus and on the characters used for the distinction of species. The genus is one of the few Cetoniid genera that are armed in the male with one cephalic and one thoracic horn, thus resembling the well known genus *Dynastes* of another sub-family of the Scarabæidæ, viz, the Dynastinæ. With the exception of a single species the genus is peculiar to Borneo, and up to quite a recent date specimens were extremely rare in collections. Last year Messrs. Goss and Dodge donated to the National Museum a fine collection of Mount Kina-Balu insects, among which were no less than 359 male specimens of these *Theodosia* beetles. Mr. Schwarz finds that the most elementary and most readily observable character, viz, the sculpture of the upper side, is absolutely safe to separate one of the species, *T. westwoodii*, from the rest. There were 266 specimens of this species, which is always recognizable from the double punctuation of the thorax (smaller and larger punctures intermixed) and from the peculiar punctuation of the elytra (the punctures being imperfect and umbilicate, *i. e.*, there is a semicircle open behind), and with a small puncture in the center. The horns of this species show an enormous extent of variation as to length and curvature, but the cephalic horn is always simple, *i. e.*, not bifurcate. The second series of species is always characterized by uniformly dense granulation of the thorax and by the elytra not having any punctures at the surface. The substance of the elytra is transparent and the peculiar sculpture can easily be seen within the elytra, although the punctures do not reach the surface. Several species have been made of this set, and it is worth while to record the differences. *T. magnifica* Rothschild, represented by 69 specimens, has the cephalic horn simple; *T. telifera* Bates has, on the other hand, the cephalic horn bifid, but there is not the slightest other difference between the two forms, so that when, as frequently happens, the cephalic horns get broken off, the two forms cannot be distinguished. To make the matter more interesting, each of these two forms has a companion form distinguished at the first glance by a dense

fringe of yellow hair along the inner margin of the front tibia. Thus, *Theodosia perakensis* Moser has the cephalic horn simple, but the anterior tibia fimbriate, and *T. rothschildi* Janson has the cephalic horn bifid and the anterior tibia fimbriate. There are, again, no other differences to distinguish these forms, and it may be seriously questioned whether these four forms may be considered as distinct species. It may be added that dissections of all forms of Mount Kina-Balu Theodosias proved that the male parts are absolutely identical. Mr. Schwarz showed also the females, some 53 in number. Among these only one, or at most two, forms can be distinguished.

Dr. Dyar stated that the Lepidoptera from Mount Kina-Balu in the Goss and Dodge collection make a very fine showing. He experienced great difficulty in getting names for all the species, however, since Whitehead's work on the results of the explorations in Mount Kina-Balu lists only the new or rare species that were taken and is, therefore, of no assistance in determining the others.

Mr. Schwarz said that it is a common fault with writers of works on exploration that complete lists of the species collected are not given, only those species either new or rare being listed.

—Mr. Norton, upon the invitation of Dr. Howard, told of certain experimental work on dimorphism that is to be undertaken by Dr. C. B. Davenport under the auspices of the Carnegie Institution, at the Biological Station at Cold Spring Harbor, Long Island, N. Y. He stated that Prof. W. E. Castle has established, in the guinea pig, an experimental form of dimorphism which follows Mendel's Law, while he himself has found the same law to hold as regards certain plants upon which he has been experimenting. What is now to be investigated is, whether dimorphism in plants and animls, as occurring in nature, follows this law. An interesting object of experimentation is the common yellow swallow-tail butterfly (*Papilio turnus*), in which, in localities where the species is double-brooded, there are two forms in the female, one black and the other yellow. Extensive breeding experiments are to be undertaken to determine, if possible, whether the

production of these two forms follows Mendel's Law and also to ascertain which form constitutes the dominant type in the species. As all the males are ostensibly yellow, the problem is a difficult one, since, if this law holds with this species, some of the yellow males must be potentially black and produce offspring in which the black type prevails.

Mr. Cook said he did not believe that dimorphism in nature follows the working of any law. The matter was further discussed by the members present.

MARCH 2, 1905.

The 194th regular meeting was held at the residence of Messrs. A. L. Quaintance and W. M. Scott, 1809 24th St., N.W., President Banks in the chair and Messrs. Ashmead, Burke, Gill, Girault, Hinds, Hopkins, Howard, Pratt, Quaintance, Scott, and Webb, members, and Messrs. Davis, Johnson, Strauss, and McClendon, visitors, present. In the absence of the secretary Mr. Pratt was appointed secretary *pro tem*. Prof. Thomas B. Symons, Entomologist of the Maryland Agric. College Exp. Station was elected an active member. The acting secretary read a letter from Prof. J. B. Smith relative to a National Association of Entomologists; this was discussed by Messrs. Ashmead, Banks, Gill, Hopkins and Quaintance. The matter was referred to the following committee appointed by the President at the request of the Society, Messrs. Ashmead, Titus and Quaintance.

Mr. Webb exhibited specimens of two species of *Desmocerus* and presented the following paper:

DESCRIPTION OF A NEW SPECIES OF *DESMOCERUS* WITH
A SYNOPTIC TABLE OF THE GENUS.

BY J. L. WEBB.

Desmocerus piperi n. sp.

♀.—Length 20.5 mm. Head, prothorax, ventral surface, legs, and antennæ bluish black; elytra bluish green, with narrow orange margins. Body elongate; head scarcely as long as prothorax, narrowed towards base; prothorax narrower than elytra, and strongly narrowed towards head, with an

obtuse elevation midway on each side, basal angles produced into spines; elytra scarcely narrowed posteriorly, posterior margin rounded with apices sub-acute.

♂.—Length 18.8 mm. Elytra distinctly narrowed posteriorly, and uniformly dull orange colored in pinned specimens (bright orange-red when living).

♀ and ♂ type No. 8401, U. S. N. M.; ♂ Blue Mts., Wash., July, 1896. Collector, C. V. Piper. The specimens before me, 15 in number, show little variation from the type, except one male, in which the fifth joint of each antenna is deformed.

Collected in numbers by Professor C. V. Piper, in the Blue Mountains of Oregon, and the Bitter Root Mountains of Idaho, feeding on the flowers of the black-berried elder, *Sambucus melanocarpa*.

The following table will aid in the identification of the species of this genus:

I. Elytra with basal third orange-colored, posterior two-thirds blue, without orange margins. Sexes equal in size and of the same color. Elytra of ♂ not distinctly narrowed towards apex.....*palliatu*s.

II. Elytra with orange margins in one or both sexes; males smaller, with elytra distinctly narrowed towards apex.

A. Elytra with narrow orange margins in both sexes.

a. Elytra pubescent.....*cribripennis*.

b. Elytra glabrous, punctures dense and fine towards apex.....*californicus*.

B. Elytra with orange margins in female; entire elytra orange in male.

a. Female elytra with narrow orange margins...*piperi*.

b. Female elytra with broad orange margins, darker only on median dorsal surface.....*auripennis*.

—Mr. Pratt exhibited slides and figures of larvæ, pupæ and adults of *Ceratopogon guttipennis* Coq. which he had found in the mountains at Bluemont and Woodstock, Virginia. The larvæ were found living in hollow tree stumps filled with water, in company with larvæ of three species of mosquitoes; *Culex triseriatus*, *C. signifer*, and *Anopheles barberi*. Their food seemed to be the rotting leaves, dead insects and other débris. He stated that the little “gnats,” or, as they are locally called “punkies” or “no-see-ums,” were exceedingly troublesome, especially early in the morning. Mr. Burke asked if any species of *Ceratopogon* occurred on the Pacific coast and M

Pratt replied that he had seen specimens from California and there was no reason why other species should not exist on the coast further north. Dr. Hopkins stated that he had had some experience in West Virginia and Maine with these insects and they were exceedingly troublesome.

—Dr. Hopkins exhibited specimens of fossil mesquite wood from Texas Hill, Arizona, showing distinct fossilized borings, apparently of a Cerambycid larva; and some fragments of petrified wood from the same locality showing insect borings filled with perfectly preserved egg-like objects.

—Dr. Hopkins made a few remarks on the Scolytid larvæ and their mouth-parts. He stated that he had found very constant characters in the larva which greatly simplified the classification of several groups. A box of pinned larvæ was exhibited, and several plates of drawings were also shown. Dr. Gill asked if the larval hooks mentioned by Dr. Hopkins were co-ordinate with any character in the adult. Dr. Hopkins replied that so far as he could determine they were not.

—Mr. Banks presented the following paper:

NEW TRICHOPTERA FROM JAPAN.

BY NATHAN BANKS.

Some time ago Mr. S. I. Kuwana sent me a small collection of caddice-flies from Japan. I was at work on them when Mr. Nawa reached Washington bringing some more species. The following paper is based on these two collections. They contain 25 species, 9 of which have been described, 12 of which I describe herewith, and four are represented by females not sufficiently characteristic to be described. Two of the described species have only just been published by Dr. Ulmer, and I had them in manuscript. Three new genera are described, all in the Limnephilidæ. None of the species are European, but one was described from Eastern Siberia. Doubtless collections from the northern parts of Japan will show some European species.

Too few species are as yet known to make any generalizations regarding the trichopterous fauna of Japan. There are several remarkable genera present, most noteworthy is *Perisoneura* which has a series of costal cross veins. It may be also mentioned that the largest caddice-fly known is from Japan, *Holostomis regina*, a magnificent insect.

Phryganea latipennis n. sp.

Face pale brown, vertex with long yellowish hair in middle, brown on sides; antennæ pale, basal joint brown; palpi brown; thorax pale, with yellowish hair in a broad stripe through the middle, and brown on the sides; abdomen brown; legs pale yellowish, anterior and middle tibiæ brown, especially on outside; wings gray, with much black hair along basal part of costa; pterostigma black, containing a few white dots, and behind it in the base of the first apical cell is an elongate dark spot, also a smaller one near base of the third apical cell; the middle area of wing before the discal cell is very pale; the outer margin blackish, extending up on the veins; anal region pale; venation mostly pale; hind wings gray-hyaline, dark on costal area, blackish at the pterostigma, and clouded at tip. Both wings very hairy. Discal cell of fore-wings much shorter than pedicel, shorter than in *Ph. sordida*.

Expanse 30 mm.

One specimen from Gifu, Japan.

Nemotaulius n. gen.

In most respects similar to *Grammotaulius*, but in the hind wings the first apical sector is connected to the radius or runs into it near tip.

Type: *Gr. brevilinea* McLachlan.

In the specimen before me, which I consider the same as McLachlan's, the apical sector runs into the radius just before tip.

Nothopsyche n. gen.

Near to *Chilostigma*; differs therefrom in the longer palpi, the second joint of the maxillary palpi being longer than the third, in the slender labial palpi, and in the less strongly marked pterostigma. Spurs 1-2-2; discal cell very long, fifth apical cell acute at base in both pairs, and barely reaching the anastomosis, fourth in hind wings broad at base.

Type: *N. pallipes* Bks.

Chilostigma ruficolle Ulmer, recently described in the Stettiner Zeitung from Japan, also belongs to this genus. I have a specimen of it from Gifu.

Nothopsyche pallipes n. sp.

Face pale yellow, vertex blackish, with a median reddish line, and paler behind, with black bristles; palpi pale; antennæ pale, basal joint blackish, especially above; prothorax pale, with some black bristles above; rest of thorax rather reddish; abdomen pale on base, brown toward tip above, venter pale; legs pale yellowish, the tarsal joints darker at extreme tips, spines black, none above on tibia i. Fore-wings yellowish hyaline, minutely tuberculated, with appressed yellowish and scattered erect black hairs; the extreme outer margin faintly dusky, a hyaline mark at arculus; hind wings gray hyaline, barely darker towards tip. The

maxillary palpi are very long, the second joint plainly longer and thicker than the third; labial palpi short, slender (not as long as in *N. ruficolle*). Wings rather broad, broader than in *N. ruficolle*, venation similar to that species, but the discal cell is a little longer, and the radial sector a trifle more bent at the pterostigma.

Expanse 34 mm.

One specimen from Gifu, Japan.

Moropsyche n. gen.

A Limnephilid; maxillary palpi of male slender, second and third joints subequal; vertex elevated transversely in the middle, the black ocelli at sides of this elevation; basal joint of antennæ not very long; prothorax short; spurs 1-3-4; fore-wings rather narrow, subcosta running into costa, discal cell short, vein closing it weak, forks 1, 2, 3, and 5 present, fork 1 not reaching the discal cell, the pedicel about one-half the length of fork, fork 3 almost reaching the anastomosis, median sector arising just a little before the anastomosis, so that the arculus is as far out as anastomosis; in hind wings the discal cell is open, fork 1 very short, with long pedicel, forks 2 and 3 acute at base, latter not reaching the cross-vein.

Type: *M. parvula* Bks.

Moropsyche parvula n. sp.

Black, some yellow hairs on face, and near base of antennæ; legs pale, especially the tibiæ and tarsi, these with black spurs and black spines. Wings blackish, or fumose, sparsely black haired, and with much appressed yellow hair; antennæ distinctly crenulate within. Wings narrow, rather rounded at tips, venation rather fine.

Expanse 12 mm.

Two males from Hikosan, Buzen, Japan, 28 March.

Brachycentrus vernalis n. sp.

Head black, clothed with black hair; maxillary palpi with very long black hair, labial palpi with short hair; antennæ rather heavy, dark brown, first joint black, not elongate; thorax black, with black tufts on anterior lobes; abdomen black, with a few black hairs; legs black on coxæ and femora, paler beyond, especially on hind pair, which are clothed with short, whitish hairs; wings dull black, darker along costa and hind margin. Venation as usual in genus.

Expanse 22 mm.

Two specimens from Hikosan, Buzen, Japan, 28 March.

Gæra japonica n. sp.

Similar in size and general structure to *G. pilosa*, but paler yellow throughout; the swollen area in the front wings at end of the "area interclavialis" is not near as large as in *G. pilosa*; the fork of front wings

extends fully to middle of discal cell (on outer third in *G. pilosa*); fork 3 has a shorter pedicel than in that species. The comb on venter of male has five teeth each side, and the middle one is not much longer than the others; the male genitalia also differ.

Expanse 18 mm.

Two males from Kawana, Japan, 25 June.

Crunæcia albicornis n. sp.

Head black, with tufts of long black hair above eyes; antennæ black, on basal joint with long erect black hair all around, beyond this joint the antennæ are nearly white, the first few joints marked with black; palpi pale brown; thorax black, with some tufts of black hair in front; abdomen dark brown; legs pale brown, almost white on tarsi; wings blackish, with long black hairs, and short, yellowish appressed hairs, fringe blackish, with two or three white patches on outer part, hind wings blackish, with some short yellowish hair, fringe long, some white spaces in it between ends of veins. Structure, in general, similar to the other species; spurs 2-4-4; basal joint of antennæ very long and slender and densely clothed with long hair, no cilia on thread of antennæ; maxillary palpi small and slender, pendant. Wings with forks 1, 2, 3, 5; discal cell longer than the pedicel, but fork 1 extends only a little way on it, fork 3 reaches anastomosis, but not farther, the cross-vein connecting cubital and anal is before middle of discal cell; in both wings the cross-vein at base of the fourth apical cell is hyaline white.

Expanse 20 mm.

Two specimens from Hikosan, Buzen, Japan, 28 April.

Perissoneura similis n. sp.

Jet black; front and middle legs nearly white, hind pair darker; male with a large white spot in each wing beyond the anastomosis, elongate and bent outwards, the inner side distinct, but outer edge ragged and fading out, the one in fore wing has the inner side angulate, the one in hind wings has the upper part of inner side concave; female with wings entirely black, except faint small whitish spot in base of second and fourth apical cells, and on the thyridium, in the hind wing a small spot in base of fourth apical cell. Wings shaped about as figured for *P. paradoxa* McLach. or a trifle more elongate; the costal cross-veinlets are present, but the discal cell is longer, the apical cells rather shorter, the anastomosis more regular, and fork 4 is absent in both sexes.

Expanse, ♂, 46 mm., ♀, 50 mm.

Two males and one female, from Hikosan, Buzen, 29 May, and Tsuno, Buzen, Japan, 8 May.

Perissoneura japonica n. sp.

Similar in most respects to *P. similis*, it differs in shorter and more rounded wings, the white spots of male are broader, not so elongate,



1906. "New Trichoptera from Japan." *Proceedings of the Entomological Society of Washington* 7, 106–113.

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