

The Entomology of Malacca. By ALFRED R. WALLACE, Esq.

To an entomologist Malacca seems, at first sight, a much finer locality than Singapore: the former is one of the very oldest European settlements in the East, while the latter is almost the newest. In the one, patches of the primæval forests remain on the hill-tops only, and all the low grounds are covered with new plantations of gambic, pepper and nutmeg, which afford scarcely an insect worth collecting: in the other, though for miles round the town the virgin forest has long since disappeared, its place is supplied by old plantations and shady groves of magnificent fruit trees, in which many of the insect inhabitants of the jungle appear to thrive as well as in their original domains. Further in the interior the whole country gradually merges into the vast forests of the centre of the peninsula, where the numerous Malay villages, embosomed in masses of cocoa-nut, jack and durian trees, and the settlements of Chinese tin miners, with the numerous paths and roads made by them, offer many tempting localities for the entomologist. And the promise is well fulfilled; for though some particular groups were far more abundant at Singapore, yet, taking insects of all orders, the superior richness of Malacca was very striking. My first locality was near a Chinese mining settlement, about twelve miles inland. My servant getting fever, I was obliged to return to Malacca in less than a fortnight, where I was attacked myself, and it was another fortnight before I was well enough to leave. I then went to a government bungalow, seven miles further in the jungle, and remained there a month. From thence I made an excursion to Mount Ophir, in the interior, where I remained a week, and then returned to Malacca and Singapore.

It was at my earliest station that I first fell in with the magnificent Ornithoptera *Amphrisius*, but for a long time I despaired of getting a specimen, as they sailed along at a great height, often without moving the wings for a considerable distance, in a manner quite distinct from that of any other of the *Papilionidæ* with which I am acquainted. To see these and the great *Ideas* on the wing is certainly one of the finest sights an entomologist can behold. It was, however, at my next station, and at the foot of Mount Ophir, that I first met with many of the fine Eastern *Papilios*, which are certainly superior in beauty and variety to those of South America: by variety I do not mean the number of species, but the different forms and style of colouring. Of the handsome green and blue spotted butterflies, *P. Agamemnon*, &c.,

I obtained three species, one I think new. This group is eminently beautiful. They fly with the greatest rapidity of any Papilios; the eye can scarcely follow them; in fact, they much resemble in habit the humming Sphinxes, and hover over flowers, or more frequently over damp places on the ground, with a constant vibration of the wings. *P. Antiphates* is the only species of the *Protesilaus* group, and is not very common. The grand *P. Memnon* flies very rapidly, and seldom settles. *P. Iswara*, and another species allied to *P. Helenus*, but I think new, have an undulating flight, very like that of the South American *Morphos*, or even sometimes approaching that of the large *Noctuidæ*, and they rest with the upper wings deflexed over the lower. The beautiful *P. Polydorus* flies weak and low, exactly like *P. Æneas* and allied species in South America. Then there are the elegant white and black marked species, *P. Delessertii*, *P. Leucothoe*, *P. Nox*, and a very fine species allied to *Coon*, which (if it is not *P. Neptunus*, *Guér.*, of which I have no description) is quite new. But my greatest treasure among the Papilios was a magnificent green and gold powdered species, which (if it is not *P. Crino* or *P. Brama*) is also new. If we add to the above, *Papilio Epius*, *P. Demolion*, *P. Pammon*, and *P. Tetrarchus*, we have a series which for variety of form and colouring, as well as for size and beauty, no country can surpass.

But though we may claim for the Eastern Papilionidæ, and also for the *Pieridæ*, a superiority over those of America, it is far different in other groups. The *Euplæas*, though very beautiful, cannot compete with the exquisite *Heliconidæ*, to which they are so closely allied; neither have I yet met with any *Nymphalidæ* here which can compare with the *Epicalias*, the *Callitheas* and the *Catogrammas* of the Amazon. I obtained, however, several fine species of *Charaxes* and *Adolias*. The *Cyllo Lowii* of Borneo also occurs at Malacca, and the lovely little long-tailed *Lycænidæ* are the only group that at all compete with the *Erycinidæ* of America.

Turning now to the *Coleoptera*, the most remarkable feature is the almost total absence of those hosts of elegantly varied Longicorns which so delighted me at Singapore. The beetles altogether were exceedingly small and scarce, requiring the most persevering search to find any at all: yet they were very different from those of Singapore, and (principally through the persevering efforts of Mr. G. Rappa, a gentleman of Malacca, who spent a month with me in the jungle, and accompanied me to Mount Ophir) I was enabled to add 260 species to my already extensive collection.

The *Therates dimidiata* of the Singapore jungle was replaced at

Mount Ophir by a larger species, and the two fine *Catascopi* of the former place had also their Malacca representatives. I here obtained my first species of *Tricondyla*, and in the centre of one of the densest and darkest jungles was so fortunate as to find the strange *Mormolyce phyllodes*, under a huge boletus,—just where, from its resemblance to the curious *Thyreoptera* of Singapore, I had expected to discover it. Numerous species of *Apoderus* were very remarkable among the *Curculionidæ*, while most of the curious *Anthribidæ* of Singapore were wanting. Many exquisite species of metallic *Cassidas* were found for the first time; the *Heteromera*, too, were very numerous, and the *Elaters* and *Buprestidæ* furnished me with many new species. Of *Lucanidæ* I obtained eight species, mostly small, though one (the *Dorcus Titanus*, *Boisd.*) is quite a giant.

Amidst this variety of *Coleoptera* the most remarkable circumstance is the almost entire absence of the great family of the *Cetoniadæ*. Though constantly searching for them I procured but five species, and those all small and single specimens.

But it was in the other orders that I obtained the greatest amount of novelty and variety. In the little streams about the foot of Mount Ophir were hosts of new and beautiful dragon-flies, and even on the summit, at an elevation of 4000 feet, I obtained one species. Of these interesting but much-neglected insects I nearly doubled my collection, which now amounts to seventy-two species of true dragon-flies. The *Hemiptera* and *Homoptera* were perhaps most abundant of all, containing many fine species of *Pæciloptera* and *Cercopis*, as well as extraordinary *Reduviidæ* and brilliantly coloured *Scutelleræ*. On the muddy pools in the path to Mount Ophir were numbers of a very large and handsome *Notonecta*, which took the way as we approached, but, settling on the adjacent foliage, were easily captured. Of these interesting insects I added a hundred species to my collection, which now amounts to 228 species. The *Orthoptera*, though much fewer in numbers, were very interesting for the great variety of the *Phasmidæ* and *Mantidæ*. I have species of *Mantis* coloured like wasps, others like ants, and one brilliantly metallic. The winged *Phasmidæ* appeared endless: for a long time every one I captured was a different species, and the greater portion remained to the last unique. The *Diptera*, too, were very interesting. Among them I obtained the extraordinary *Celyphus obtectus*, or an allied species, which has the head of a fly to the body of a *Scutellera* among the *Hemiptera*. I also obtained three species of the curious stalk-eyed flies.

In order to give some idea of the entomological riches of this part

of the world, I will add a summary of my collections at Singapore and Malacca, made within six months of my landing at the former place, but of which not more than four months were spent in collecting. It will also show, I hope, that I have given equal attention to every order of insects.

Coleoptera	940 species.
Lepidoptera (Diurnes 237)	353 „
Hymenoptera (Ants 35)	173 „
Hemiptera 143; Homoptera 85	228 „
Neuroptera (Libellulidæ 72)	77 „
Orthoptera	70 „
Blattæ and Forficulæ	26 „
Diptera	136 „
Total	2003 „

ALFRED R. WALLACE.

Sarawak, Borneo,

November 25, 1854.

PROCEEDINGS OF SOCIETIES.

ENTOMOLOGICAL SOCIETY.

February 5, 1855.—JOHN CURTIS, Esq., President, in the chair.

Donations.

The following donations were announced, and thanks ordered to be given to the donors:—The 'Zoologist' for February; by the Editor. The 'Athenæum' for January; by the Editor. The 'Literary Gazette' for January; by the Editor. The 'Journal of the Society of Arts' for January; by the Society. 'Proceedings of the Royal Society,' Vol. vii. No. 7; by the Society. 'Report of the Council of the Art Union of London for 1854,' 2 copies; by the Art Union. 'Revue et Magasin de Zoologie,' Nos. 11 and 12, 1854; by the Editor, M. Guérin-Méneville. Specimens of the silken fabric woven by caterpillars of *Saturnia pavonia-media*, accompanied by figures of the insect in its different stages of growth, with a summary description thereof, and the method used to procure the silk; presented by Herr Pretsch, through Mr. Newman.

President's Inaugural Address.

The President returned thanks for his election, and delivered an Inaugural Address, which was ordered to be printed.

Vice-Presidents.

The President nominated as his Vice-Presidents J. O. Westwood, Esq., E. Newman, Esq., and H. T. Stainton, Esq.