

OBSERVATIONS ON THE GENUS *DORYLUS*, AND UPON A NEW GENUS OF APIDÆ.

BY FREDERICK SMITH, V.P.E.S.

The Entomologist's Monthly Magazine will no doubt contain a report of the meeting of the Entomological Society on Monday, the 1st of May, in which will be noticed Dr. Jerdon's discovery of the workers of the genus *Dorylus*; but I think this claims something more than the simple record of the fact. For many years the males only were known of the remarkable genus; such had been the case since the time when Linnæus described the type, *Dorylus helvolus*, placing it in the genus *Vespa*; here it continued until Fabricius formed the genus *Dorylus* for its reception; this was in 1793, but it was not until 1858 that another sex was discovered. The affinities of the genus long occupied the attention of Hymenopterists, and, at length, appeared Shuckard's most able monograph on these insects, in which the connection between the genus *Labidus* (the *Dorylus* of the new world), and the genus *Typhlopone* was suggested, a genus consisting of workers only, but, as shown by Shuckard, possessing so many analogous points of structure, as to induce him to consider them to be the females of the genus *Labidus*.

In 1858, the Hon. Walter Elliot discovered nests of *Dorylus* near Madras; he states, that they live after the manner of ants, under stones, &c., and their varieties are very numerous. Dr. Jerdon's account accords precisely with that of the Hon. Walter Elliot, but unfortunately neither of these gentlemen discovered the female; on some future occasion I hope to receive all the sexes, Dr. Jerdon promising to use every exertion to obtain them. The *Dorylidæ* now consists of four genera, *Dorylus*, *Rhogmus*, *Labidus*, and *Ænictus*; they are genera of social species, and must, in my opinion, be placed at the end of the group. We have much to learn in order to complete our knowledge of these genera; of *Dorylus*, twelve species are described, and I am acquainted with three or four undescribed ones; *Rhogmus* only contains a single species; but twenty-one are known of the genus *Labidus*, and four of the genus *Ænictus*. Only twelve species of the genus *Typhlopone* have been discovered, so that the workers of twenty six species are unknown.

In the report, to which I have previously alluded, will be recorded the reading of a short paper on some Australian *Hymenoptera*, and, probably, allusion will be made to a most remarkable species of bee, named *Thaumatostoma Duboulayi*, taken on the Swan River by F. du

Boulay, Esq I stated that this was the first instance in which a species of bee had been discovered having true capitate antennæ, exactly resembling in general form those of a species of *Argynnis*. So truly are they papilionaceous in form, that the whole of the joints, from the second to the eleventh, are exceedingly slender and filiform, the two terminal ones forming a black knob or club. This I characterized, as being the most remarkable deviation from the normal form of the antennæ of a bee with which I was acquainted; only a single instance at all approaching this singular construction being known to me; this is in a species of the genus *Melissodes* from Rio, being one of the long-horned bees (*Euceridæ*), of Brazil. In this species, however, it is only the apical joint that is enlarged and compressed, the three sub-apical ones being slender; the rest are of the usual form. I therefore concluded that the Australian bee, *Thaumatoma Duboulayi*, was an unique and beautiful instance of the endless variety of forms, with which, by degrees, we are becoming acquainted. Great then was my surprise when Professor Westwood acquainted us that he had long ago described a bee with antennæ "much more like those of a butterfly" than the one before him; more like they could not possibly be; indeed, they are so like, that a Lepidopterist seriously asked me whether I really had not stuck a butterfly's antennæ on. That a species of bee should have been described by a brother Hymenopterist, a bee too of so remarkable a character, I may indeed say, not only took me by surprise, but convicted me of an unpardonable degree of ignorance, having published what I had put forth as a complete list of described species; this, in itself, was bad enough, but it did not end here; Mr. du Boulay's discovery *lost all claim to novelty!*

My first aim and endeavour naturally was to obtain a clue to the whereabouts of this antecedent butterfly-horned bee, and also a knowledge of the work in which it was described, the results I will presently show; but I must here state the object of these observations; it is to correct an erroneous conclusion which many will probably arrive at, namely, *that I have not described a great novelty*. Should this be the case, what follows will remove such an opinion. I still claim for Mr. du Boulay's discovery *all the novelty and interest* to which I originally deemed them entitled.

The insect described by Mr. Westwood, eight or ten years ago, belonged to the Entomological Society, having been presented by the Rev. Mr. Kirby. It is now in the British Museum, having been presented, together with all type specimens, to the National Collection by the Entomological Society; it is a species of *Nomia*, a genus which

contains the *Halicti* of the tropics; it is from Brazil, is about seven lines long, and of an uniform brownish-black, with brown wings; its intermediate femora are enormously swollen, and compressed into a semi-dentate process beneath; the posterior tibiæ are also very curiously developed, and compressed into a large sub-triangular mass, with a tooth at its inferior angle; altogether, it is a bee of remarkable form; but, instead of possessing antennæ resembling those of a butterfly, they are exactly *the counterpart of those of several of the males of species of the genus Megachile*, which have antennæ of the ordinary type of form, excepting the apical joint, which, as Mr. Kirby remarks, "is compressed," which gives them some resemblance to those of a *Papilio*; the species is named *Nomia Kirbii*.

It is a matter of satisfaction to feel assured that one's memory is not quite so treacherous as I began to fear it was becoming, for the monograph of the genus *Nomia*, in which Mr. Westwood described *N. Kirbii*, although certainly begun ten years ago, has not yet been published; it is satisfactory also to find that I have not been so negligent of the labours of a brother Hymenopterist as I feared I might have been; and, also, that it will not be necessary to make any alteration to the introductory remarks to the paper on Australian *Hymenoptera*, which I had the honour of reading at the last meeting of the Entomological Society.

OBSERVATIONS ON THE LARVA OF *DEILEPHILA*.

BY J. BOSWELL SYME, F.L.S.

If, as our best authorities tell us, a severe winter be favourable to the development of insect life, we may, this season, hope for a larger list of captures than that which has been afforded by the few last summers: and to hear of the re-appearance of some of the rarities which gladdened our hearts in years gone by. Among the *Lepidoptera* of which we have had to lament the disappearance, one of the most conspicuous is *Deilephila galii*, of which it was my good fortune to procure numerous specimens during the years 1856—1862; and, in the hope of its re-appearance, I now propose to say a few words on its habits, which I trust may prove useful to those who may be on the look out for the larva of this handsome moth; and which may also possibly furnish hints to those who may find themselves in localities where the lost *D. euphorbiæ* might be expected to occur. That this latter has not been recently found is no proof that it is really extinct,