

**RESULTS OF CZECHOSLOVAK-IRANIAN ENTOMOLOGICAL  
EXPEDITIONS TO IRAN 1970, 1973 AND 1977  
(Together with results of collections made in Anatolia)**

**Lepidoptera: Rhopalocera**

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The present paper is a review of species of butterflies collected by the three above-mentioned expeditions made by research workers of the Department of Entomology of the National Museum in Prague. At the same time, it is a contribution to the knowledge of butterfly-fauna of Iran.

In the year 1970 when Dr. Moucha, now deceased, took part in the scientific expedition, the collections of butterflies were carried out more systematically than in the next years because there was no longer a specialist on Lepidoptera in those expeditions and collections of butterflies were carried out in a rather haphazard manner. For this reason, most collections mentioned in the present paper come from the first expedition of 1970 described by Hoberlandt 1974 with a detailed account of the listed Iranian and Anatolian collecting localities.

Information on the collections of butterflies made by the above-mentioned scientific expeditions of the National Museum in Prague are in this work enriched by information on collections of butterflies carried out by another expedition to Iran under the name "Iran 1969 — South Bohemian Mountaineering and Biological Expedition Demavend". This has been done with the consent of the research workers of the National Museum in Prague and by agreement with Dr. Ebenhöf as a participant in the above-mentioned mountaineering and biological expedition. He made collections of butterflies in the mountain localities of northern Iran within the framework of that expedition. In the list of species in this paper specimens of butterflies collected by Dr. Ebenhöf are marked by capital letters of localities.

All the above-mentioned Czechoslovak expeditions made collections of butterflies of the group Rhopalocera, all 88 species, excluding species of the family Lycaenidae which will be published separately in other paper. Collections of specimens of the family Hesperidae of the first Czechoslovak expedition of the National Museum have already been published by Alberti 1974, as well as collections of specimens of the genus *Melanargia* published by Wagener 1974. Moucha 1974 was concerned with the question of the distribution of *Pandoriana pandora* Den. et Sch. in northern Iran.

Specimens of butterflies collected by the three above-mentioned Czechoslovak-Iranian Entomological Expedition to Iran are deposited in the collections of the Entomological Department of the National Museum in Prague. Specimens collected by Dr. Ebenhöf within the framework of the expedition "Iran 1969 — Demavend" are in the private possession of the above-mentioned collector.

Although collections of butterflies of the Czechoslovak expeditions do not give a complete picture of the composition of the Iranian butterfly-fauna, nevertheless they prove that Iran is extraordinarily attractive for lepidopterological research and that this zoogeographical region is still now relatively insufficiently investigated. This is due mainly to the southern, south-eastern, south-western and western parts of Iran having been less investigated from the lepidopterological point of view than some other part of Iran. Northern Iran, especially the high-mountain complex of the Elburz Mts, and also the Kopet-Dagh Mts. of north-eastern Iran were often visited and studied by lepidopterologists in the last century, e.g. by Christoph 1872—1891 and by Lederer 1869, 1871. At the beginning of the twentieth century, the lepidopterological research continued in those regions by Stichel 1911, Le Cerf 1913 and by Riley 1921, later by Schwingenschuss 1939 and by Brandt 1938—39. After the second world war Wiltshire 1946, De Lesse 1959, Kuznietsov 1960 and Sutton 1963 devoted research to the Lepidoptera of Iran, and Kollar 1950 and Kuznietsov 1959 investigated the butterfly-fauna of southern Iran.

The more systematical research of the butterfly-fauna of Iran began after the year 1960 thanks to scientific expeditions and excursions, e.g. by Japanese expedition of Kyoto University (its collection of the Rhopalocera of this expedition was published by Takashi Shirôzu and Toyohi Saigusa 1963) and thanks to the West-German lepidopterological excursions the results of which were published by Ebert et al 1975, and by Rose and Schurian 1977, Blom 1979 and finally Hofmann 1976, 1978 and by Eckweiler and Hofmann 1980.

The most interesting taxons mentioned in the present paper come from the Iranian localities situated outside the above-mentioned lepidopterologically frequented regions of northern Iran. Unfortunately collections of butterflies realized by Czechoslovak expeditions in those above-mentioned interesting Iranian localities are just relatively poor. It is may be caused by the mentioned fact that this material comes from the second and third expeditions when collection of butterflies had not been carried out systematically.

From lists of species of butterflies collected by past expeditions and excursions to Iran it is clear that Iran is rich in the species of Rhopalocera due to considerable horizontal and vertical geographical articulation of the surface which no doubt gives origin to very different ecosystems in the different climate conditions. The high-mountain complex of the Elburz Mts. exceeding 5600 m above sea-level has its specific mountain fauna of insects. There are there such typical mountain species of Rhopalocera as *Satyrus iranica* Schwingen., *Pseudochazara schakuhensis* Stdgr., *Pseudochazara aurantiaca* Stdgr. and some others. Apart from

this, this range and the whole northern territory of Iran represent the crossroad of influences of the neighbouring and zoogeographically distinct regions. This is the reason that the fauna of Rhopalocera of the Elburz Mts. is heterogenous at the different altitudes of this range and its slopes. Some Transcaucasian elements penetrate to northern Iran and to the Elburz Mts. from the north-eastern side, as well as some elements of the adjacent Azarbaijan, which is under the influences of the Armenian and also of the Ponto-Mediterranean fauna. This is exemplified by the occurrence of *Melitaea transcaucasia* Trti. and the frequency of *Chazara briseis magna* Stdgr. in northern Iran and the occurrence of *Melanargia syriaca karabagi* Koçak in Iranian Kordestan in the north-western part of the Elburz range. On the contrary the eastern part of Elburz Mts. and the whole of north-eastern Iran is under the influence of the Hyrcanian and Transcaspian fauna and of the fauna of the near Kopet-Dagh range, which stands partially under the influence of the Central-Asian Turanian fauna. As a proof of this presumption I point out e.g. occurrence of two well-differentiated subspecies of *Chazara briseis* L. in northern Iran, i.e. ssp. *magna* Stdgr. as an element of the Ponto-Mediterranean fauna, and ssp. *hyrcana* Stdgr. as an element of the Hyrcanian fauna. Both above-mentioned subspecies come in contact with each other in the Elburz range. The other typical example is the occurrence of two quite distinct subspecies of *Hyponephele lupina* Costa. in the Elburz range i.e. ssp. *centralis* Riley in Azarbaijan and on the western slopes of the Elburz range, and the occurrence of ssp. *intermedia* Stdgr., known from Aschabad, Tadzhikistan and Uzbekistan, in the south-eastern Elburz range. The occurrence of such species as *Chazara enervata* Stdgr. in south-eastern Iran, of *Hyponephele amardea* Led. in the central Elburz range and of *Polygonia interposita* Stdgr. in the eastern Elburz range also support a theory that the Central-Asian elements penetrate into Iran.

The arid region of central Iran and southern Iran are zoologically quite distinct. Some tropical elements of Africa and of the Arabian peninsula penetrated there, such as *Papilio demoleus* L., *Anaphaeis aurota* Fabr., species of the genus *Colotis* and perhaps some others. The penetration of these species from Arabia to Iran and conversely the passing of some palaearctic species from Iran to Arabia, e.g. *Hipparchia parisatis* Koll., *Artogeia krueperi* Stdgr. and several others (such as species of the genus *Colotis*) was caused by the natural migration capacity of species. This migration of many species of insects was probably facilitated by the recent connection of Oman with Iran by a natural continental bridge in Rás Musandam, probably in late Pleistocene. This may explain why the fauna of Rhopalocera and probably also the fauna of other insects of southern Iran are not too different from the fauna of Oman. The occurrence of species such as *Colotis phisadia* God., *Colotis vestalis* Butl. and also the same form of *Papilio machaon* L. in southern Iran and in Oman is perhaps another example of this fact.

List of species of butterflies  
collected by Czechoslovak expeditions in Iran and in Anatolia

PAPILIONIDAE

*Papilio machaon* Linnaeus, 1758

1 ♀, 24. 8. 1970 (loc. no. 108); 2 ♂♂, 24. 6. 1970 (loc. no. 30); 1 ♂, 22. 3. 1973 (loc. no. 131); 1 ♂, 28. 4.—6. 5. 1977 (loc. no. 320).

Specimens from localities no. 30 and no. 108 may be ascribed to ssp. *syriacus* Verity, 1905, whilst specimens from localities no. 131 and no. 320 superficially correspond to ssp. *muetingi* Seyer, 1976. Larsen 1975 has published the occurrence of this subspecies also in Oman. However, the South-Iranian and Omani specimens of *P. machaon* L. differ from the typical specimens of *muetingi* of central Iran by narrower sub-marginal bands and by the enlargement of crescent-shaped spots of the border of both wings. Those specimens doubtless belong to the distinct ecological form of ssp. *muetingi* which I name, in honour of Mr. Seyer, *f. seyeri* n. Tab. I, fig. 1.

*Papilio demoleus flavosignatus* Heydemann, 1954

2 ♂♂, 2 ♀♀, 9. 7. 1970 (loc. no. 50); 3 ♂♂, 4 ♀♀, 6.—7. 4. 1973 (loc. no. 150); 1 ♀, 19.—20. 5. 1973 (loc. no. 203); 1 ♀, 22. 5. 1973 (loc. no. 206); 1 ♀, 28. 4.—6. 5. 1977 (loc. no. 320); 1 ♀, 4.—5. 5. 1977 (loc. no. 322).

*Iphiclides podalirius smyrnensis* (Eimer, 1889)

8 ♂♂, 2 ♀♀, 27. 6. 1970 (loc. no. 31); 1 ♀, 15. 7. 1970 (loc. no. 57); 1 ♂, 27.—30. 7. 1970 (loc. no. 77); 1 ♂, 1 ♀, 2. 8. 1970 (loc. no. 81); 1 ♂, 10.—16. 7. 1977 (loc. no. 400); 1 ♀, 30. 8. 1969 (loc. J.).

*Allanacstria louristana louristana* (Le Cerf, 1908)

4 ♂♂, 1 ♀, 9.—10. 4. 1977 (loc. no. 283); (Tab. I, fig. 3 and 4).

This interesting species originally described as a subspecies of *Allanacstria cerisyi* God. occurs in the Zagros range of western Iran. The nominate form was described from Louristan in the northern part of Zagros Mts. new subspecies *boyrahamadiensis* Blom et Eisner, 1979 was described from the region of Boyr-Ahmadi situated in the southern Zagros range. This form, however, appears to be only an ecological form because of the small distinction from the nominotypical form.

*Allanacstria deyrollei deyrollei* (Oberthür, 1869)

1 ♂, 14. 6. 1970 (loc. no. 2).

PIERIDAE

*Aporia crataegi* (Linnaeus, 1758)

1 ♀, 13. 6. 1970 (loc. no. 1); 1 ♂, 10.—11. 4. 1977 (loc. no. 284).

The single female-specimen from loc. no. 1 may be referred to ssp. *pellucida* Röber, 1907, and the specimen of male from loc. no. 284 corresponds to ssp. *pazukii* Gross et Ebert, 1975.

*Pieris brassicae catoleuca* Röber, 1896

1 ♂, 15. 7. 1970 (loc. no. 57); 4 ♂♂, 7 ♀♀, 2. 8. 1970 (loc. no. 81); 3 ♂♂, 2 ♀♀, 12. 8. 1970 (loc. no. 90).

*Artogeia rapae* (Linnaeus, 1758)



4 ♂♂, 1 ♀, 19.—20. 6. 1970 (loc. no. 24); 2 ♂♂, 20.—21. 6. 1970 (loc. no. 27); 1 ♂, 25. 7. 1970 (loc. no. 72); 7 ♂♂, 26. 7. 1970 (loc. no. 74); 1 ♀, 27. 7. 1970 (loc. no. 75); 10 ♂♂, 4 ♀♀, 14. 4. 1977 (loc. no. 289); 1 ♂, 22. 3. 1973 (loc. no. 131); 2 ♂♂, 16.—17. 4. 1977 (loc. no. 292); 1 ♀, 9.—10. 3. 1973 (loc. no. 123); 2 ♀♀, 21. 8. 1969 (loc. G); 1 ♂, 1 ♀, 27. 8. 1970 (loc. no. 111).

This species is evidently common and widespread in Iran. All above-mentioned specimens belong to ssp. *iranica* Le Cerf, 1913. The pair from loc. no. 111 may be ranged to the summer brood of ssp. *leucosoma* Schawerda, 1905.

*Artogeia manni* (Mayer, 1851)

1 ♂, 15. 7. 1970 (loc. no. 57); 2 ♂♂, 21. 8. 1969 (loc. C); 1 ♂, 21. 8. 1969 (loc. D).

Present specimens are not superficially distinguishable from the European specimens corresponding to the summer-form *rossi* Stef.

*Artogeia ergane elbursina* (Bytinski-Salz, 1937)

1 ♂, 15. 7. 1970 (loc. no. 57); 2 ♂♂, 1 ♀, 10.—16. 7. 1977 (loc. no. 400); 1 ♂, 3. 9. 1969 (loc. B).

*Artogeia napi dubiosa* (Röber, 1907)

2 ♂♂, 13. 6. 1970 (loc. no. 1); 4 ♂♂, 1 ♀, 15. 7. 1970 (loc. no. 57); 1 ♀, 1. 7. 1970 (loc. no. 39); 12 ♂♂, 1 ♀, 27.—30. 7. 1970 (loc. no. 77); 15 ♂♂, 26. 7. 1970 (loc. no. 74); 1 ♀, 11. 8. 1970 (loc. no. 86); 1 ♀, 12. 8. 1970 (loc. no. 90); 8 ♂♂, 1 ♀, 12. 8. 1970 (loc. no. 91); 1 ♂, 10.—16. 7. 1977 (loc. no. 400).

This subspecies is common and widely distributed in Iran. All above mentioned specimens were determined by Warren in 1971 as the nominate form of *Pieris pseudorapae* Verity.

*Artogeia krueperi syra* (Verity, 1911)

1 ♂, 20.—21. 7. 1970 (loc. no. 63).

*Pontia daplidice* (Linnaeus, 1758)

1 ♂, 18. 6. 1970 (loc. no. 20); 1 ♂, 19.—20. 6. 1970 (loc. no. 24); 1 ♂, 1 ♀, 8. 8. 1969 (loc. A); 1 ♂, 27. 6. 1970 (loc. no. 31); 2 ♂♂, 1 ♀, 20.—21. 7. 1970 (loc. no. 63); 1 ♀, 25. 7. 1970 (loc. no. 72); 1 ♂, 27.—30. 7. 1970 (loc. no. 77); 1 ♂, 30. 7. 1970 (loc. no. 78); 3 ♂♂, 1 ♀, 11. 8. 1970 (loc. no. 86); 2 ♂♂, 10.—16. 7. 1977 (loc. no. 400); 2 ♂♂, 1 ♀, 12. 8. 1970 (loc. no. 91); 1 ♂, 30. 8. 1969 (loc. G); 3 ♂♂, 2 ♀♀, 3. 9. 1969 (loc. B); 4 ♂♂, 17. 1970 (loc. no. 38); 1 ♂, 1. 7. 1970 (loc. no. 39); 1 ♂, 8.—9. 7. 1970 (loc. no. 49); 3 ♂♂, 14. 4. 1977 (loc. no. 289); 3 ♂♂, 2 ♀♀, 14.—15. 4. 1977 (loc. no. 290); 2 ♂♂, 1 ♀, 17. 4. 1977 (loc. no. 293).

Although the occurrence of ssp. *persica* (Bienert, 1870) in Iran is traditionally found in lepidopterological literature, the present specimens are hardly distinguished from some specimens of the nominate form from various European localities. The more yellowish markings and yellow veins on hindwings underside quoted as the typical mark of *persica*, appear not to be a constant sign. There are specimens without these typical markings in series of the present Iranian specimens and there are also intermediary forms between nominate and *persica* forms there. For this reason, I consider all present Iranian specimens to be the no-

minate form and *persica* to be form appearing only among specimens of populations of this species. My reasons are the relatively large individual, seasonal and ecological variability of this species and its considerable migration capacity. Specimen from loc. no. 72 belongs to *f. flavopicta* Verity.

*Pontia glauconone iranica* (Bienert, 1870)

1 ♀, 12. 4. 1973 (loc. no. 158).

*Pontia callidice chrysidice* (Herrich-Schäffer, 1843)

1 ♂, 1. 7. 1970 (loc. no. 38); 2 ♂♂, 18.—19. 7. 1970 (loc. no. 61); 4 ♂♂, 22. 7. 1970 (loc. no. 66); 1 ♂, 1 ♀, 11. 8. 1970 (loc. no. 86); 1 ♀, 26. 8. 1969 (loc. H.).

*Euchloë ausonia* Hübner, 1804

1 ♀, 13. 6. 1970 (loc. no. 1); 2 ♂♂, 18. 6. 1970 (loc. no. 20); 1 ♀, 12. 6. 1970, Istanbul, West Anatolia, Turkey.

I do not dare to determine precisely the subspecies because of a very small number of the collected specimens of this extraordinarily variable species. However, the above-mentioned specimens closely resemble *ssp. graeca* Verity, 1905.

*Anthocharis cardamines phoenissa* (Von Kalchberg, 1894)

2 ♂♂, 9.—10. 4. 1977 (loc. no. 283).

Specimens may be ascribed to *f. turritis* O. because of the narrower orange field in apex of forewings reaching only to the distinct black discal spots.

*Zegris eupheme dyala* (Peile, 1921)

1 ♀, 11.—12. 4. 1977 (loc. no. 285).

*Anapheis aurota aurota* (Fabricius, 1793)

1 ♂, 2 ♀♀, 5.—6. 7. 1970 (loc. no. 45); 1 ♀, 3.—4. 4. 1973 (loc. no. 146); 2 ♂♂, 7 ♀♀, 3.—4. 4. 1973 (loc. no. 147); 1 ♂, 6.—7. 4. 1973 (loc. no. 150); 1 ♀, 8.—9. 4. 1973 (loc. no. 152); 2 ♂♂, 6 ♀♀, 21.—22. 4. 1977 (loc. no. 305).

*Colotis fausta fausta* (Olivier, 1804)

2 ♂♂, 4 ♀♀, 10. 7. 1970 (loc. no. 53).

*Colotis evagore* (Klug, 1829)

3 ♀♀, 8.—9. 4. 1973 (loc. no. 152), Tab. I, fig. 2.

This species, well known from Africa and Arabia, has never before been reported in Iran. The present females are distinguished from the nominate form and *ssp. nouna* Lucas, as well also from the closely similar species *Colotis दौरа* Klug, also known from Africa and Arabia, by the following constant markings:

All dark patterns of present specimens are brown-gray, not black and they are edgeless and broad, especially the dark marginal spots of hindwings. The apical fields of forewings are pale-orange. The dark discal spot of the forewings upperside is small and quite missing on both sides of hindwings. Fringes of forewings are totally white and not brown and violet obscured in their middle parts. Length of forewings is 11—12 mm. Clubs of antennae are from the dorsal view pale-ochreous and not black coloured.

I do not venture to name the above-described specimens as a new subspecies because of the large seasonal and individual variability of *Colotis evagore*. Kl. and because of the small a number of specimens at my disposal and because of the lack of male specimens. Nevertheless, some of the indicated markings of the above-described specimens, such as the character of antennae and fringes, might be after all classified as markings of a new species.

*Colotis vestalis nadir* Gross et Ebert, 1975

3 ♂♂, 3 ♀♀, 8.—9. 4. 1973 (loc. no. 152), 1 ♂, 3 ♀♀, 21. 5. 1973 (loc. no. 204), 2 ♀♀, 22.—23. 5. 1973 (loc. no. 208); 6 ♂♂, 4 ♀♀, 28. 4.—6. 5. 1977 (loc. no. 320); 4 ♂♂, 4.—5. 5. 1977 (loc. no. 322); 1 ♂, 4 ♀♀, 13. 5. 1977 (loc. no. 328).

*Colotis phisadia* (Godard, 1819)

2 ♂♂, 3 ♀♀, 28. 4.—6. 5. 1977 (loc. no. 320).

Specimens may be ranged to ssp. *semiramis* Grun-Grshimailo, 1902 described from Balujistan.

*Colias alfacariensis* Fabricius, 1807

10 ♂♂, 5 ♀♀, 27.—30. 7. 1970 (loc. no. 77); 1 ♂, 1 ♀, 12. 8. 1970 (loc. no. 91); 3 ♂♂, 1 ♀, 23.—24. 7. 1970 (loc. no. 69).

Specimens from localities no. 77 and 91 are not very easily distinguished from the European specimens of ssp. *calida* Verity, 1916. Perhaps the black margin on hindwings upperside is a little broader in the Iranian specimens. But it might be a variable marking (see Tab. II, fig. 9—12). However, specimens from loc. no. 69 are very interesting because they are surprisingly distinct from all above-mentioned specimens of *alfacariensis* by the exceptionally large size of wings and by distinct character of upperside of wings. Length of forewing is in males 29—30 mm, in the female 28 mm. The ground-colour and the character of all discal spots of wings is the same as in *alfacariensis*. However, the marginal black border of forewings is much more broad especially of the apical part of forewings so that its character resembles the Japanese specimens of *Colias poliographus* Motsch. The marginal black border of hindwings is also broader, edged and more connected than in *alfacariensis* and it penetrates to the cell situated between veins Cu<sub>2</sub> and 2V. The basal part of hindwings and in the direction to the inner margin are scarcely gayish, covered with dust only. The pattern and markings of underside of wings are similar to *alfacariensis*. Perhaps only the line of black submarginal spots of forewing upperside is more incomplete in the described specimens and the tornal spot of this line is diffusely enlarged. The male genitalia are similar to *alfacariensis*, but they are slender in the described specimens.

Specimens from loc. no. 69 belong doubtless to the differentiated geographical race of the population *alfacariensis* which inhabits the region of a mountain valley opened to the Caspian Sea and within reach of the influence of that Sea (see Hoberlandt 1974). Climate of that biotop is subtropically warm and wet, and this district is inhabited by elements of the Hyrcanian flora and fauna. Character of this locality is consequently quite different from the relatively near locality no. 77 which has

rather mediterranean character by its biotop of the wetter steppe-forests which are known e.g. in the Balcans.

Although I have only a limited number of specimens from loc. no. 69 at my disposal, I have finally decided to describe and to name them as the representatives of a new subspecies under the name-

*Colias alfacariensis hyrcanica* ssp. n.

as the element of the Hyrcanian fauna occurring in Iran. I have decided to do so because of the constant character of the described specimens, because of the difference in the size of male genitalia and of course because of the well isolated situation of the loc. no. 69. presents quite different ecological conditions compared with the neighbouring districts.

Holotype ♂: Valley of the river Haraz Chay, 22 km S. of Amol 36°23'N, 52°20'E, 400 m, Reshtehe Kuhhaye Alborz Elburz Mts, Central, 23.—24. 7. 1970, Mazandaran, North Iran in coll. Museum Prag Cat. no. 9371, (Tab. II, fig. 6).

Paratypes 2 ♂♂, 1 ♀: same data (in coll. Museum Prag.), (Tab. II, fig. 5, 7 and 8).

*Colias erate erate* Esper, 1804

1 ♂, 5. 7. 1970 (loc. no. 43); 1 ♂, 26. 7. 1970 (loc. no. 74); 1 ♂, 27. 7. 1970 (loc. no. 76); 6 ♂♂, 7 ♀♀, 27.—30. 7. 1970 (loc. no. 77); 1 ♂, 19.—21. 6. 1977 (loc. no. 376).

Specimen from loc. no. 43 belongs to *f. chrysodona* Boisdu.

*Colias crocea crocea* Fourcroy, 1785

3 ♂♂, 13. 6. 1970 (loc. no. 1); 1 ♂, 21. 8. 1970 (loc. no. 107); 1 ♀, 20. 6. 1970 (loc. no. 25); 1 ♀, 20.—21. 6. 1970 (loc. no. 27); 1 ♂, 1. 7. 1970 (loc. no. 36); 1 ♀, 1 ♂, 7. 8. 1969 (loc. A); 2 ♂♂, 1 ♀, 15. 7. 1970 (loc. no. 57); 1 ♀, 1. 7. 1970 (loc. no. 38); 1 ♂, 22. 7. 1970 (loc. no. 66); 1 ♀, 20.—21. 7. 1970 (loc. no. 63); 1 ♀, 21. 7. 1970 (loc. no. 64); 1 ♂, 1 ♀, 23.—24. 7. 1970 (loc. no. 69); 1 ♀, 20. 7. 1970 (loc. no. 62); 3 ♂♂, 1 ♀, 27.—30. 7. 1970 (loc. no. 77); 2 ♂♂, 1 ♀, 11. 8. 1970 (loc. no. 86); 1 ♂, 16. 6. 1973 (loc. no. 244); 1 ♀, 4.—9. 7. 1977 (loc. no. 395); 4 ♂♂, 10.—16. 7. 1977 (loc. no. 400).

*Colias aurorina rosei* Gross et Ebert, 1975

1 ♀, 4.—9. 7. 1977 (loc. no. 395).

*Colias sagartia sagartia* Lederer, 1869

3 ♂♂, 7 ♀♀, 18.—19. 7. 1970 (loc. no. 60).

*Gonepteryx rhamni meridionalis* Röber, 1909

1 ♂, 12. 8. 1970 (loc. no. 91).

*Gonepteryx farinosa farinosa* Zeller, 1847

2 ♂♂, 1 ♀, 15. 7. 1970 (loc. no. 57).

*Leptidea sinapis* Linnaeus, 1758

1 ♂, 26. 7. 1970 (loc. no. 74); 7 ♂♂, 27.—30. 7. 1970 (loc. no. 77).

The present specimens are superficially indistinguishable from specimens from south Europe and the Balkans i.e. of Dalmatia where the summer-form *diniensis* Boisdu. is reported.

## DANAIDAE

*Danaus chrysippus chrysippus* Linnaeus, 1758

1 ♀, 24.—26. 6. 1970 (loc. no. 109); 1 ♂, 27.—30. 7. 1970 (loc. no. 77); 2 ♂♂, 3 ♀♀, 1.—2. 4. 1973 (loc. no. 145); 1 ♂, 3.—4. 4. 1973 (loc. no. 146); 1 ♂, 1 ♀, 6.—7. 4. 1973 (loc. no. 150); 1 ♂, 2 ♀♀, 3.—4. 4. 1973 (loc. no. 147); 1 ♂, 1 ♀, 19.—20. 5. 1973 (loc. no. 203); 1 ♀, 16.—17. 4. 1977 (loc. no. 292); 1 ♂, 20.—21. 4. 1977 (loc. no. 304); 1 ♀, 28. 4.—6. 5. 1977 (loc. no. 320).

## NYMPHALIDAE

*Charaxes jasius jasius* Linnaeus, 1816

1 ♀, 27. 8. 1970 (loc. no. 112).

*Limenitis reducta* Staudinger, 1901

1 ♂, 12. 8. 1970 (loc. no. 91); 3 ♂♂, 22.—30. 8. 1969 (loc. E); 1 ♂ 12.—13. 6. 1973 (loc. no. 239); 1 ♀, 27. 8. 1970 (loc. no. 112).

Specimen from loc. no. 239 belongs to ssp. *mirzaiani* Gross et Ebert, 1975 described from the Iranian provinces Fars and Khusestan. Specimens from two remaining localities may be ascribed to the nominate form.

*Nymphalis polychloros fervida* (Standfuss, 1896)

1 ♀, 16. 6. 1970 (loc. no. 12); 1 ♀, 13.—14. 6. 1973 (loc. no. 241).

*Vanessa atalanta atalanta* Linnaeus, 1758

5 ♀♀, 5 ♂♂, 12. 8. 1970 (loc. no. 91).

*Vanessa cardui cardui* Linnaeus, 1758

1 ♀, 12. 6. 1970, Istanbul, West anatolia, Turkey, 1 ♀, 18. 7. 1970 (loc. no. 60); 1 ♀, 9.—10. 5. 1973 (loc. no. 194).

*Aglais urticae turcicoides* (Staudinger, 1901)

4 ♀♀, 22. 7. 1970 (loc. no. 66); 3 ♂♂, 26. 8. 1969 (loc. H).

*Polygonia c-album c-album* (Linnaeus, 1758)

1 ♀, 27.—30. 7. 1970 (loc. no. 77); 1 ♀, 2. 8. 1970 (loc. no. 81); 1 ♀, 22. 8. 1969 (loc. E); 1 ♀, 12. 8. 1970 (loc. no. 91).

*Polygonia interposita interposita* (Staudinger, 1881)

1 ♀, 2.—3. 8. 1970 (loc. no. 83).

*Inachis io* Linnaeus, 1758

1 ♀, 12. 8. 1970 (loc. no. 90).

The single specimen might be referred to ssp. *caucasica* Jachontov, 1911.

*Precis orithya here* Lang, 1884

2 ♂♂, 3 ♀♀, 9. 7. 1970 (loc. no. 50); 1 ♂, 4. 7. 1970 (loc. no. 43); 2 ♀♀, 1.—2. 4. 1973 (loc. no. 145); 2 ♀♀, 19.—20. 5. 1973 (loc. no. 203); 2 ♂♂, 1 ♀, 12. 4. 1973 (loc. no. 158); 2 ♀♀, 28. 4.—6. 5. 1977 (loc. no. 320).

*Pandoriana pandora pasargades* (Fruhstorfer, 1908)

1 ♀, 17. 6. 1977 (loc. no. 373); 4 ♂♂, 10 ♀♀, 7. 8. 1969 (loc. A); 1 ♂, 2 ♀♀, 21. 8. 1969 (loc. F).

*Argynnis paphia masandaranensis* Gross et Ebert, 1975

2 ♂♂, 1 ♀, 26. 7. 1970 (loc. no. 74); 2 ♀♀, 27.—30. 7. 1970 (loc. no. 77).

*Mesoacidalia alexandra alexandra* (Ménétriés, 1832)

3 ♂♂, 15. 7. 1970 (loc. no. 57); 1 ♂, 12. 8. 1970 (loc. no. 91); 3 ♂♂, 4 ♀♀, 22.—30. 8. 1969 (loc. E).

*Fabriciana niobe* (Linnaeus, 1758)

3 ♂♂, 16. 6. 1970 (loc. no. 12); 1 ♂, 24. 8. 1969 (loc. L).

The present specimens from loc. no. 12 are surprisingly small, the length of their forewings being only 21 mm. They superficially stand between ssp. *philistra* Seitz and ssp. *khusestana* Gross et Ebert. However, from both named subspecies they are distinguished by narrower wings and by finer but edged black pattern. The groundcolour of upperside of wings is pale-ochreous. The pattern and the markings of the hindwing undersides are similar to specimens of ssp. *orgowa* Teich described from the region of Erivan. The above-mentioned specimens from loc. no. 12 probably belong to a new subspecies (Tab. III, fig. 15 and 16). The single specimen from loc. L may be referred to ssp. *demavendis* Gross et Ebert, 1975.

*Issoria lathonia lathonia* (Linnaeus, 1758)

1 ♂, 27. 6. 1970 (loc. no. 31); 1 ♀, 15. 7. 1970 (loc. no. 57); 2 ♂♂, 26. 7. 1970 (loc. no. 74); 1 ♂, 23.—24. 7. 1970 (loc. no. 69); 1 ♂, 30. 8. 1969 (loc. G); 1 ♀, 2. 8. 1970 (loc. no. 81); 3 ♂♂, 12. 8. 1970 (loc. no. 91); 2 ♂♂, 1 ♀, 9.—10. 3. 1973 (loc. no. 123).

The present specimens may be referred to *f. saturata* Rüb.

*Melitaea didyma* Esper, 1779

1 ♂, 13. 6. 1970 (loc. no. 1); 1 ♂, 21. 7. 1970 (loc. no. 64).

The present specimen from loc. no. 1 is indistinguishable from ssp. *meridionalis* Staudinger, 1870 known from Greece. However, the single specimen from loc. no. 64 has an external character typical of specimens of ssp. *mixta* Evens, 1912 of West Pakistan.

*Melitaea persea* Kollar, 1850

1 ♀, 25. 4. 1973 (loc. no. 179); 1 ♀, 29. 4. 1973 (loc. no. 182); 1 ♂, 4. 7. 1970 (loc. no. 42).

Both-female-specimens may be ascribed to ssp. *dodgsoni* Grose-Smith, 1887 described from Baluchistan and known also from the region of Logar Valley in Afghanistan.

The specimens from locality no. 42 has an extreme character. The upperside of wings is of one ochreous yellow colour and the black pattern of *Melitaea* species is completely absent. Only the fringes are spotted in gray-white. The underside of the forewings is pale ochreous and also without black pattern. The apical field is much paler and contains several very small and nebulous ochreous points. The ground-colour of the underside of the hindwings is ochraceous-cream-white with very nebulous ochraceous-coloured pattern of *Melitaea* species. Only a row of darker marginal points is slightly more prominent. The submedian band has a row of nebulous spots coloured like the underside of forewings. Antennae are ochreous and their underside black spotted. Thorax and abdomen are pale graysh-ochreous and their underside whitish. Palpi are ochreous-white. The male genitalia is similar to the nominate form of *persea*. The described specimen might be considered as an extreme individual or



temperature form under the name f. *unicolora* n. of the nominate form of *persea* or as a good species of the genus *Melitaea* (Tab. III, fig. 13 and 14).

*Melitaea trivialis* Denis et Schiffermüller, 1775

2 ♂♂, 16.—17. 6. 1977 (loc. no. 372); 2 ♂♂, 13.—16. 6. 1977 (loc. no. 365); 1 ♂, 18.—19. 7. 1970 (loc. no. 60); 1 ♂, 9.—10. 4. 1977 (loc. no. 283); 2 ♀♀, 4.—9. 8. 1977 (loc. no. 395).

Specimens from localities no 372 and 365 may be considered as the second brood of ssp. *robertsi* Butler, 1880. However, specimens from the other above-mentioned localities belong to ssp. *wyatti* Gross et Ebert, 1975 due to the typical morphology of valva of the male genitalia.

*Melitaea gina* Higgins, 1941

1 ♂, 2.—3. 8. 1970 (loc. no. 83).

The single specimen may be ascribed to ssp. *elbursicola* Gross et Ebert, 1975 described from the south Elburz range.

*Melitaea cinxia amardea* Grun-Grshimailo, 1895

2 ♂♂, 1 ♀, 22. 7. 1970 (loc. no. 66).

#### SATYRIDAE

*Melanargia syriaca* Oberthür, 1894

2 ♂♂, 4 ♀♀, 10.—16. 7. 1977 (loc. no. 400); (Tab. III. fig. 17—20).

Present specimens belong to ssp. *karabagi* Koçak, 1976 according to the determination by Wagener. This very variable insect originally described as the subspecies of *Mel. larissa* Geyer inhabits the Amanos Mts., the Munzur and Murat Valleys, the Van Lake district and Hakkari in Turkey and western Azerbaidjan and the Iranian province Kordestan to the East up to Keredj, west of Tehran.

*Melanargia hylata* Ménétriés, 1832

2 ♂♂, 1 ♀, 1. 7. 1970 (loc. no. 39); 1 ♀, 4.—9. 7. 1977 (loc. no. 395).

Specimens from loc. no. 39 belong to ssp. *iranica* Seitz, 1907 and the remaining female-specimens from loc. no. 395 may be ascribed to the nominate form.

*Melanargia russiae eberti* Wagener, 1975

2 ♀♀, 21. 7. 1970 (loc. no. 64).

*Melanargia meda meda* Grun-Grshimailo, 1895

1 ♀, 21. 7. 1970 (loc. no. 64).

*Hipparchia fatua persicana* (Verity, 1937)

2 ♂♂, 1 ♀, 16. 8. 1979 (loc. no. 96); 1 ♀, 19. 8. 1969 (loc. G).

*Hipparchia parisatis* Kollar, 1850

7 ♂♂, 2 ♀♀, 10. 7. 1970 (loc. no. 53); 1 ♀, 11. 7. 1970 (loc. no. 56); 1 ♂, 1 ♀, 20.—21. 7. 1970 (loc. no. 63); 1 ♂, 1 ♀, 2.—3. 8. 1970 (loc. no. 83); 3 ♀♀, 18. 8. 1970 (loc. no. 98); 1 ♀, 27.—28. 4. 1977 (loc. no. 318); 1 ♂, 1 ♀, 7.—9. 5. 1977 (loc. no. 323); 2 ♂♂, 5 ♀♀, 7. 8. 1969 (loc. A); 3 ♂♂, 5 ♀♀, 30. 8. 1969 (loc. G).

Specimens from loc. no. 63 and 83 might be considered as ssp. *ismail* Gross et Ebert, 1975 according to the type locality of this subspecies. However, Kudrna 1977 identifies this subspecies with the nominotypical form because of similar character of both subspecies and to the variability of this species caused by cline.

However, in another class are the three female specimens from loc. no. 98 (Tab. IV, fig. 21—24). Although Kudrna 1977 says that the nominate form also inhabits Azarbaijan, the above-mentioned species are so distinct from ssp. *parisatis* Koll. that they are probably representatives of a new geographical race. The character of these three specimens is quite constant. Upperside of wings is superficially quite similar to *Hipparchia stulta* Stdgr. However all black ocelli are larger, more intense and with white pupils. The margins of their hindwings, are not nearly so undulating as in *stulta* and *parisatis*. The structural character of the pattern of the underside of the wings corresponds to *parisatis* but the ground-colour is unicolorous brown so that the pattern is structurally much less obvious and not so brilliant as in the nominate form. The same is true of the light median band of the hindwing. In addition, the above-described specimens are smaller than in ssp. *parisatis*. Length of forewings is only 29—31 mm.

Specimens from the remaining localities belong evidently to ssp. *parisatis* Koll.

*Chazara briseis* (Linnaeus, 1764)

1 ♂, 15. 6. 1970 (loc. no. 6); 1 ♀, 21. 8. 1970, (loc. no. 104); 1 ♀, 29. 8. 1970 (loc. no. 114); 1 ♂, 5 ♀♀, 7. 8. 1969 (loc. A); 1♂, 24. 6. 1970 (loc. no. 30); 2 ♀♀, 20. 6. 1970 (loc. no. 26); 1 ♀, 27. 6. 1970 (loc. no. 31); 2 ♂♂, 4 ♀♀, 15. 7. 1970 (loc. no. 57); 1 ♀, 16. 8. 1970 (loc. no. 96); 5 ♂♂, 5 ♀♀, 10.—16. 7. 1977 (loc. no. 400); 1 ♀, 27. 7. 1977 (loc. no. 405); 3 ♂♂, 20.—21. 7. 1970 (loc. no. 63); 26 ♂♂, 1 ♀, 21. 7. 1970 (loc. no. 64); 26. 7. 1970 (loc. no. 74); 3 ♂♂, 23 ♀♀, 27.—30. 7. 1970 (loc. no. 77); 1 ♂, 30. 7. 1970 (loc. no. 78); 4 ♂♂, 4 ♀♀, 2. 8. 1970 (loc. no. 81); 2 ♀♀, 12. 8. 1970 (loc. no. 90); 3 ♂♂, 7 ♀♀, 16.—30. 8. 1969 (loc. F).

This zoogeographically very interesting species, frequent throughout north Africa and Asia Minor, Iran and Pamir and forming several well differentiated subspecies are presented in collections of the Czechoslovak expeditions by two subspecies i.e. ssp. *hyrcana* Staudinger 1886 by specimens from localities no 63, 64, 74, 77, 78, 81, 90 and loc. F, and ssp. *magna* Staudinger, 1886 by specimens from localities no. 6, 26, 30, 31, 57, 96, 104, 114, 400, 405 and loc. A. Area of distribution of these two subspecies in Iran is interesting because both subspecies evidently come in contact in the south-western part of the Elburz range. This region of contact follows approximately the line Tehran-Ghazvin. The mountain localities of Elburz, in the direction to the east, are inhabited by populations of *hyrcana*, whilst the lower situated places lying southwards and westwards from the Elburz i.e. from the line Tehran-Ghazvin, are inhabited by *magna* and on the west side they establish contacts with populations of *magna* of Azarbaijan and Turkey. Specimens from localities no. 6, 104 and no. 114 support this fact because they are superficially identical with specimens from the above mentioned localities of *magna* in Iran. When comparing typical characters of ssp. *hyrcana*, ssp. *magna* and ssp. *falkneri* Gross et Ebert, 1975 (the last named ssp. was described from southern Elburz Mts.) we find that *falkneri* has an identical superficial character with *magna*. The light-grayish marking of the ground-

-colour of the border on hindwing upperside remaining ssp. *maracandica* Stdgr., which authors of the original description present as the main superficial character of *falkneri*, is not a constant one. This marking is completely absent in some present specimens of the Iranian localities such as no. 30, 57 and no. 400, whilst specimens from the Turkish localities no. 114 and 104 have the above-mentioned marking. For this I cannot consider *falkneri* to be true subspecies but only a form of ssp. *magna* Stdgr.

One of the females from the loc. no. 26 represents *f. pirata*.

*Chazara persephone* (Hübner, 1903)

2 ♂♂, 2 ♀♀, 15. 6. 1970 (loc. no. 5); 1 ♂, 21. 7. 1970 (loc. no. 65); 1 ♀, 5. 7. 1970 (loc. no. 44); 1 ♂, 10. 7. 1970 (loc. no. 53).

Specimens from localities no. 44 and 53 situated in province Fars near the town of Shiraz are superficially indistinguishable from the specimens from the loc. no. 65 which evidently corresponds to ssp. *transiens* Zerny, 1932. For this reason ssp. *pseudohanifa* Gross et Ebert, 1975 is hardly considered to be a distinct subspecies, moreover it was described from the same region situated between the towns of Shiraz and Kazerum from which both specimens no. 44 and no. 53 originate.

Specimens loc. no. 5 may be referred to the nominate form. One of the females belongs to *f. analoga* Alph.

*Chazara enervata enervata* (Staudinger, 1881)

6 ♂♂, 5 ♀♀, 11.—12. 6. 1977 (loc. no. 363).

This species is one of the typical Central-Asian elements occurring in Iran. One of the present female specimens represents an intermediary form of the female between the nominate form and *f. analoga* Alph. known in *Chazara persephone* Hb. I give it the name *f. pseudoanaloga* n. The fulvous bands of the upperside of the wings are paler and not so sharply defined as in *analoga*. The pattern of the upperside of the wings also is paler and less contrasting.

*Pseudochazara anthelea anthelea* (Frivaldsky, 1845)

1 ♂, 1 ♀, 15. 6. 1970 (loc. no. 6); 2 ♀♀, 15. 6. 1970 (loc. no. 5).

*Pseudochazara geyeri geyeri* (Herrich. Schäffer, 1852)

1 ♂, 1 ♀, 21. 8. 1970 (loc. no. 104).

*Pseudochazara telephassa telephassa* (Hübner, 1806)

1 ♂, 20. 6. 1970 (loc. no. 26); 10 ♀♀, 24. 6. 1970 (loc. no. 30); 1 ♀, 4. 7. 1970 (loc. no. 42); 1 ♀, 6. 7. 1970 (loc. no. 44); 1 ♂, 6 ♀♀, 15. 7. 1970 (loc. no. 57); 3 ♀♀, 30. 5.—5. 6. 1973 (loc. no. 223); 1 ♀, 21.—22. 5. 1977 (loc. no. 343); 1 ♀, 3. 9. 1969 (loc. B).

*Pseudochazara aurantiaca aurantiaca* (Staudinger, 1871)

2 ♂♂, 22. 7. 1970 (loc. no. 66); 3 ♀♀, 16. 8. 1969 (loc. K); 1 ♂, 26. 8. 1969 (loc. E); 1 ♂, 16. 7. 1970 (loc. no. 58); 1 ♀, 18.—19. 7. 1970 (loc. no. 60).

*Pseudochazara schahrudensis* (Staudinger, 1881)

2 ♀♀, 15. 7. 1970 (loc. no. 57); 7 ♂♂, 1 ♀, 21. 7. 1970 (loc. no. 65); 1 ♂, 16. 8. 1969 (loc. K); 1 ♂, 30. 5.—5. 6. 1973 (loc. no. 223).

Specimens from localities no. 65, 57 and K belong to the nominate form. However, the single specimen from loc. no. 223 is superficially

distinct and might be classified as a representative of a new subspecies or at least, of an ecological form (Tab. IV, fig. 25 and 26). The ground-colour of the wings is similar to the nominate form. However, the ochreous bands of the upperside of wings are less sharply defined and both black ocelli of forewings are enlarged by diffuse spreading of their border, especially in the ocellus between veins Cu<sub>1</sub> and Cu<sub>2</sub>. Two prominent white spots are situated between both ocelli. The white fringes of the wings are broader than in the nominate form. The pattern of the underside lying between veins Cu<sub>1</sub> and Cu<sub>2</sub> is enlarged.

*Pseudochazara schakuhensis schakuhensis* (Staudinger, 1881)

6 ♂♂, 1 ♀, 18.—19. 7. 1970 (loc. no. 60).

*Pseudochazara pelopea* (Klug, 1832)

1 ♂, 20. 6. 1970 (loc. no. 26); 2 ♂♂, 2 ♀♀, 15. 7. 1970 (loc. no. 57); 1 ♂, 11 ♀♀, 2.—3. 8. 1970 (loc. no. 83); 1 ♂, 10.—16. 7. 1977 (loc. no. 400); 1 ♀, 19. 8. 1969 (loc. H); 1 ♂, 3. 9. 1969 (loc. B); 1 ♀, 5. 7. 1970 (loc. no. 44); 1 ♀, 1. 7. 1970 (loc. no. 39); 1 ♂, 2 ♀♀, 11.—12. 6. 1977 (loc. no. 223).

Specimens from loc. no. 223 correspond superficially to ssp. *tekkenensis* (Rühl, 1895) known from the Kopet-Dagh Mts. and specimens of the remaining above mentioned localities belong to ssp. *persica* (Staudinger, 1881).

*Satyrus iranica iranica* Schwingenschuss, 1939

5 ♂♂, 1 ♂, 16. 7. 1970 (loc. no. 58); 1 ♂, 18.—19. 7. 1970 (loc. no. 60); 1 ♂, 21. 7. 1970 (loc. no. 65); 6 ♂♂, 4 ♀♀, 16.—26. 8. 1969 (loc. H).

*Satyrus parthica parthica* Lederer, 1869

5 ♂♂, 18.—19. 7. 1970 (loc. no. 60); 1 ♂, 2 ♀♀, 10.—11. 8. 1970 (loc. no. 86); 2 ♂♂, 2 ♀♀, 16.—26. 8. 1969 (loc. K).

*Erebia iranica iranica* Grum-Grshimailo, 1894

2 ♂♂, 1 ♀, 22. 7. 1970 (loc. no. 66); 1 ♀, 16. 8. 1969 (loc. K).

*Maniola jurtina* (Linneaus, 1758)

3 ♀♀, 7. 8. 1969 (loc. A); 1 ♂, 15. 7. 1970 (loc. no. 57); 6 ♂♂, 10 ♀♀, 10.—16. 7. 1977 (loc. no. 400); 2 ♂♂, 5 ♀♀, 22. 8. 1969 (loc. F).

The female-specimens from loc. A may be referred to ssp. *ghilanica* Le Cerf, 1913 and specimens of the three remaining localities belong to ssp. *iranica* Thompson, 1972.

*Maniola telmessia pallescens* (Butler, 1868)

6 ♂♂, 11.—12. 4. 1977 (loc. no. 285).

*Hyponephele amardea amardea* (Lederer, 1869)

18 ♂♂, 1 ♀, 18.—19. 7. 1970 (loc. no. 60); 5 ♂♂, 4 ♀♀, 21. 7. 1970 (loc. no. 65); 2 ♂♂, 18. 8. 1969 (loc. K).

*Hyponephele cadusia cadusia* (Lederer, 1869)

1 ♂, 2.—3. 8. 1970 (loc. no. 83).

*Hyponephele capella capella* (Christoph, 1877)

1 ♂, 1 ♀, 18.—19. 7. 1970 (loc. no. 60).

*Hyponephele lycaon* (Rottenburg, 1775)

6 ♀♀, 26. 8. 1969 (loc. E).

Present female-specimens might be assigned to ssp. *demavendis* Gross et Ebert, 1975. Nevertheless, the taxonomic status of this subspecies appears to be problematic because Takashi Shirôzu and Toyohi Saigusa

1963 reported the occurrence of ssp. *collina* (Röber, 1897) closely resembles the description of *demavendis*. Unfortunately I have no male specimen at my disposal to make a comparative diagnosis of male genitalia which is necessary for solving this taxonomic question.

*Hyponephele lycaonoides lycaonoides* D. Weiss, 1978

6 ♂♂, 1. 7. 1970 (loc. no. 39); (Tab. IV. fig. 27 and 28).

*Hyponephele lupina* Costa, 1836

1 ♂, 15. 6. 1970 (loc. no. 5); 2 ♀♀, 21. 8. 1970 (loc. no. 107); 5 ♀♀, 7. 8. 1969 (loc. A); 2 ♂♂, 4 ♀♀, 10.—16. 7. 1977 (loc. no. 400); 2 ♀♀, 20.—21. 7. 1970 (loc. no. 63); 1 ♂, 1 ♀, 19. 5.—2. 6. 1970 (loc. no. 25); 4 ♂♂, 1 ♀, 20.—21. 6. 1970 (loc. no. 27); 3 ♀♀, 16. 8. 1970 (loc. no. 96); 1 ♂, 19. 8. 1970 (loc. no. 99); 15 ♂♂, 4 ♀♀, 27.—30. 7. 1970 (loc. no. 77); 1 ♀, 3. 9. 1969 (loc. B).

Specimens from locality no. 77 are superficially distinct from specimens of the other above-mentioned localities by the paler, gray-ochreous colour of the upperside of wings and by their larger size. These specimens very closely resemble specimens of *Hyp. lupina* from Aschabad where occurrence of ssp. *intermedia* (Staudinger, 1886) is reported.

Specimens of other above-mentioned localities belong to ssp. *centralis* (Riley, 1921).

*Hyponephele dysdorda dysdora* Lederer, 1869

1 ♂, 20.—21. 7. 1970 (loc. no. 63).

*Hyponephele comara* (Lederer, 1871)

2 ♂♂, 2 ♀♀, 15. 7. 1970 (loc. no. 57).

Females of the present specimens are nontypical for *comara*. Their whole wings have a brown-grayish colour, and the ochreyellow marking appears only in the surroundings of the apical ocelli of the forewings. The ochraceous brown colour of the forewings upperside which is typical for *comara* is in the described specimens almost imperceptible. The submarginal band is so nebulous that it does not differ much from the brown-grayish ground-colour of the wings. In males, the median band of the hindwings underside has a narrower white margin than in the typical *comara*. White pupils of the tornal ocelli of the underside of the hindwings are quite absent or are marked only slightly. Length of forewing of males is only 21—23 mm so that specimens are smaller than *comara*. The male genitalia of the above-described specimens are identical with those of *comara*.

*Hyponephele wagneri mandane* (Kollar, 1850)

1 ♀, 24. 6. 1970 (loc. no. 30); 1 ♂, 8.—9. 7. 1970 (loc. no. 49); 1 ♀, 4.—5. 5. 1977 (loc. no. 322); 3 ♂♂, 3 ♀♀, 4. 7. 1970 (loc. no. 42); 1 ♂, 7.—9. 5. 1977 (loc. no. 323).

*Coenonympha pamphilus* Linnaeus, 1758

1 ♂, 2 ♀♀, 7. 8. 1969 (loc. A); 3 ♂♂, 27.—30. 7. 1970 (loc. no. 77); 2 ♀♀, 30. 7. 1970 (loc. no. 78); 2 ♀♀, 30. 8. 1969 (loc. G).

Specimens from the present localities of north Iran may be assigned to ssp. *fulvolactea* Verity, 1926, whilst specimens from loc. A correspond to ssp. *euxina* Verity, 1926.

*Coenonympha saadi* Kollar, 1850

1 ♀, 16. 6. 1970 (loc. no. 12); 1 ♀, 20. 6. 1970 (loc. no. 26); 1 ♀, 15. 7. 1970 (loc. no. 57).

The listed specimens from Iran belong to the nominate form but the single specimen from the Turkish locality no. 12 may be assigned to ssp. *mesopotamica* Staudinger, 1892.

*Lasiommata megera iranica* (Riley, 1921)

1 ♂, 15. 7. 1970 (loc. no. 57); 1 ♂, 1 ♀, 9.—10. 4. 1977 (loc. no. 283); 1 ♂, 30. 8. 1969 (loc. G); 1 ♂ 2 ♀♀, 19.—20. 6. 1970 (loc. no. 25); 1 ♀, 5. 7. 1970 (loc. no. 44).

*Lasiommata megera iranica* (Riley, 1921)

1 ♂, 15. 7. 1970 (loc. no. 57); 1 ♂, 1 ♀, 9.—10. 4. 1977 (loc. no. 283); 1 ♂, 30. 8. 1969 (loc. G); 1 ♂, 2 ♀♀, 19.—20. 6. 1970 (loc. no. 25); 1 ♀, 5. 7. 1970 (loc. no. 44).

*Lasiommata adrastoides adrastoides* (Bienert, 1870)

1 ♂, 27.—30. 7. 1970 (loc. no. 77); 1 ♂, 22. 8. 1969 (loc. E).

*Pararge climene* (Esper, 1793)

3 ♂♂, 1 ♀, 16. 6. 1970 (loc. no. 12); 1 ♂, 1. 7. 1970 (loc. no. 39).

Specimens from loc. no. 12 belong to ssp. *tkatshukovi* Sheljuzhko, 1925 but the single specimen of the loc. no. 39 may be referred to ssp. *alticola* Le Cerf, 1913.

*Libythea celtis celtis* Laicharting in Fuessli, 1782

3 ♂♂, 27.—30. 7. 1970 (loc. no. 77).

List of collecting localities of butterflies  
collected by Czechoslovak expeditions  
in Iran and in Anatolia

- No. 1: Sapanca gölü, West Anatolia, Turkey.
- No. 2: Gerede, Bolu dağları, 1200 m, Nord West Anatolia, Turkey.
- No. 5: Gülşehir, Central Anatolia, Turkey.
- No. 6: Ürgüp, Central Anatolia, Turkey.
- No. 12: Balaban, Central Anatolia, Turkey.
- No. 20: Erzurum, 1900 m, East Anatolia, Turkey.
- No. 24: Maku, Azarbaijan, North West Iran.
- No. 25: Zonus Chay (river), 66 km. W. of Marand, Azarbaijan, North West Iran.
- No. 26: Marand, Azarbaijan, North West Iran.
- No. 27: Sufian, 30 km. W. of Tabris, Azarbaijan, North West Iran.
- No. 30: Ab-yek, Tehran (province), North West Iran.
- No. 31: Tehran-Evin, 1700 m., North Iran.
- No. 36: Eskandari, 2000 m., Esfahan (province), West Iran.
- No. 38: Valley of upper stream of the river Zayandeh-Rud, 50 km. North of Kuhrang, 2200 m., Lorestan, West Iran.
- No. 39: Marg-e Malek, 30 km. East of Kuhrang, 3200 m., Kuhha-ye Zagros (chain of East Zagros Mts.), Lorestan, West Iran.
- No. 42: Shiraz, Fars, South West Iran, (north part of the town).
- No. 43: Shiraz, Fars, South West Iran, (west part of the town).



- No. 44: Dashte-Arjan, 50 km. West of Shiraz (river Shur), Fars, South West Iran.
- No. 45: Kazerun, Fars, South West Iran.
- No. 49: Estahbanat, Fars, South Iran.
- No. 50: Fasa, Fars, South Iran.
- No. 53: Ali-abad, 75 km. North West of Djahrom, wadi of the river Shur, Fars, South Iran.
- No. 56: Khankhoreh, Fars, West Iran.
- No. 57: Valley of the stream Darband Sar, 2000—2500 m., Reshtehe Kuhhaye Alborz (Elburz Mountains Central), Tehran (province), North Iran.
- No. 58: Valley of the stream Darband Sar near Shirpala shelter, 2500—3000 m., Reshtehe Kuhhaye Alborz, (Elburz Mountains Central), Tehran (province), North Iran.
- No. 60: Kuhhaye Tochal, 3000—3400 m., Reshtehe Kuhhaye Alborz (Elburz Mountains Central), Tehran (province), North Iran.
- No. 61: Kuhhaye Tochal, 3600—3900 m., Reshtehe Kuhhaye Alborz (Elburz Mountains Central), Tehran (province), North Iran.
- No. 62: Rudehen, Tehran (province), North Iran.
- No. 63: Gazanak (Ask), 1400 m., Haraz Chay Valley, Reshtehe Kuhhaye Alborz (Elburz Mountains Central), Mazandaran, North Iran.
- No. 64: Damavand, Lajran, 2400 m., Reshtehe Kuhhaye Alborz (Elburz Mountains Central), Mazandaran, North Iran.
- No. 65: Damavand, east slope of the mountain, 2500 m., Reshtehe Kuhhaye Alborz (Elburz Mountains Central), Mazandaran, North Iran.
- No. 66: Damavand, east slope of the mountain, 3000—3500 m., Reshtehe Kuhhaye Alborz (Elburz Mountains Central), Mazandaran, North Iran.
- No. 69: Hazar Chay Valley, 22 km. South of Amol, 400 m., Reshtehe Kuhhaye Alborz (Elburz Mountains Central), Mazandaran, North Iran.
- No. 72: Behshahr, Mazandaran, North Iran.
- No. 74: Robate-Ghozlog, 10 km. South of Gorgan, 500 m., Mazandaran, North Iran.
- No. 75: Fyez-abad, 25 km. East of Gorgan, Mazandaran, North Iran.
- No. 76: Minudasht, Mazandaran, North Iran.
- No. 77: Vicinity of Dasht, Wildlife Park, 650 m., Mazandaran, North Iran.
- No. 78: Robate-Ghareh Bil east part of Wildlife Park, 1000 m., Mazandaran, North Iran.
- No. 81: Veresk, 800 m., Reshtehe Kuhhaye Alborz (Elburz Mountains East), Tehran (province), North Iran.
- No. 83: 'Eyn Varzan, 2000 m., Reshtehe Kuhhaye Alborz (Elburz Mountains East) Tehran (province), North Iran.
- No. 86: Kandavan, valley North of tunnel, 2545 m., Reshtehe Kuhhaye Alborz (Elburz Mountains Central), Tehran (province), North Iran.

- No. 87: Kandavan Pass, 3000 m., Reshtehe Kuhhayeh Alborz (Elburz Mountains Central), Tehran (province), North Iran.
- No. 90: Kalardasht, northern slope of the Alam Kuh massif, 5 km. North East of Rudbarak, 1350 m., Reshtehe Kuhhayeh Alborz (Elburz Mountains West), Tehran (province), North Iran.
- No. 91: Kalardasht, northern slope of the Alam Kuh massif, Rudbarak 1500 m., Reshtehe Kuhhayeh Alborz (Elburz Mountains West), Tehran (province), North Iran.
- No. 96: Kivi Bala, 21 km. West of Khalkhal, 1500 m., Azarbaijan, North West Iran.
- No. 98: 21 km. East of Marand, Azarbaijan, North West Iran.
- No. 99: Ghushchi, North West part of Lake Rezaiyeh (Lake Urmia), 1400 m., Azarbaijan, North West Iran.
- No. 104: 30 km. North of Baskale, 2600 m., South West Anatolia, Turkey.
- No. 107: Gevas, Lake Van, 1720 m., East Anatolia, Turkey.
- No. 108: Toprakkale, South Anatolia, Turkey.
- No. 109: Erdemli, South Anatolia, Turkey.
- No. 111: Anamur, South Anatolia, Turkey.
- No. 112: Gazipaşa, South Anatolia, Turkey.
- No. 114: 30 km. South East of Kütahia, 1150 m., West Anatolia, Turkey.
- No. 123: Tehran-Evin, Elborz, 1700—2000 m., North Iran.
- No. 131: Rafsanjan, Central Iran.
- No. 145: Sarbaz Valley, South East Iran.
- No. 146: Rash Valley, Sarbaz, South East Iran.
- No. 147: Bahu-Kalat, South East Iran.
- No. 150: Tis, South East Iran.
- No. 152: 13 km., South East of Nikshahr, South East Iran.
- No. 158: Iranshahr, South East Iran.
- No. 179: 70 km of Bam, Khatunabad, East Iran.
- No. 182: 13 km., South West of Kerman, East Iran.
- No. 194: 24 km., South West of Hadjiabad, East Iran.
- No. 203: Minab, South Iran.
- No. 204: 20 km., South East of Minab, South Iran.
- No. 206: 57 km., South of Minab, South Iran.
- No. 208: 16 km., South of Jask, South Iran.
- No. 223: Mian Jangal, South Iran.
- No. 239: 13 km., South West of Yasuj, 1800 m., South Iran
- No. 241: Sisakht, Dena 2500—3000 m., South Iran.
- No. 244: 27 km., East of Yasuj, 265 m., South Iran.
- No. 283: 8 km., North West of Malavi, 880 m., West Iran.
- No. 284: Pol-e Tang, 60 km., North West of Andimeshk, South West Iran.
- No. 285: Bidryeh, 36 km., North West of Andimeshk, 440 m., South West Iran.
- No. 289: Ahwaz, South West Iran.
- No. 290: Albajl, 25 km., North of Ahwaz, South West Iran.
- No. 292: 34 km., South East of Omidyeh, South West Iran.
- No. 293: 3 km., North West of Langir, 48 km. of Omidyeh, South West Iran.

- No. 304: Iashak, 60 km., South East of Khormuj, South Iran.  
No. 305: 12 km., North West of Kangan, South Iran.  
No. 318: Kuh-e Geno Mts., South Iran.  
No. 320: Isin, South Iran.  
No. 322: Kuh-e Geno, 1600—2100 m., South Iran.  
No. 323: 6 km., West of Geno, 400 m., South Iran.  
No. 328: Minab, South Iran.  
No. 343: Posht-e Kuh, 1700 m., 50 km North West of Dovlatabad, Central Iran.  
No. 363: 25 km., South West of Kalat-e, Nadeil 600 m., North East Iran.  
No. 365: Kuh-e Binalud, southern slope 15 km., North East of Nishobur, 1600—2300 m., North East Iran.  
No. 372: South East Esfairan, North East Iran.  
No. 373: Kalat, North East Iran.  
No. 376: 20 km North West of Dasht, Golestan forest, 530 m., North Iran.  
No. 394: 15 km South West of Chalus, 490 m., North Iran.  
No. 395: Kandavan Pass, southern slope, 2700—2900 m., North Iran.  
No. 400: 8 km North East of Ziara, 2400 m., North Iran.  
No. 405: 20 km North of Shalpur, North West Iran.  
Loc. A: Maku, 1300 m., Azarbaidjan, North West Iran.  
Loc. B: Kermanshah, Zagros 1475 m., West Iran.  
Loc. C: Chalus, North Iran.  
Loc. D: Rudbarak, 1600 m., Elborz, North Iran.  
Loc. E: Rudbarak, 2800 m., Elborz, North Iran.  
Loc. F: Rudbarak, Demavend, Sarschal 1600—3600 m., North Iran.  
Loc. G: Elborz, 1600 m., North Iran.  
Loc. H: Elborz, 2800 m., North Iran.  
Loc. J: Karaj, Elborz, 1300 m., North Iran.  
Loc. K: Demavend 2800—3600 m., Elborz, North Iran.  
Loc. L: Alam-Kuh, Sarschal, 3600 m., Elborz, North Iran.

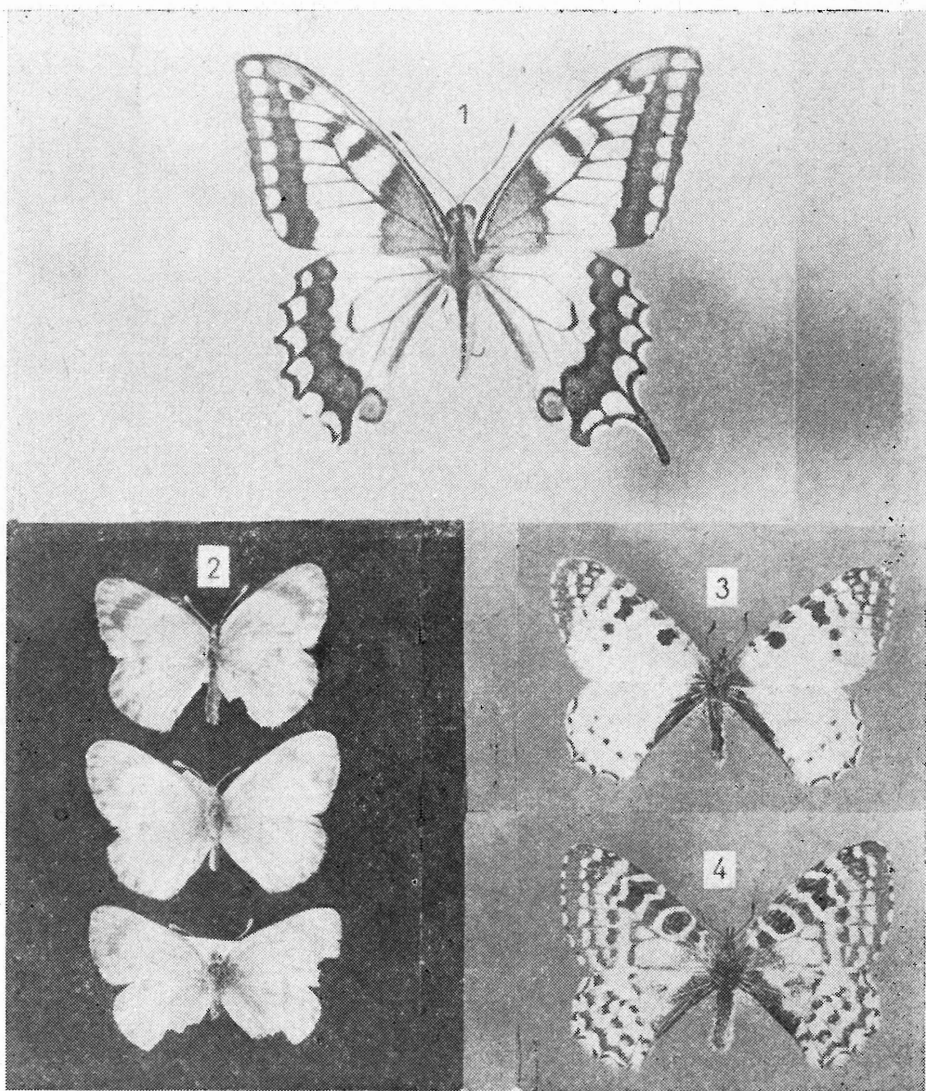
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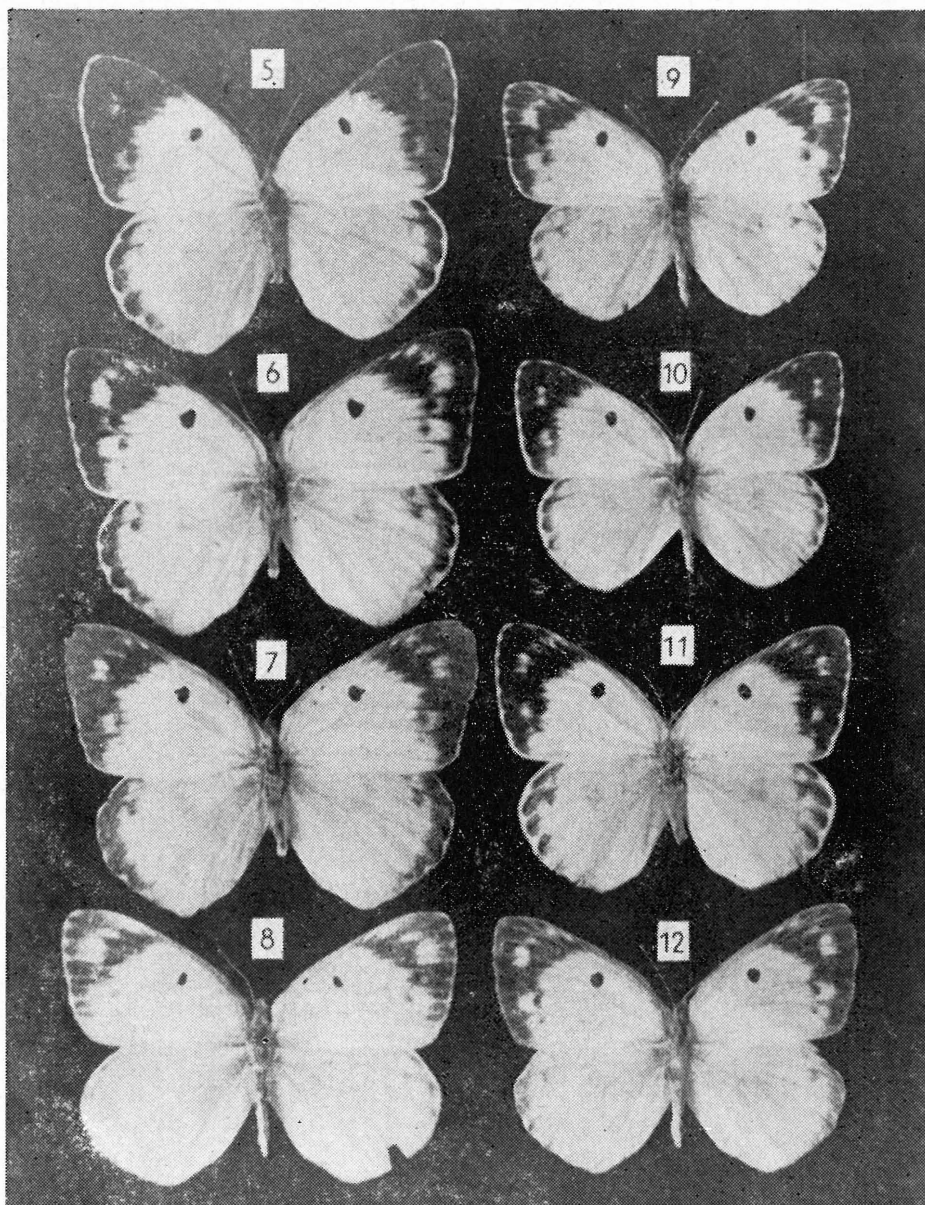
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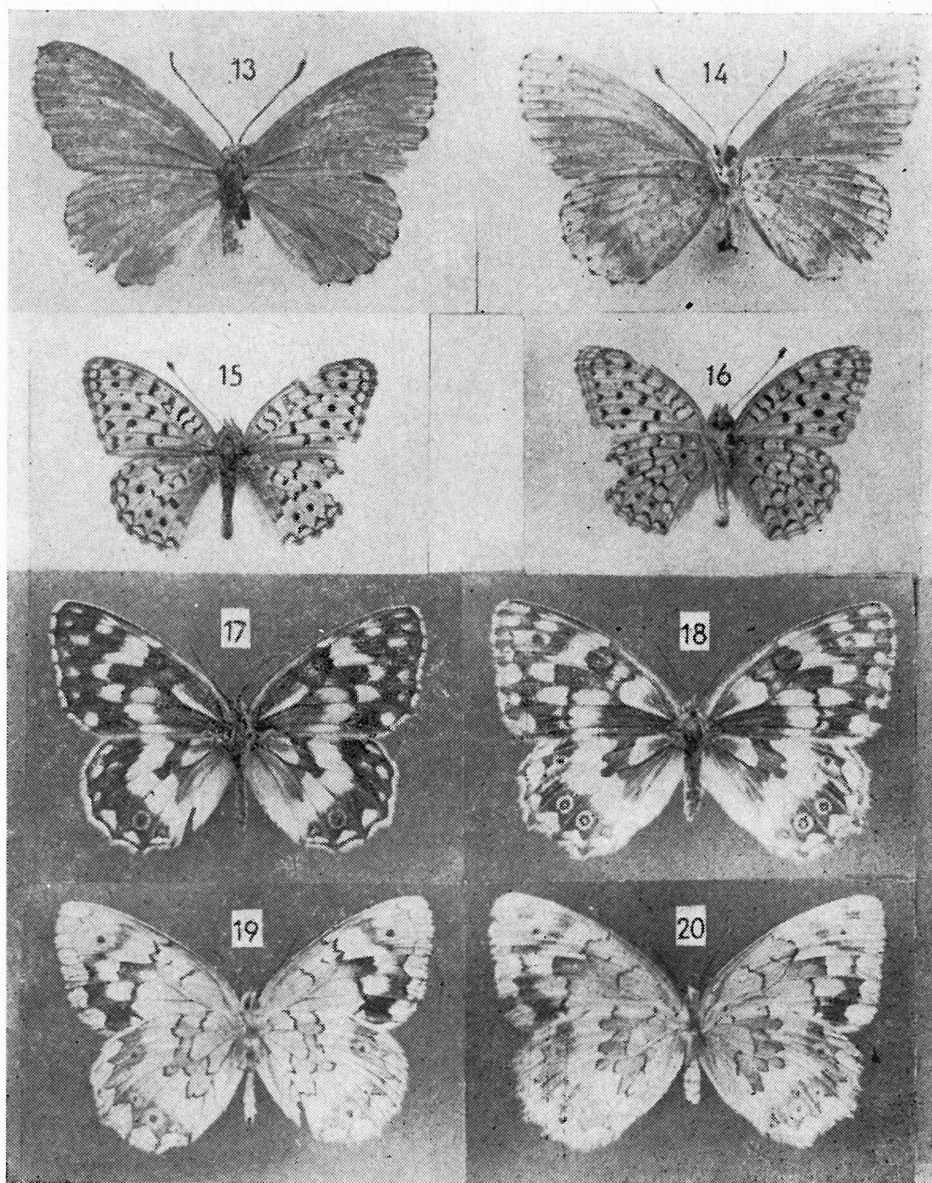


Tab. I, fig. 1: Male of *Papilio machaon muetingi* Seyer, f. *seyeri* n. (loc. no. 320); 2: three females of *Colotis evagore* (Klug), ssp., (loc. no. 152); 3: male of *Allancastria louristana louristana* (Le Cerf), (loc. no. 283); 4: female of *Allancastria louristana louristana* (Le Cerf), (loc. no. 283).

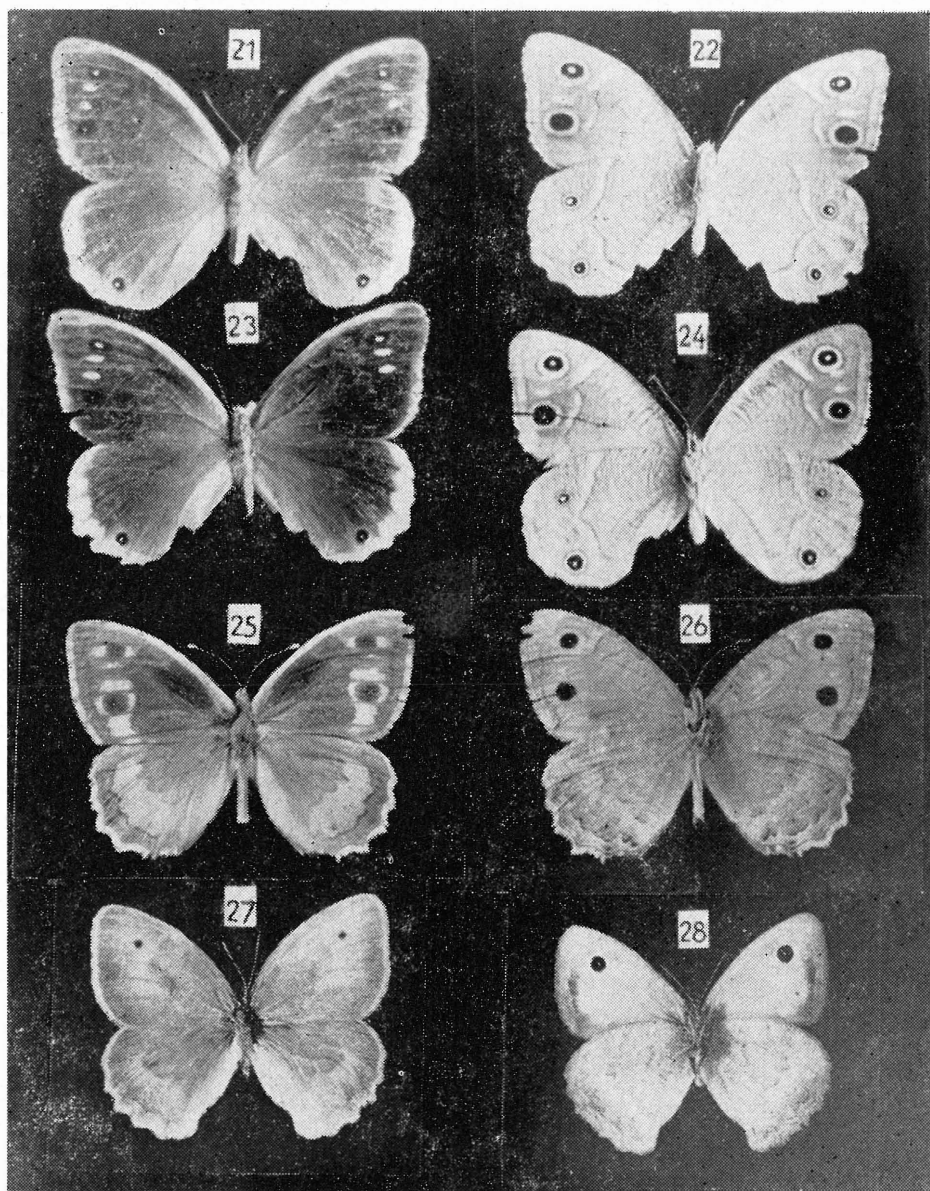




Tab. II: *Colias alfacariensis* Fabricius, figs; 5—8: ssp. *hyrcanica* n.; 5: Paratype ♂; 6: Holotype ♂; 7: Paratype ♂; 8: Paratype ♀ (loc. no. 69); 9—11: males of ssp. *calida* Verity; 12: female of ssp. *calida* Verity, (loc. no. 77).



Tab. III, fig. 13: male of *Melitaea perseae* Kollar, f. *unicolora* n. (loc. no. 42); 14: underside of the same specimen; 15: male of *Fabriciana niobe* Linnaeus, ssp., (loc. no. 12); 16: underside of the same specimen; 17: *Melanargia syriaca karabagi* Koçak, (loc. no. 400); 18: underside of the same specimen; 19: female of *Melanargia syriaca karabagi* Koçak; 20: underside of the same specimen, (loc. no. 400).



Tab. IV, figs. 21—24: females of *Hipparchia parisatis* (Kollar), ssp., [loc. no. 98]; 22 and 24: undersides of both specimens of fig. 21 and 23, 25: male of *Pseudochazara schahrudensis* (Staudinger), f., [loc. no. 223]; 26: underside of the same specimen; 27: Holotype ♂ of *Hyponephele lycaonoides* D. Weiss, [loc. no. 39]; 28: underside of the same specimen.