380 [Berliner Entomolog, Zeitschrift, Bd. XXXVIII, 1893, Heft IV.]

Two critical remarks about the recently-published third part of the Muscaria Schizometopa of MM. Brauer and Bergenstamm; also a notice on

Robineau-Desvoidy,

by C. R. Osten Sacken.

Two years ago, when I received the second part of the Muscaria Schizometopa, I was somewhat astonished to find, on the very last page of the Index, p. 142 [446], the words: "Torocca Walk. — Uns unbekannt." Recently, owing to the kindness of the authors, I have received the third volume, and I find again in the Index, p. 150 [238], the same words: "Toroca Walk. (sic!) — Uns unbekannt."

The genus *Torocca* was described by Walker in the Journ. Proc. Linn. Soc. Vol. IV, p. 131, Sept. 1859; the species is *T. abdominalis* n. sp. from Makessar. A second mention of *Torocca* occurs in the same Journal etc. Vol. IX, p. 5, with the following notice: "Felder has named a genus of Rhopalocera after Dr. Doleschall, and as my genus *Doleschallia* is very closely allied to *Torocca*, I have united these two genera and have anulled the former name." However MM. B. & B. would have also found a mention of *Torocca* in the yearly Entom. Bericht for 1859, p. 299 (by Gerstaecker) if they had taken the trouble carefully to compile the literature of the Muscidae, before publishing their monograph.

Another passage in the same third part, which attracted my attention is the following, on p. 2 (90): "Beschreibungen Robineau's, die um so weniger Vertrauen einflössen, als derselbe die morphologischen Verhältnisse der Muscarien so wenig kannte, dass er eine Fliege mit zufällig eingezogener Stirnblase, die der ganzen Familie gemeinsam ist, als neue Gattung beschreibt (Rondania cucullata)."

The passage alluded to is in the "Diptères des environs de Paris" (I, p. 677; 1863) and runs thus: "côtés du front et de la face en saillie, et comme recouvrant les antennes d'une sorte de capuchon" etc. Whether this passage has been correctly interpreted by Messrs, B. & B., I am unable to say, but what I know is, that

crit. remarks ab. the third part of the Musc. Schizometopa. 381

in Robineau's "Essai sur les Myodaires", 1830, in the introductory chapter (p. 10), the following passage occurs:

"La ptiline [ptilinum, de arithror]1) est une membrane très molle qui, sur les jeunes sujets, et principalement dans quelques tribus, sort entre les antennes et l'angle frontal. Souvent elle persiste après la mort. Susceptible de mouvements assez prompts, on la voit alternativement sortir et rentrer sous les pièces du front, suivant la respiration de l'animal. Les espèces sur qui cette membrane se trouve le plus développée, m'engagent à la regarder comme un organe d'olfaction. Sa position à la base même des antennes, qui communiquent dans l'intérieur de sa cavité, me confirme dans cette opinion. Il n'est pas non plus inutile de remarquer qu'elle est plus fréquemment exerte et plus étendue sur les femelles que sur les mâles."

That the ptilinum, Brauer's "Stirnblase", is an organ of olfaction remains to be proved; but what is important for us to know is that Robineau, as early as 1830, has recognized this organ as a leading character of his Myodaires, a division which contains the Muscidae Calyptratae and Acalyptratae, and the Oestridae.2) In other words, the Myodaires correspond exactly to the Muscidae of Latreille (as Robineau himself acknowledges in the Ann. Soc. Ent. 1846, p. 347) and to the Schizophora Becher-Brauer (Z. K. M. III, p. 11, 1883), except that Brauer, erroneously according to my opinion, added the Conopidae to them. 3) The "Bogennath" of Brauer (suture frontale) was also very well known to Robineau; he calls it angle frontal, and mentions among the characters of the Myodaires. These facts seem to have been entirely unknown to Professor Brauer when, half a century after Robineau, he announced (in Z. K. M. I, p. 14, 1880), what he called the new discovery ("neue Thatsache") of the frontal suture, as a distinguishing character between Orthornhapha and Cyclor-

¹⁾ Ptilinon, diminutive of ptilon, in greek down, meaning probably a pillow, stuffed with down.

²⁾ In Robineau's second work the Oestridae are coordinate, not subordinate to the Myodaires.

³⁾ Robineau follows Latreille in separating the Conopidae from the Muscidae. But, misled by his idiosyncrasy of founding the classification on the habits of the larvae, he separates the Myopidae (Myopa, Zodion, Dalmania) from the Conopidae. For some time he was uncertain where to place his Myopidae (which formerly he called Occemydae). In the Ann. Soc. Ent. Fr. 1846 (p. 350; also p. 357) he contends that they must be placed among the Myodaires. But in 1853 (Famille des Myopaires) he forms a separate family for them.

rhaphai), and at the same time called attention (l. c. foot-note) to the fact that in his Oestridae (1863) he had pointed out the "Stirnblase" as another such character ("Die Stirnblase wurde von mir jedoch gleich zuerst als Merkmal festgestellt" Oestridae 1863).

The existence of the ptilinum and of the frontal suture was known long ago to anybody who had bred flies from their barrelshaped puparia. But it is to Robineau (as far as I know) that belongs the honor of having for the first time, described this character in detail, provided it with the necessary terminology, and introduced it as a character of one of the large divisions of Diptera. The selfcomplacent remark of Brauer about Robineau "that he was ignorant of the morphological characters of the Muscariae" is therefore entirely misplaced, and the more remarkable as it comes from the author of a pretended monograph of these very Muscariae!

Robineau, in this connection, is in advance of Brauer in another point. He recognizes at once the ptilinum as a character belonging to the Muscidae only, and not to the Syrphidae. Brauer, in the above-quoted passage, with his characteristic haste, adopts the "Stirnblase" as a character separating the two suborders. It was, three years later, an afterthought of his, based upon the observation of Becher on the Syrphidae (that they have no ptilinum), to adopt the new division proposed by Becher (Z. K. M. III, p. 11, 1883):

Aschiza Becher, with the Syrphidae, Pipunculidae, Platypezidae, Phoridae(!).

Schizophora Becher, with Schizometopa (Calyptratra olim), Holometopa (Acalyptrata and Conopidae olim).

The advantage therefore is all on the side of Robineau who, from the first, hit on the division which is acceptable even now, while Brauer is seen changing all the time the subdivisions and their names, and finally settling upon the queer combination of *Phora*²)

¹⁾ I reproduce the whole passage of Brauer; die "einseitige Einwendung" he is alluding to is the objection made at that time by Gerstaecker in regard to the pupa of *Cecidomyia destructor*: "Heute bringe ich eine neue Thatsache, die hinreichend ist, keine solche einseitige Einwendung entstehen zu lassen. Die beiden Gruppen der Dipt. Cyclorrhapha und Orthorrhapha sind nicht nur aus den Larven durch die Art ihrer Häntungen etc., sondern durch den Körperbau der vollkommenen Insecten sofort zu unterscheiden."

²⁾ The fluctuating opinions of Prof. Brauer are conspicuously exemplified in the genus *Phora*. In 1883 he connects it through the Platypezidae and Pipunculidae with the Syrphidae; but in 1880 (Z. K. M. l, p. 14/119) he had said: "Die Gruppe Hypocera Schiner

about the third part of the Muscaria Schizometopa, 383

with the Syrphidae and of the Conopidae with the Myodaires of Robineau!

I will not enter into any further considerations, but shall add a few words about that unrecognized genius, Robineau-Desvoidy.

Jean Baptiste Robineau-Desvoidy was born Jan. 1 1799 in St. Sauveur en Puisaye, à little town south-west of Auxerre (Départment of the Yonne). He studied in Auxerre and in Paris, obtained his doctorate in 1822, and since then spent his life in his native place dividing his time between his medical duties and his favorite scientific pursuits. The district in which he lived was unattractive, marshy and unhealthy, with poor and sickly inhabitants. Having inherited a sufficient competence ("assez comfortable indépendance") he never attempted to increase it. He built a villa (which he called "Hermitage") in a cold and damp valley near S. Sauveur and there he lived in isolation. With great disinterestednes, he performed the daily task of visiting his numerous patients ("il ne savait pas ce que c'était de réclamer des honoraires"), and in this respect his biographer renders him an ample justice ("une éclatante justice"). His health finally gave way under the deleterious influence of the climate, and after prolonged sufferings, a short time before his death, he was removed to a private hospital in Paris, where he died in 1857 in his 59th year. The love and admiration he inspired to the small circle of his friends found an eloquent expression in the memorial speech pronounced by Dr. Duché during the meeting of the French Scientific Association in Auxerre in 1858. This speech is préfixed to his posthumous work: Diptères des Environs de Paris, 2 voll. 1863, and from it I borrow my data. The publication of this posthumous work was another act of friendly devotion to his memory. Mr. Monceaux, Secrétary of a scientific society in Auxerre, an entomologist, but by no means a Dipterist, undertook the onerous and ungrateful task of publishing the manuscript left by Robineau. It cost him several years not only of editorial labor, but also of negociations to overcome the opposition against this publication, and to obtain the means for carrying it out.

[&]quot;(Phora) scheint mit den Borborinen verwandt zu sein, doch haben "die Larven viele Beziehungen zu den Ephydrinen. Andrerseits liessen "sich die Phoriden auch noch mit den Platypeziden vergleichen?" But is Prof. Brauer so very sure that Phoridae belong to the Cyclorrhapha? Is there not something to investigate about them, just as much as about the somewhat enigmatic Lonchopteridae? The line between Cyclorrhapha and Orthorrhapha does not seem, for those genera, to be very distinctly drawn.

384

Osten Sacken: two critical remarks

Robineau's publications embrace not only zoology, but also geology, paleontology, local history, archeology, statistics etc., principally with reference of his native district. Besides, he seems to have been a good latin and greek scholar and to have possessed an admirable power of expression, both in speech, as in writing ("la puissante originalité de sa parole"). His mind was preeminently of the generalizing order; whatever he touched, he innovated and reformed. But this very boldness in reform became, as we shall see, the ultimate cause of his scientific failures.

For natural history, he had a great love and a preeminent talent. Quite early he seems to have selected the Diptera for his specialty and he maintained this preference through life. A short time before his death he wrote to a friend: "Je crois que je mourrai en loupant un diptère!" One of his earliest papers, "Essai sur la tribu des Culicides" appeared in 1827. The Preface alone of this work is worth reading, as a sample of his brilliant style, his richness in ideas, his erudition in many directions, and his diligent study of the previous literature. The descriptive portion contains many novelties overlooked since, and still deserving attention and verification. For instance this passage (p. 400): "It is generally believed that the "Culicidae have no ocelli. A close attention soon discovers them. "and in some species they are rather distinctly perceptible." This statement remains of course to be verified, but it foreshadows the observations of Schiner and Dufour, confirmed by recent researches of MM. Miall and Hammond, to which I have called attention in the Berl. Ent. Z. 1892, p. 460, namely, that although the absence of distinct occili remains a diagnostic character of the Ncmocera vera (except in the Mycetophilidae, Lestremina and Trichocera), the presence of rudimentary ocelli can sometimes. perhaps often, be proved by the presence of minute ocellary nerves.

Another innovation, introduced by Robineau in his Culicidae, is his nomenclature of the wing-cells to which he remained faithful in his later work, but which has been entirely ignored since, although it is considerably in advance of his contemporaries. The surface of the wings is divided in regions, each region containing three or four cells. The regions are named by capital letters of the alphabet, the cells by greek letters. It is an open question, whether this nomenclature is not easier to remember and less cumbrous than the different systems used now. At any rate it is a proof of his conscienciousness, that he felt impelled, from the very beginning, to solve this difficult problem. Schiner, many years later, reproached Loew,

about the third part of the Muscaria Schizometopa. 38

and not without reason, to have worked in descriptive entomology so long, without ever settling his nomenclature of the venation.

His large work was printed in 1830, but he must have been occupied with it for many years before, because (in his Coup d'ocil retrospectif etc. Ann. Soc. Ent. 1846, p. 349) he gives 1826 as the date of the presentation of the manuscript to the Academy of Sciences. Between 1830 and his death he was incessantly at work on preparing: Les Diptères des environs de Paris. The Préface (Avant-propos) of this, his posthumous work, written less than three months before his death, gives an eloquent account of his labours, his hopes and his dread of leaving it unfinished.

The impossible task he had undertaken, to base the classification of the imago's on the mode of life of the larvae, was doomed to failure. His rupture with Maequart became a public one after the publication of the second volume of Macquart's Hist. Nat. Dipt. (1835). Macquart in this work absolutely ignores Robineau; his name appears only in the list of abbreviations, and is also connected with some of the new species, published by Robineau (for instance in the genera Myopa, Zodion). Macquart quite unceremoniously changes some of the generic names adopted by him (for instance Stachynia for Dalmania). Robineau criticised Macquart, and called his volume a mere compilation (in the Mém. sur trois esp. de Malacomydes, Annales Soc. Ent. Fr. 1841, p. 251, and Notice sur l'Herbine des Lys, ibid. p. 263). Macquart replied (Ann. etc. 1842, p. 165-170) very properly that when he worked at his second volume, he preferred to follow the generally introduced system, to the innovations of Robinean; but that nevertheless, he had found much profit in the study of his work, without adopting all his conclusions. He characterizes the book of Robineau as rendering very difficult the determination of the genera and species. Robineau published another rejoinder against Maequart in his: "Coup d'oeil retrospectif sur quelques points de l'entomologie actuelle" (Annales etc. 1846, p. 347—358).

Robineau seems finally to have become a bête noire among the official scientists in Paris. It became the fashion to ignore him; ambitious young men were afraid to mention his name in their publications, for fear of incurring the displeasure of the authorities. Professor A. Giard in a very straightforward article entitled: "De l'influence néfaste des prix de l'Académie" (Bullet. Scientif. du Dépt. du Nord, Août—Sept. 1878, p. 214—217) refers especially to one of the earlier works of Robineau, which he calls very remarkable,

25

386

Osten Sacken: two critical remarks etc.

and which nevertheless, was almost forgotten: "Recherches sur l'organisation vertébrale des Crustacés, des Arachnides et des Insectes", Paris 1828, dedicated to Raspail. It contains, among other observations, a paragraph on the halteres of the Diptera, in which Robineau comes very near defining their principal function. Two important works on the organization of Diptera had appeared shortly before 1878, that of Mr. Künckeld'Herculais on the Volucellae, and that of Mr. Jousset de Bellesme on the halteres. Both authors have given the literature concerning the halteres "but both have taken "great care not to quote Robineau. What is the reason, asks Prof. "Giard, of such an important bibliographical omission, especially when we take into consideration that the object of this ommission, "is a scientific publication issued in french fifty years ago? — The greason is that an academic prize was in question."

Robineau makes on me the impression of having been one of those men whose remarkable talents are interfered with by a defect in the character, by the want of that self-control which is indispensable in the production of useful and enduring work. Still, it would be worth while, for some competent dipterologist, to undertake a critical review of the whole work of Robineau on the Myodaires. Gifted as he was, a sincere lover and diligent observer of nature, he must have left some grains of gold in his, apparently confused, mass of publications.

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