## NOTES ON METHODS OF COLLECTING INDO-AUSTRALIAN LEPIDOPTERA

## by RAYMOND STRAATMAN

During my stay in Atchin, Sumatra's most northern province, I was often surprized to receive many specimens of the so-called "fast-flyers" in such fresh and perfect condition that I could hardly believe they had been taken by net. After having asked my native collectors how they managed to get such wonderful results, they showed me one day when I accompanied them. Species moving so fast that you can hardly follow them with the eye are taken by ... the forceps!

They chose a bright, sandy, and very sunny spot on the river bank, just where the small stream left the forest, and we all urinated on the spot. After about one hour, at 11 A.M., we returned to find the whole place covered with thirsty Lepidoptera of all kinds, mostly *Graphium doson*, *G. sarpedon*, *G. agamemnon*, *Appias nero*, *Lamproptera curius* and *meges*, a few *Euplœa*, *Papilio paradoxa*, *Papilio delessertii*, some *Charaxes*, and many other species. Quietly and slowly we moved on until we reached some big stones and sat there, our forceps in hand, and to my great surprize not one butterfly moved away. Moving our forceps from behind we were able to take more than sixty of the most perfect ones in only about fifteen minutes!

During a fortnight holiday I accompanied my native collectors every day and had many surprizes. We visited places where the night before they had put out a lot of rotten fruit, mostly paw-paw, bananas, and mangoes. There we got many fine specimens belonging to the genera *Amathusia*, *Faunis*, *Thaumantis*, as well as many *Adolias* and *Euthalia*.

One day they took me along a small river, and after having crossed it to the other side, we came around a sharp curve, and I could hardly believe I was seeing what they showed me. It was a long climbing stem or root, hanging from a tree at least 25 meters high and nearly touching the water. A faint odor of fermentation, like sweet beer, hung around, and I soon discovered that this smell was from a thick brown liquid secreted by the overhanging stem. The whole length of that stem was literally covered by all kinds of the most wonderful Lepidoptera, and Coleoptera as well; there was not a single inch of space uncovered. Most of the Lepidoptera were the very large Amathuxidia aurelia, many Zeuxidia species, Faunis, the big Satyrid Neorina, lots of Euthalia durhya, Tænecia, and even several specimens of the most wonderful Nymphalid of the Orient: Prothoe calydonia, and even the smaller species, P. franckii, in large numbers. I regretted very much not having my camera with me, for I knew that such opportunities are very rarely met. The next day the smell of the liquid had already vanished, and although many Lepidoptera were seen and caught, it was the end. Most of the Lepidoptera we got by the forceps, here as well, so this was the best and richest collecting-day I ever had. Many of the species are not common; most are spread over a wide area, and they are met in single specimens only.

But even species, like the ones met during the sunny hours of the day visiting flowers, have their own habits which one has to know if one looks for good collecting results. I mean here, for instance, the Aristolochia-Papilios. The best spots to get these species in numbers are the forest-borders, especially where there are flowering shrubs as the common Lantana. From my native collectors I learned that these species do not like to visit flowers in hot sunshine. On the contrary, the best days for collecting them are cloudy and even rainy days when the sun does not show herself at all. When the day starts bright, the best hours are between 6 and 8 a.m. but not later. They disappear into the shadows of the heavy forest to reappear again at about 5 o'clock in the afternoon. But when it rains or the weather is misty and wet, species like Troides brookeana, T. ampbrysus, T. cuneifer, T. miranda, T. belena, Papilio erebus, P. coön delianus, P. aristolochiæ antiphus, P. neptunus, and P. sycorax are seen in numbers flying slowly around the Latana flowers and are easily taken with the net. Even inhabitants of the darkest places in the woods, such as Elymnias, fly around on such days.

But, it is not always that easy to collect in Sumatra! Unfortunately, it happens that for weeks and weeks there are no Lepidoptera at all on the wing, even when the weather is very favorable and there are many flowers. In 1952 I had my fortnight holiday in February, hoping to collect good things, but during that period of 15 days, my 2 regular collectors and I took exactly 12 specimens worth keeping. Nothing else was seen, even the most common ones being absent. Now I had already remarked the same event in Gedong Biara, in Eastern Atchin, where 2 species of Papilio were very common, P. coön delianus and T. brookeana. Their foodplants, a kind of Aristolochia with thick leaves for T. brookeana and a low-growing Apama tomentosa for P. coön delianus, were very common in an old rubber plantation, so I could easily breed hundreds of these species in my garden and had plenty of opportunity to make all kinds of interesting observations. But I was soon surprised to find that after those months the adults of these species were very rare or even absent. Their larvæ were absent as well: I know for sure that even no young larvæ nor eggs were present for months. And then suddenly they reappeared in numbers, apparently from nowhere. We even established a weekly check system in the young forest, where all the foodplants of T. brookeana were scoured and the old leaves and stems pruned. We noticed that no Troides were flying, there were no traces of their larvæ. In such periods, even the most common Euploea, Eurema or Lycænids are totally absent; you can walk in the forest for hours and see no sign of any Lepidoptera.

Of course a lot of interesting observations can be made; it is much more interesting to know about their life than to just collect what you see. For instance, my collectors showed me how to find the foodplants of many species whose larvæ are unknown, just by following the very old females in search of their foodplants. Other strong fliers like *Charaxes* are taken with fresh excrements, especially those of mongooses, small skunks, tigers, or humans. When approaching carefully a feeding *Charaxes* it is easy to get it by the forceps; otherwise it would certainly damage itself in the net. The bigger species, like *Charaxes dephis*, a most wonderful silver white and yellow one, may become "tame" and may be carried away sitting quietly on one's hand. The border of the big mangrove forests along the muddy coast is the place to collect *Delias aglaia goda*, and the big danaid, *Idea leuconoe*, sometimes sitting in numbers on the flowers of *Lantana*, but only in rainy weather. As soon as the sun comes out, it is impossible to get them, as they hide in the swampy forest where it is impossible to follow them in the mud. All this is to prove that just penetrating somewhere into the forest hoping to collect interesting things because the weather is fine, may be a very disappointing experience, when not knowing the right season and the habits of the species.

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## THE SOUTHWESTERN RESEARCH STATION OF THE AMERICAN MUSEUM OF NATURAL HISTORY

The American Museum of Natural History has announced the establishment of The Southwestern Research Station. It is located on the eastern slope of the Chiricahua Mountains, near Portal, Cochise County, in southeastern Arizona. The property is within the limits of the Coronado National Forest at an elevation of 5400 feet.

The station was established for the purpose of making available research facilities for scientists and students in all branches of science, who have problems that can be investigated through the utilization of the faunal, floral and geological features of the area. It will be open during the entire year.

It is operated by the American Museum of Natural History, Central Park West at 79th Street, New York 24, New York and under the direction of Dr. MONT A. CAZIER, Chairman and Curator of the Department of Insects and Spiders, to whom all inquiries should be addressed. Anyone interested in the station should write to the above named individual for the booklet which gives the details of the operation and a general description of the area.