

Diptera from the Philippine Islands

brought home by Dr. Carl Semper,

and described by

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P r e f a c e.

Up to the present time only a few diptera from the Philippine Islands have been described. In Wiedemann I find but a single species from that region; Macquart and Walker (in his List of the Diptera of the British Museum) have a few more; Schiner and Thomson published those brought home by the naturalists of the „Novara“ and the „Eugenia“. In all, I find fifty two described species, the list of which will be given below.

The collection formed by Dr. Carl Semper, now Professor in Würzburg, during his residence in the Philippines (1859—64) contains about 250 species, and enables us for the first time to form some idea of the character of the fauna. This collection was entrusted in 1865 to the able hands of my friend Professor Bellardi in Turin, and it is very much to be regretted that other occupations prevented him from accomplishing his purpose to describe it. In November 1880 it came into my possession. — While still in the hands of Prof. Bellardi, the collection was sent by him to Mr. Walker in London for the purpose of comparing the specimens with those in the British Museum. Mr. Walker mentions this circumstance (J. Proc. Lin. Soc. IX, p. 1) and introduces the species identified by him in his „Synopsis of the Diptera of the Eastern Archipelago, discovered by Mr. Wallace“ (l. c. p. 7 and the following, fourth column, Philippines). The species thus identified however were few in number, and the identifications, even of Mr. Walker's own species, were far from trustworthy. I will discuss them in the proper places.

In preparing the present work, I have followed the same rules as those which I explained in the Preface to my „Enumeration of the Diptera of the Malay Archipelago etc.“ (Annali del Museo Civico Sc. Natur. di Genova, Vol. XVI). I consider the description of a limited faunal collection from a little-known region, as being merely preliminary work, preparing materials for systematic monographs. The final descriptions of species must be comparative ones, based upon the knowledge of all or nearly all the species of a given region. For this reason, I confined myself to describing the most striking forms only, and did not deem

it my duty to describe as new, every specimen that I could not determine. A peculiar difficulty, attending the study of the diptera in the large groups of islands of South Eastern Asia, consists in the local varieties, which seem to exist on different islands. In several instances I have been in doubt, whether to regard them as distinct species, or as mere varieties; (for instance *Rosapha habilis* Wk. and *R. bicolor* Bigot; the specimens of *Chrysopila ferruginosa* Wied. with brown incisures on the abdomen, and those without them etc.). Such questions will be easier to solve in a special monograph, based upon more abundant materials.

Incidentally, I have inserted general observations on genera, groups and families, which I thought might be useful to the future worker in the same direction. The synoptic tables which I give, will save him some labor, but must be used with caution, as they have of necessity been prepared either from notes, taken in different collections, or merely from descriptions.

It would be premature to found, upon such small materials, a final opinion on the relation of the dipterous fauna of the Philippine Islands to that of the Malay Archipelago. Thus much is evident, that the relationship is considerable. Both faunas agree in the large representation of certain groups of diptera (for instance the genera *Laphria*, *Promachus*, *Ommatius*, *Milesia*, the family *Ortalidae*), as well as in the scanty representation of other groups (the *Dasypogonina*, with the exception of a few genera, like *Leptogaster* and *Damalis*; the whole family *Bombylidae*). Species widespread over South-Eastern Asia, occur here also (*Chrysops dispar*, *Chrysopila ferruginea*, *Psilophus vittatus*, *Syrphus aegrotus*, *Eristalis errans*, *Ochromyia ferruginea*, several *Luciliae*, *Scholastes cinctus*, *Nerius fuscus* etc.). Several forms of an apparently more restricted area are common to the Islands and to Amboina (the genera *Scamboneura* and *Damalina*), to Celebes (the genera *Rosapha*, *Telostylus*; the species *Sphyracephala cothurnata*, *Diopsis subnotata*, *Tabanus v. d. Wulpi* etc.).

The claim of a fauna to individuality, the degree of its specialization, are more difficult to define, upon such meagre data, than its relationship to another fauna. In the present case, the relationship shows itself principally in a similar distribution of groups; whether the specialization, when better investigated, will assert itself in a large proportion of peculiar species, remains to be seen. In the vertebrata, the specialization of the fauna of the Philippines is very remarkable. According to Mr. A. R. Wallace (*Island Life*, p. 361) about nine-tenths of the mammalia and two-thirds of the land-birds are peculiar species. Such data led Mr. Wallace to believe

„that the Philippines once formed part of the great Malayan extension
 „of Asia, but that they were separated considerably earlier than
 „Java and having been since greatly isolated and much broken up
 „by volcanic disturbances, their species have for the most part been
 „modified into distinct local species“

(Compare also Wallace, Geogr. Distrib. of Animals, I, 345—349).

The scrutiny of the small collection before me reveals in some groups traces of a rather striking specialization; but whether they will be sustained by further discovery, is still a question. I have been especially struck by the peculiar characters of the Tipulidae: the two species of Libnotes, described by me, have a peculiar coloring, different from that of the eleven known species of the same genus from other parts of South Eastern Asia. Eriocera is a genus abundantly represented in all the tropical regions of Asia and America, but most of the species have only four posterior cells; among two dozen described Erioceræ from S. E. Asia only five species have five posterior cells. Now, both species, which I describe from the Philippine Islands, have five posterior cells. The Ctenophoræ (Tipulidae) from the Islands also have some peculiarities in common.

As far as regards the genera, it is the family Ortalidae that seems to be the most specialized. I have been obliged to introduce in it not less than four new genera, all of them remarkable forms, not known before (*Antineura*, *Philocompus*, *Xenaspis*, *Naupoda*). The other new genera introduced by me are:

Scamboneura (Tipulidae), which also occurs in Amboina;

Eurybata (Micropezidae), represented in Amboina by a closely allied form, which I provisionally refer to the same genus.

Notopsila (Ortalidae), merely a new name for *Pachycephala* Dolesch., which is preoccupied. It likewise occurs in Amboina, and is closely related to the Australian *Euprosopie*.

Asyntona (Ortalidae) from Amboina; I have described it on account of its relationship to *Naupoda*.

That the Islands, especially the Northern parts of Luçon, have some points in common with China is very probable, but hardly possible to ascertain now, on account of the insufficient knowledge of the Chinese fauna. Such points of contact between the two faunas have been shown to exist in the Lepidoptera (Compare the article of Mr. George Semper in the Stett. Entom. Zeit. 1875, p. 409.) I have not been able to obtain data on the other orders of insects.

In the course of this paper I have used the terminology for the bristles, parts of the thorax etc. adopted by me in my recent paper: An Essay of comparative Chaetotaxy (Mitth. Münchener Entomol. Vereins, Vol. V).

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C. R. O. S.

List of the species previously described from the Philippine Islands. (Those marked with a star are represented in Professor Semper's collection.)

- Corethra manillensis* Schin. Novara, 30.
Chironomus trochanteratus Thomson, Eugenie's Resa, 445.
Tanytus manillensis Schiner, Novara, 26.
Chrysomyia annulipes Thomson, l. c. 461.
Odontomyia ochropa Thoms., l. c. 456.
 „ *claripennis* Thoms., l. c. 456.
Nemotelus albiventris Thoms., l. c. 462.
 * *Ephippium maculipenne* Macq., D. E. Suppl. IV, 54.
 * *Ptilocera smaragdina* Walker, List etc. III, 525.
Phyllophora bispinosa Thoms., l. c. 454 (Syn. of *Biastes indicus* Wk.)
 * *Calochaetis bicolor* Bigot, Ann. Soc. Ent. Fr. 1879 (*Calochaetis* Syn. *Rosapha* Wk.)
Tabanus manillensis Schiner, Novara, 84.
Chrysops manillensis Schiner, Novara, 104.
Diabasis flavipennis Macq., D. E. Suppl. IV, 35.
 * *Thereva lateralis* (Esch.) Wied. A. Z. I, 231.
Anthrax umbrifer Walk. List etc. II, 237.
 * *Laphria dimidiata* Macq. D. E. Suppl. I, 72.
 „ *Taphius* Wk. List etc. II, 380 (perhaps the same as *L. dimidiata*?).
 * *Philodicus longipes* Schiner, Novara, 179.
Erax integer Macq. D. E. Suppl. I, 81.
 * *Promachus forcipatus* Schin., Nov., 178.
 „ *maculosus* Macq. D. E. I, 2, 100 (*Trupanea*).
 * „ *manillensis* Macq., D. E. I, 2, 194; Suppl. I, 79 (*Trupanea*).
 „ *varipes* Macq., D. E. I, 2, 97 (♀ *Bengal*); Suppl. I, 79 (♂ *Manilla*) (*Trupanea*).
Eristalis chalcopygus Wied., A. Z. II, 178.
 „ *Plistoanax* Walk., List. etc. III, 628.
 „ *Babytace* Walk., l. c. 629.
 „ *Agyrus* Walk., l. c. 629.
Scopelia spinicosta Thoms., Eug. R. 528.
Musca niveisquama Thoms., l. c. 547.
 „ *bivittata* Thoms., l. c. 547.
Rutelia dubia Macq., D. E. Suppl. I, 182.
Anthomyia manillensis Frnf. Verh. Z. B. Ges. 1867, 449.

Geomyzidae.**D i p l o c e n t r a.**

Loew, *Centur.* II, 288; *Curtonotum* Macq. *D. E.* II, 3, 193; Schiner, *Fauna Austr.* II, 22.

The species before me agrees in the principal characters with Macquart's description; but the third antennal joint is rather short, elliptical (and not four times as long as the second); the scutellum has only four (and not six) long and strong bristles¹⁾; there are several praescutellar macrochaetae, (while Macquart's species is said to have no macrochaetae on the thoracic dorsum). The chaetotaxy, as far as I can discern in my only specimen is as follows:

Head. Vertical bristles, inner pair longer and stronger than the outer; postvertical pair comparatively long; ocellar of moderate length; fronto-orbital, two, the upper one long, the lower one shorter and weaker; a small genal bristle; a weak vibrissa; the upper occipital orbit with a row of shorter bristles (cilia).

Thorax. Humeral bristle, one, very long; posthumeral, two; praesutural, one. Supra-alar, three (?) Praescutellar two pairs, the outer one much longer than the inner; a shorter pair, more in front, corresponds in width to the outer pair. No other macrochaetae in the dorsal region, but it is closely covered with short, semi-appressed bristles.

Pleurae. Mesopleural bristles two, near the mesopleural suture; a third, weaker one between them; a fourth, lower down, above the sterno-pleural suture. Sterno-pleural one, longer than the mesopleural bristles, inserted above the middle coxae.

Legs. Two small bristles on each of the front and middle coxae; and one (?) on the hind coxae. Four bristles on the hind side of the front femora; two long apical bristles on the middle femora (also mentioned in Macquart), and several smaller bristles on the front side; one praeapical bristle on the front side of the hind femora. Front and hind tibiae with one praeapical bristle; middle tibiae with four or five long apical and praeapical bristles.

¹⁾ The statement that there are six scutellar bristles, and no macrochaetae on the thoracic dorsum, was a mistake of Macquart's and not a peculiarity of *C. gibbum*. Rondani, *Esame* etc. p. 18, has corrected it. But Rondani is wrong immediately afterwards, in identifying the *Helomyza circumfusa* Wied. (Sumatra), with a Brazilian species.

The wings, like those of *Helomyza*, have a series of stronger bristles along the anterior margin; nevertheless Loew places the genus among the Geomyzidae (Centuriae, List of species, Vol. I, p. 266) on account of the shortness of the first vein, the end of which coincides with the end of the auxiliary vein. The discal and second basal cells are coalescent (this character is mentioned by Schiner, Fauna Austr. Dipt. II, VII, foot-note, but not by Macquart and Loew; on the contrary, Macquart's figure shows the second basal cell as closed).

The species of the genus hitherto known, are *Curtonotum Perrisi* Schin. (syn. *Helomyza gibba* Ferris), from the South of Europe; *Helom. gibba* F. (Wied.) from S. America; *Diploc. helva* Lw., Centur. II, 91, from N. Amer, and an undescribed South African species, mentioned by Loew in Centur. II, p. 288. The species from the Philippine Islands which I describe, is not unlike the European and North American species in its coloring.

Diplocentra arenata n. sp. *Brownish-yellow, abdomen with three rows of subcoalescent brown spots along the middle; wings pale brownish.* Length 7—8 mm.

Face yellowish-white; front reddish brown, with two short longitudinal paler stripes on which the fronto-orbital bristles are inserted; anterior margin of the front along the frontal fissure, yellow. Antennae reddish; third joint brownish.

Thoracic dorsum densely punctate with brown, a black hair issuing from each dot; the intervals of the dots pollinose (with a dirty gray anteriorly, more brownish posteriorly). Pleurae yellowish-pollinose; ill-defined grayish-brown spots on the sternopleura and the hypopleura; macrochaetae black. Halteres reddish-yellow. Abdomen yellowish, densely covered with short black hair; longer hairs along the posterior margins of the segments; a brown spot in the anterior lateral margin of each segment (on the ventral side); along the back three rows of subcoalescent brown spots: on segment one, they are coalescent and form a transverse brown spot in the middle of the segment, the anterior margin of which remains yellow; on segments 2 and 3 the three spots, in the shape of longitudinal brown stripes are connected by a transverse brown band near the posterior margin; on segment 4 nearly the same pattern, except that the lateral stripes are reduced to a mere brown spot, near the anterior margin and disconnected from the brown band on the posterior. Wings uniformly tinged with brownish; posterior crossvein very little oblique, slightly sinuate, clouded with brown. A single specimen (female?).

Drosophilidae.

Drosophila ananassae Dolesch. 3 Bijdr. 56. The description is unmeaning, and even a colored drawing which I possess does not afford any certainty about the identification. — A single specimen.

Drosophila hypocausta n. sp. ♂ ♀. *Thorax brownish-red above; pleurae and abdomen nearly black; legs brownish-yellow, but femora and front coxae brown; wings yellowish-subhyaline.* Length $2\frac{1}{2}$ —3 mm.

Head brownish-red, including the antennae; cephalic bristles and the arista black; thorax brownish-red above; pleurae and sternum dark-brown; abdomen dark-brown, almost black, in one of the specimens slightly reddish at the base; halteres yellowish-red; legs pale brownish-yellow; front coxae and all the femora, except the knees, brown; a weak praeapical bristle on the hind tibiae; wings yellowish, subhyaline; the costal vein reaches the fourth vein; the last section of the fourth vein only a trifle longer than the preceding; it is parallel to the third vein; the second and third veins are diverging; the interval between their tips is about once and a quarter longer than the interval between the tips of the third and fourth veins; the posterior crossvein is a little longer than the last section of the fifth vein; first vein very short, its tip a little nearer to the root of the wing than the anterior crossvein. — Five specimens.

Oscinidae.

Oscinis dimorpha n. sp. ♂ ♀. — Black, fore part of the front red; tip of the wings infuscated;

♂. Antennae red; legs reddish-yellow, except the hind femora and tibiae, which are brown.

♀. Antennae dark brown; legs brown, except the fore coxae, the base of the tibiae and of the tarsi, which are pale yellow.

Male. Head black, vertex and posterior part of the front shining black, encroaching in the shape of an angle on the anterior half of the front, which is ferruginous-red. Face and palpi reddish-yellow. Antennae ferruginous-yellow; third joint rounded-oblong, arista microscopically pubescent, yellowish at base. Thorax black, slightly grayish-pollinose; scutellum with two pairs of bristles; the intermediate very long. Abdomen black. Halteres reddish-yellow. Wings hyaline, veins yellowish-brown; apex of the wing infuscated beyond the tip of the