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RESULTS OF THE SCIENTIFIC RESEARCHES ON ENTOMOLOGY * ERGEBNISSE
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LOGIE*ENTOMOLOJİ ALANINDAKİ BİLİMSEL ARAŞTIRMALARIN SONUÇLARI *

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RESULTS OF THE LEPIDOPTEROLOGICAL EXPEDITION TO NORTH PAKISTAN IN 1987, Part 1:INTRODUCTION

by

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A b s t r a c t : Priamus 4(4):129-140, 1 map.

In this paper, the collecting data of the lepidopterological expedition to North Pakistan, made by the author in 1987, are given.

Pakistan lies between 23°-37° N and 61°-81° E on the continent of Asia, with a total area of 804.152 sq.km. Northern area of the country is bounded on the north-west by Afghanistan and on the north-east by China and India. These mountainous areas vary altitudinally from about 500 to 8600 metres.

In 1987, I undertook a lepidopterological expedition to the northern areas of Pakistan in collaboration with the Pakistan Forest Institute Peshawar (PFI). The journey was made by PIA from Istanbul through Islamabad to Peshawar and back to Istanbul on 11th/13rd June and 3rd/4th August 1987. During my residence in PFI, I have found opportunities to observe and to collect some day-flying Lepidoptera in the garden of the Campus. Separately, two collecting trips have been planned to North Pakistan. The first was realized between 18th June and 2nd July to Swat, while the second to Hazara, Gilgit Agency, Baltistan, Swat, and Dir between 8th July and 26th July. Unfortunately, because of the illness, I had to stop the studying in the second trip and finished the work earlier than it was planned.

In this introductory article the collecting stations, including also a short characterisation of each are given. The list is, on the whole, arranged in the chronological order in which collecting was made in the localities.

The geographical names used in this list as well as in the further articles correspond exactly to the present official terminology used in the Pakistan Islamic Republic. The altitudes above sea-level are given in metres.

The collecting stations and some informations are given below.

<u>Collecting number</u>	<u>C o l l e c t i n g _ _ d a t a</u>
001.....	Campus of PFI, ca. 500m., 13 06 1987, all specimens collected were heliophil.
002.....	Same place, 13 06 1987, some pyrophil specimens were captured at the light.
003.....	Same place, 14 06 1987, in the morning hours, 7.30-8.30 a.m. heliophil specimens observed and collected.
004.....	Same place, 15 06 1987, heliophil butterflies and moths were captured.
005.....	Same place, 16 06 1987, specimens were collected from Vitex.
006.....	Swat valley, Kalam, 2100m., 19 06 1987, after a heavy rain moths were collected by the light trap between 8.30-10.30 p. m. (20 W super actinic tube was used)
007.....	Swat, Usho valley, NE of Kalam, 2120m. openings of Quercus forest on the rocky slopes, 20 06 1987, heliophil specimens were scarce.
008.....	Swat, Ghorkin in the Usho valley (NE of Kalam) 2200m., 20 06 1987, on the slopes with soft-leaved Astragalus sp. and cultivated area especially pierids were observed.
009.....	Swat, Kalam 2400m., 20 06 1987, heliophil and sciophil specimens were taken at damp meadows
010.....	Swat, Kalam 2000m., 20 06 1987, pyrophil moths were captured at the light trap. The site was located in a narrow valley with rocky steep slopes covered esp. by Cedrus deodara.
011.....	Swat valley, Laikot 1820m., 22 06 1987, rocky slopes covered sparsely by Astragalus. Diurnal specimens were scarce. Two sohingids newly emerged were found inside the Astraga-

lus scrub in the morning hours.

- 012..... Swat valley, Laikot 1760m., 22 06 1987, heliophil specimens sucking nectar from *Carduus* were captured.
- 013..... Swat valley, Laikot 1730m., 22 06 1987, esp. males of *Pieris canidia*, drinking on wet ground, were recorded.
- 014..... Swat valley, N. Madyan, behind Hotel Mountain View, 1500m., 22 06 1987, mainly lycaenids were recorded in the evening hours on the rocky slopes covered by *Quercus* sp., *Olea cuspidata*, *Plecthranthus rugosus* (Labiatae).
- 015..... Same place, 1400m., 22 06 1987, pyrophil moths were captured at the light trap after a heavy rain. The result was not satisfactory because of the strong, cold wind and rain.
- 016..... Swat valley, Madyan 1400m., 22 06 1987, pyrophil moths, resting on the walls of Hotel Madyan, were collected by day.
- 017..... Swat, E. of Madyan, Dara valley at hatchery 1400m., 23 06 1987, specimens were generally heliophil (geometrids sciophil) on the semi-cultivated steep slopes with rich plant cover.
- 018..... Swat, E. of Madyan, Dara valley, 1400m., 23 06 1987, heliophil specimens were not scarce on dry river bed with *Rumex-Plecthranthus rugosus* community.
- 019..... Swat, Batiband in the Dara valley, 1600m., 23 06 1987, all specimens captured were heliophil on the semi-cultivated slopes.
- 020..... Swat, Batiband 1600m., 23 06 1987, specimens were captured at grassy sites on the river bed, all heliophil.
- 021..... Swat, Dara valley at hatchery, 1400m., 23 06 1987, pyrophil moths were captured at the light trap.
- 022..... Swat, Shangla, Forest Rest House, 2170m., 24 06 1987, few specimens were captured by day.

- 023..... Swat,roadside Alpurai/Dhehrai 1200m.,
24 06 1987,steep slopes covered by rich
plant formations of Rosaceae,Leguminosae
and various grasses. Recorded specimens
were heliophil.
- 024..... Swat,Alpurai,Belibaba 1300m.,24 06 1987,
All were heliophil.
- 025..... Swat,Yekhtangi Forest,2100m.,24 06 1987,
middle height mountainous area covered by
Pinus wallichiana,with *Alnus* sp. communities
in the glens.Specimens recorded and collected
in the evening hours were sciophil.
- 026..... Swat,Yekhtangi Forest,2100m.,24 06 1987.
Pyrophil moths were captured at the light
trap between 8.30-9.30 p.m.(ca. 15°-13°C).
- 027..... Swat,Yekhtangi Forest,1800-1900m.,25 06 1987.
Satyrids were collected from rocky,grassy
steep slopes in the openings. All were
sciophil.
- 028:..... Swat,Bazarkot village,1740m.,25 06 1987.
Chaetoprocta odata Hew.(*Lycaenidae*) were
collected from *Juglans regia* and also from
lower plants growing under the trees in
shadow. Specimens were heliophil/sciophil.
- 029..... Swat,Bazarkot village ,1680m.,25 06 1987.
Mainly *Callerebia* specimens were recorded
on the grassy shady slopes in the openings
of the pine forest.
- 030..... Swat,Yekhtangi Forest,2100m.,25 06 1987.
After a heavy rain pyrophil moths were
captured at the light trap between 9.00-
10.00 p.m.
- 031..... Swat,Kotkai 1650m. after Bazarkot to Shangla
direction,26 06 1987. *Chaetoprocta odata* Hew.
around *J.regia* and *C.tuna*.
- 032..... Swat,Shangla Forest 2170m.,26 06 1987.Helio-
phil specimens were captured in the glades.
- 033..... Swat,Shangla Forest 2170m.,26 06 1987.Pyro-
phil moths were captured at the light trap
on a calm night between 8.30-9.30 p.m.

- 034..... Swat, Shangla Forest, 2150m., 27 06 1987.
Rhopalopsyche nycteis (Sphingidae) were
captured from inside the bushes in flight.
All were heliophil.
- 035..... Swat, Shangla Forest, 2300m., 27 06 1987.
On gravelly hilltop and ridge, where the
Pinus wallichiana were few, heliophil
specimens were captured.
- 036..... Swat, Shangla Forest, 2100m., 27 06 1987.
Inside the Pinus wallichiana forest, all
specimens were sciophil.
- 037..... Swat, Shangla, 2000m., 27 06 1987. Steep slopes
covered by Rhamnus, Astragalus, grasses and
a species of Rosaceae. Especially lycaenids
visiting in the afternoon the flowers of the
last plant were taken. All heliophil.
- 038..... Swat, Shangla Forest, 2100m., 27 06 1987. Pyro-
phil moths were taken at the light trap on
a mild and calm night between 8.30-10.30 p.m.
- 039..... Swat, Shangla 2100m., 28 06 1987. Pyrophil moths
were captured at the light trap between 8.30-
10.30 p.m.
- 040..... Swat, Malam Jabba, 2650m., 29 06 1987. Hilltops
and ridges were visited on a clear day.
Diurnal specimens were however not plentiful.
- 041..... Malam Jabba, 1600m., 29 06 1987. On the way to
the mountain. Heliophil specimens were scarce
along the bushy roadside.
- 042..... Swat, Murghzar Hotel, 1400m., 29 06 1987. Pyro-
phil moths were taken at the light trap. The
Hotel is in Malakhazar, SE. Saidu Sharif.
- 043..... Swat, Gulbandhi, on the road Malakhazar to
Saidu Sharif, 1170m., 30 06 1987. Especially
Neohipparchia parisatis were captured on the
dry, rocky slopes between 9.15-10.00 a.m.
All were heliophil.
- 044..... Swat, Sharifabad 1000m., W. Mingora, 30 06 1987.
On the roadside plants some diurnal specimens
were observed and collected on a very hot
day between 11.00-12.00 a.m.

- 045..... Swat,Karakar Pass 1400m.,30 06 1987,Hilly area covered by *Pinus excelsa*.On rocky,dry slopes *N.parisatis* specimens were observed in groups at rest.
- 046..... Swat,Karakar Pass,1400m.,30 06 1987,Inside the *Pinus excelsa* forest,pyrophil moths were taken at the light trap between 8.30-10.30 p.m.
- 047..... Swat, E. Karakar Pass,1300m., 01 07 1987. Heliophil specimens were captured on the rocky steep slopes between 9.00-9.30 a.m.
- 048..... Swat,Karakar Pass,1300-1400m.,01 07 1987. Pyrophil moths were captured at the light trap between 9.00-11.00 p.m.
- 049..... Swat,Karakar Pass 1400m.,02 07 1987,Inside forest of *Pinus excelsa*,pyrophil moths were taken at the light trap between 9.00-11.00 p.m.
- 050..... Campus of PFI,04 07 1987,heliophil specimens were observed and captured.
- 051..... Hazara,Malkandi,10 km. SW Mahandri in the Kaghan valley,1450m.,in the glades sciophil *Callerebia* specimens were collected. They were also taken at the dungs in groups. Some other butterflies were also available at the site, 09 07 1987.
- 052..... Hazara,Kaghan village 2050m.,09 07 1987. Heliophil butterflies were captured on the damp meadows.
- 053..... Hazara,Naran village,2470m.,09 07 1987. Heliophil butterflies were collected on the damp meadows.
- 054..... Hazara,Naran 2470m.,09 07 1987.Rocky steep slopes covered by *Cedrus* sp. Pyrophil moths, mainly geometrids were taken at the light trap on a cold but calm night between 9.15-10.30 p.m.
- 055..... Hazara,Saiful Muluk,3250m.,10 07 1987.All were heliophil.

- 056..... Hazara, Naran, Katha village 2700m., 10 07 1987. Flowery meadows dominated by Leguminosae, Umbelliferae, Rosaceae and Labiatae. One of the best place for butterflies.
- 057..... Hazara, Naran, 2450m., 10 07 1987. Pyrophil moths were taken at the light trap between 8.45-9.30 p.m.
- 058..... Hazara, Naran, Katha village 2700-2800m., 11 07 1987. Rupicol noctuids and larentiids were taken by day. Other specimens were heliophil on the flowery slopes.
- 059..... Hazara, Naran, 2450m., 11 07 1987. Pyrophil moths were taken at the light trap.
- 060..... Hazara, Batrasi, 20km. NE Mansehra, 1250m., 12 07 1987. All specimens were on the wing in the evening hours and heliophil.
- 061..... A collecting place, 10km. NE. Mansehra, 1180m., 12 07 1987. Grassy gentle slopes with sparse trees. Specimens taken were heliophil.
- 062..... A collecting place, 5 km. NE. Mansehra 1150m., 12 07 1987. A narrow dry river bed with sandy ground, covered by sparse xerophytes. Heliophil butterflies were on the wing in the evening.
- 063..... Hazara, Chatter plain 1670m., SE. Batgram, 12 07 1987. Pyrophil moths were taken by day at rest.
- 064..... Hazara, Chatter hills, 1700m., 17 km. SE. Batgram 12 07 1987. Inside Pine Forest. Pyrophil moths were taken at the light trap between 8.00-10.15 p.m.
- 065..... Hazara, Indus Kohistan, N. Besham 850m. in the Indus valley. 13 07 1987. Rocky slopes with sparse bushes. Specimens were heliophil.
- 066..... Hazara, Indus Kohistan, 15 km. S. Dasu in the Indus valley, 1030m., 13 07 1987. Specimens were heliophil.
- 067..... Hazara, Indus Kohistan, Dasu 920m. in the Indus valley, 13 07 1987. Rocky walls covered by mesophil and rupicol plants. Few specimens.

- 068..... Gilgit Agency, Chilas 1280m., 13 07 1987.
Artemisia steppe with sparse fruit trees
on the slopes. Pyrophil moths were taken
at the light trap on a windy night. The
result was not successful.
- 069..... Gilgit Agency, Chilas 1280m., 13 07 1987.
Few lycaenids were taken in the evening.
- 070..... Gilgit Agency, on the road to Babusar (S. Chilas)
2750m., 14 07 1987. Heliophil specimens were
on the wing on wet meadows.
- 071..... Gilgit Agency, on the road to Babusar, 2050m.,
14 07 1987. Heliophil specimens were on the
wing on wet meadows.
- 072..... Gilgit Agency, on the road to Babusar, 1650m.,
14 07 1987. Dry rocky slopes covered with
Artemisia, Heliotropium, Echinops, Chenopodia-
ceae, etc. Mainly heliophil lycaenids were
found.
- 073..... Gilgit Agency, on the road to Babusar, 1450m.,
14 07 1987. Rocky slopes covered with xero-
phytes. Heliophil specimens were collected.
- 074..... Gilgit Agency, Chilas, 1280m., 14 07 1987.
Artemisia steppe with Populus and Salix
communities on the slopes. Pyrophil moths,
mainly pyralids and noctuids were taken at
the light trap.
- 075..... Gilgit Agency, about 20km. E. of Chilas, 1140m.,
Indus valley, 15 07 1987. Anaphaeis aurota
populations with every stages of development
were observed and adults were captured. All
of them was heliophil.
- 076..... Gilgit Agency, Juthal, ca. 20km. N. of Gilgit,
Hunza valley, 1600m., 16 07 1987. Heliophil
specimens were observed and collected on
flowers of Vicia.
- 077..... Gilgit Agency, Rahimabad, 1750m. (N. of Juthal),
Hunza valley. Vicia meadows on the slopes.
Heliophil specimens were captured. 16 07 1987.
- 078..... Gilgit Agency, S. of Nasirabad 2050m, Hunza
valley, 16 07 1987. Heliophil specimens.

- 079..... Gilgit Agency, Karimabad 2350m. Hunza valley, 16 07 1987. Pyrophil moths were taken at the light trap on a calm night.
- 080..... Gilgit Agency, Karimabad 2350-2400m., Hunza valley, 16 07 1987. Heliophil butterflies were found on the flowery hillsides.
- 081..... Gilgit Agency, 15 km.S. of Gulmit 2400m. Hunza valley, 17 07 1987. Rocky steep slopes. Heliophil specimens.
- 082..... Gilgit Agency, Nazimabad (5 km.S. of Gulmit), 2450m., Hunza valley, 17 07 1987. Heliophil specimens were on the wing in the Vicia meadows.
- 083..... Gilgit Agency, Pasu 2550m., Hunza valley, 17 07 1987. In the cultivated area especially pierids were on the wing by day.
- 084..... Gilgit Agency, Pasu 2500m. Hunza valley, 17 07 1987. Rocky steep slopes with poor wild herbaceous plant cover. Pyrophil moths, especially pyralids and noctuids were captured at the light trap between 8.30-9.30 p.m.
- 085..... Gilgit Agency, E. of Deh 3600m., Khunjerab valley, 18 07 1987. Only two heliophil specimens were taken on the bare slopes.
- 086..... Gilgit Agency, Sost 2800m., Hunza valley, 18 07 1987. Rocky slopes covered by poor plant formation. Pyrophil moths were taken at the light trap.
- 087..... Gilgit Agency, Bogeet 2650m., Upper Gulmit, Hunza valley, 19 07 1987. A salt lake surrounded by bare mountains. Halophil and heliophil pyralids were found on the bank covered by halophytes. Separately heliophil butterflies were observed on the flowers of Vicia on the slopes.
- 088..... Gilgit Agency, Karimabad 2200m., Hunza valley, 19 07 1987. Rocky slopes with sparse bushes. Pyrophil moths were taken at the light trap.
- 089..... Gilgit Agency, Gilgit 1500m., 20 07 1987. River bed with stony ground, sparse grasses and trees. Pyrophil moths were taken at the light trap.

- 090..... Jammu,Baltistan,on the road to Skardu 1400m.,
Indus valley,21 07 1987. Dry rocky hillsides
covered with Chenopodiaceae,Rutaceae,Artemisia
Capparis,and various grasses.Heliophil speci-
mens were found.
- 091..... Jammu ,Baltistan,Unsar 1400m.,Indus valley,
21 07 1987.Wet meadows. Heliophil specimens
were found.
- 092..... Jammu,Baltistan, 20km.W of Yelbow,Indus valley
1850m.,21 07 1987. Heliophil specimens were
captured.
- 093..... Jammu,Baltistan,E.of Rondu 2000m.,21 07 1987.
Wet meadows.Heliophil specimens.
- 094..... Jammu, Baltistan,Skardu 2350m., 21 07 1987.
Single pyrophil specimen of Dichagyris sp.
was taken by day.
- 095..... Jammu,Baltistan,Satpara lake 2650m.,22 07 1987.
Artemisia-Astragalus steppe on rocky slopes.
Heliophil butterflies were found.
- 096..... Gilgit Agency,SW.of Juglot,Thalachi 1450m.,
Indus valley,23 07 1987. Anaphaeis aurota
specimens were observed on the slopes,where
its foodplant Capparis grows.
- 097..... Hazara,Indus Kohistan,between Dasu and Sazin
in the Indus valley,1070m.,23 07 1987. A single
male of Sepsis dichroa Koll.(Argynninae)was
taken.
- 098..... Hazara,Indus Kohistan,S.of Pattan 940m.in the
Indus valley,24 07 1987. A single pyrophil
Alphaea sp.(Arctiidae) was taken at rest on
the rock by day. Separately,heliophil butter-
flies were collected on the damp slopes.
- 099..... Hazara,N.of Besham Qila 750m. in the Indus
valley,24 07 1987. Near the gardens some
heliophil specimens were taken.
- 100..... Swat,Alpurai 1500m.,24 07 1987. After a heavy
rain,pyrophil moths were taken at the light
trap in the opening of the Pine Forest on the
rocky slopes.

- 101..... Dir, Lowari Pass, 3200m., 26 07 1987. Few specimens were observed and taken at the steep slopes over the pass. On the SE. slopes, at an elevation of 2650m., heliophil specimens were collected on the damp meadows.
- 102..... Dir, Dir 1500m., 26 07 1987. Pyrophil moths were taken at the light trap on a rainy night between 8.00-9.30 p.m.
- 103..... Campus of PFI, 500m., 28 07 1987. Heliophil butterflies were taken.

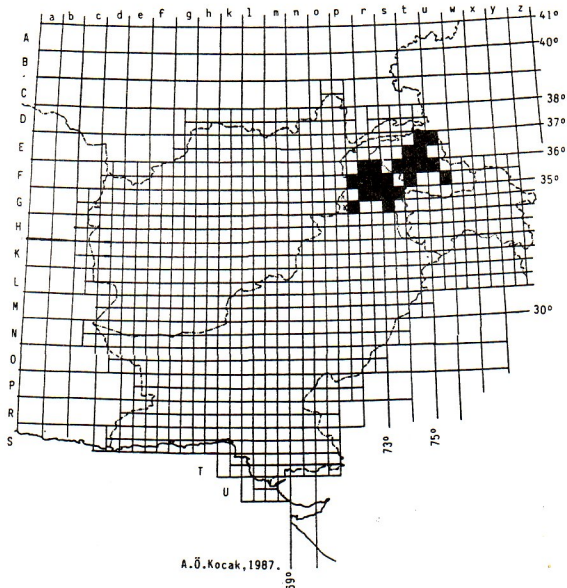
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Map 1- Distribution Map of Lepidoptera of Pakistan.

Black marked quadrates were visited by the author during the expedition, 1987.