

## INTERIM REPORT

JULY 2007

Overall, the project is proceeding well, and an enormous amount of data has been generated. The following has been done:

1. Literature ordered and received. (9 parts of the Moths of Borneo series).
2. 50 insect cabinets made, varnished and prepared for use. A large part of my collection is now housed in these.
3. A large number of moth species has been taken at the two field stations.
4. Identification of moth specimens: over 850 species have been identified. Many unfamiliar species have been taken at the field stations in Ranibagh (low elevation) and Gagar (high elevation). The original plan was to set up a station in the village of Shyamkhet below Maheshkhan Reserve Forest. I was unable to find a place for rent there, so a station was initially established in Jilling Estate, and has now been shifted to Gagar, a village above Maheshkhan Reserve Forest. On the whole this is better, since Gagar is on the ridge and is somewhat higher than Shyamkhet.
5. Some undescribed taxa are also coming to light. After confirmation that these are indeed undescribed, they will be named and described.
6. I visited the Forest Research Institute at Dehra Dun in January 2007. The collection there appears to be more relevant to this area than the collection at the Indian Agricultural Research Institute at Delhi. I shall therefore make another trip there to deposit some specimens taken during the course of this project as well as to obtain identification of species which I cannot place using literature.
7. In addition to the stated aims of the project, we are doing some breeding on the side, in order to discover the larval food plants of moth and butterfly species. New findings will be published in due course.
8. Dr. Paul Schaefer (retd.), USDA, an international expert on a moth family containing the Gypsy moth, requested help with a particular group, so we are helping by attempting to breed the species in question.
9. A preliminary assessment of the results emerging suggests that it will be best to publish the findings in a series of scientific papers in a reputed scientific journal, since the results are scientifically quite interesting. Much new material typically found in the eastern Himalaya and S.E. Asia has come to light at the low elevation field station. In the high elevation field station, species earlier recorded from similar elevation in the main Himalayan range are coming to light.

10. My camera (a 1978 Pentax ME) broke down, so I could not take the photos to send to you. Recently I had it repaired (camera repairmen are few and far between here) and now I shall take the photos and send them along.
11. A field trip to the main Himalayan range in late April yielded, among other things, a probable new species of a day flying moth. This has also been photographed with the repaired camera and when I send the photos of me to you, at the same time I shall send the moth's photo along with other suspected new taxa to the Natural History Museum.
12. The most important finding to emerge so far is that the outermost slope of the Himalaya in this area is biologically much richer than was previously suspected. There are certainly well over a thousand species of moths in addition to the roughly 300 butterfly species.
13. This year, the month of March was unusually cold, with hailstorms, etc. and this greatly affected the emergence of butterflies (and moths in the Bhimtal valley). Since we do not know what should have been on the wing in the high and low elevation field stations, this is a small gap in our understanding of this area. Most moths have two or more generations a year, so these will be recorded in due course. However, there are a few, such as the hawk moth, *Dahira rubiginosa*, that are known to have only a single annual generation in spring. These have been unavoidably missed this year.
14. Since the survey of high elevation species was undertaken at Jilling Estate during October 2006, which is some distance from Maheshkhan Reserve Forest, I hope to continue monitoring moths at Gagar through September and possibly October this year. So although strictly speaking the project started on 15 September 2006, when the funds arrived, it will be worthwhile to conclude surveying around the end of October 2007 in Gagar. We have the data for Ranibagh from October and November 2006, so further monitoring there will not really be necessary during that season.
15. I still have to purchase a microscope from Delhi. This will be done on my next trip there. (The last time I was there was the Muslim festival of Muharram, when the microscope shops and adjoining markets were closed down unexpectedly.) The microscope will be mainly required after the reply concerning the possible new taxa comes, when it will be necessary to examine the genitalia of the moths concerned.