Atalanta (June 1995) **26** (1/2): 273–290, Würzburg, ISSN 0171–0079

An annotated checklist of the Lasiocampidae of Kazakhstan and Middle Asia

(Lepidoptera)

by

VADIM V. ZOLOTUHIN

received 7.I.1994

Summary: 32 species of Lasiocampidae are listed and mapped for Kazakhstan and Middle Asia.

Zusammenfassung: 32 Arten der Familie Lasiocampidae werden für Kasachstan und Mittelasien aufgelistet. Ihre Verbreitung wird auf Karten dargestellt.

Резюме: 33 вида коконопрядов приводятся для Казахстана и Средней Азии; распространение болшинства видов показано на картах.

This paper is the fourth one in a series of five dealing with the distribution of the Lasiocampidae in the territory of the former USSR, namely Kazakhstan, Uzbekistan, Turkmenia, Kirghisia and Tajikistan, or in other words Kazakhstan and Middle Asia. Combination of names "Middle Asia" and "Kazakhstan" is well aquainted now although it appeared still not long ago. Turkestan and Kirghiz country have been used instead of in the recent past. Steppes, semideserts and deserts of Kazakhstan, mountains and valleys of Tien Shan were implied under "Kirghiz country"; Aral region, Balkash lake bassin—or Semiretchie—to the lower reaches of the Chu River and Turkmenia were implied under "Turkestan". Nowadays this division is not used any longer, although it still appears in some recent papers (SCHOORL, 1990). Zoogeographically the territory under review is quite a natural unit inspite of its administrative and political limits. It covers steppes, semideserts, deserts and montaneous parts of the Turanic, Turkestanic, Alatavian and Pamiric subprovinces of the large Irano-Turanic province sensu EMELJANOV (1974). The mixed character of the region's species composition is primarily due to the diversity of the region's natural landscapes (fig. 1). Steppes and semideserts extend from the East of the Volga and the Caspian Sea over about 3000 km to the mountains of the Altai, Tien Shan and Pamir. The nature of northern Kazachstan differs not very much from that in Siberia, but dry subtropics with summer sultriness and mild winters prevail in the southernmost region. Many species are endemic for the region, other ones, mainly european and transpalaearctic species, occur in the northern limits of the territory, in the steppes of Kazakhstan, or they penetrate southward along Tien Shan across the Altai Mountains, being no original middle-asian species.

The species of Middle Asia can be considered as 3 groups: 1) species of the flood-land forests of the Amu-Darya and the Syr-Darya Rivers, 2) desert and steppe species and 3) mountain species. All main mountain ridges of Middle Asia are characterized by their specific fauna distinguishing them from each other and are excellent natural barriers stopping some

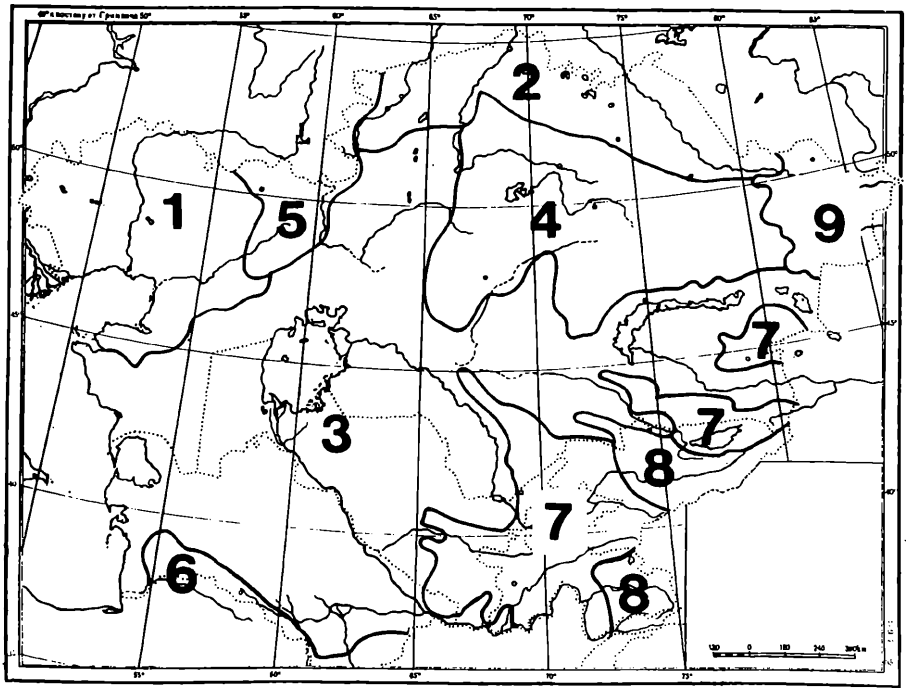


Fig. 1: Geographical divison of Kazakhstan and Middle Asia into districts (scheme, simplified). 1 – Eastern European country; 2 – Western Siberian country; 3 – Turanian country; 4 – Kazakh hill country; 5 – Southern Ural country; 6 – mountains of Fore Asia; 7 – mountains of Middle Asia; 8 – mountains of Central Asia; 9 – mountains of Southern Siberia.

irano-afghan species (e. g. *Chilena sikamara, Gastropacha eberti, Streblote alpherakyi*) to penetrate to the North or uzbek-tajik species to penetrate to the South.

The difficult accessability of many regions and inconveniant moth collecting sites have severe negative impacts concerning the study of some districts. This results in enourmous unstudied areas all over the desert zone or in the mountain range of Central and Western Kazakhstan (fig. 2), areas which certainly will have numerous surprises in store. It is therefore hoped, that this paper will stimulate further investigations into the fauna of this region.

The main data base for this paper are the collections of the St. Petersburg Zoological Institute, The Zoological Museum of Moscow (with A. V. TSVETAEV's collectin) and Kiev (with the collection of L. A. SHELJUZHKO) Universities, the Biological Institutes of Novosibirsk and Alma-Ata, and many privat collections. There are many papers about the Lepidoptera of Kazakhstan and Middle Asia, but only some of them (DEGTJAROVA, 1973; KUZNETSOV, 1960; KUZNETZOV & MARTYNOVA, 1954; LAJONQUIERE, 1963; STSHETKIN, 1960; DARICHEVA & DUBATOLOV, 1990; ZOLOTUHIN & DUBATOLOV, 1992) have attempted to treat the Lasiocampidae and related families.

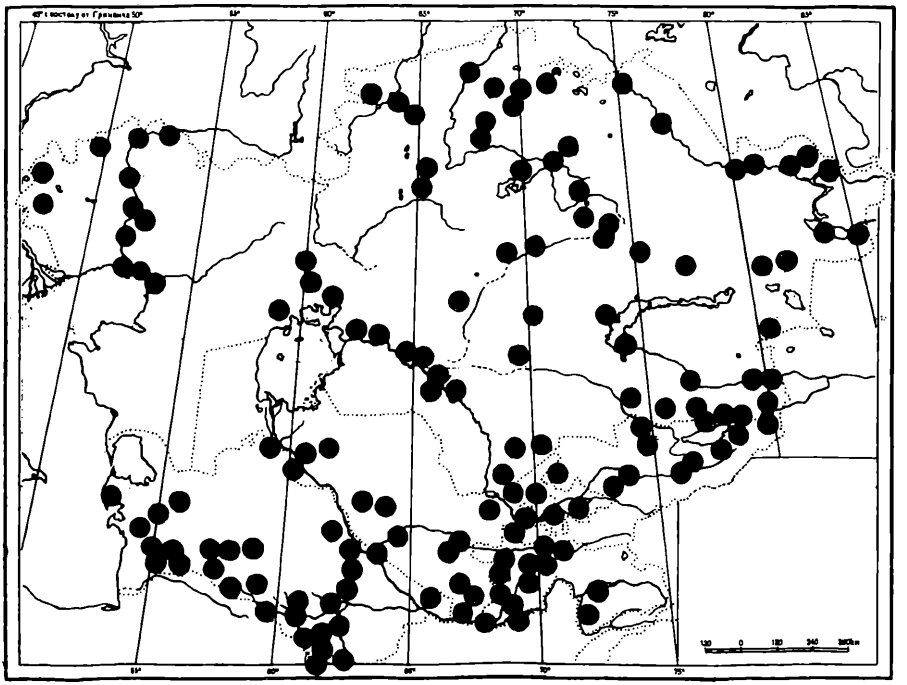


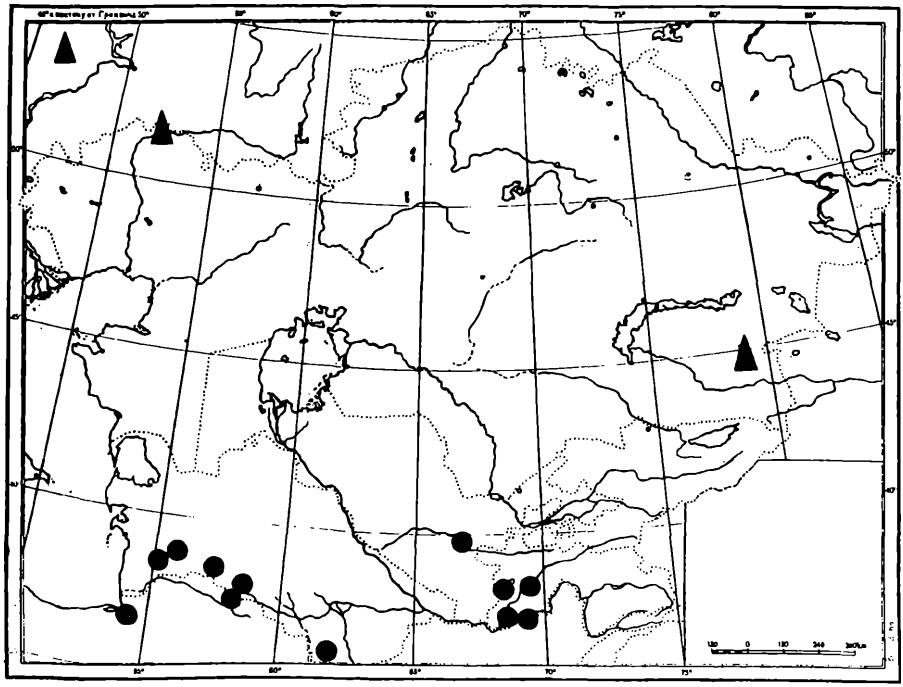
Fig. 2: Collecting sites of Lasiocampidae in Kazakhstan and Middle Asia.

As in previous papers of this series the distribution of the majority of species is illustrated by maps. Exceptions have been made for those species only known from one location or those who penetrate to northern Kazakhstan at their southermost limits of distribution. Their locations are cited in the text. Capitals B, M, E heading the Roman numeral refer to beginning, middle and end of the month accordingly.

This investigation was supported in part by G. SOROS Foundation.

1. *Chondrostega hyrcanum hyrcanum* STAUDINGER, 1871
Range (R) (Map 1): Deserts and semideserts of Turkmenia, Uzbekistan and Tajikistan.
Foodplants (FP): *Artemisia, Malcomnia turkestanica, Carex pachystilis, Calligonum griseum.*
Adult (A): IX-X. Eggs hibernate.
Comments (C): ♀♀ are wingless and look like *Orgyia*-species. Young larvae live together in a common web.

2. *Poecilocampa populi populi* LINNAEUS, 1758
R (Map 1): Known from Kazakhstan: Janvartzevo (Uralsk district) and Kopal (Taldy-Kurgan district).
FP: *Salix, Quercus.*



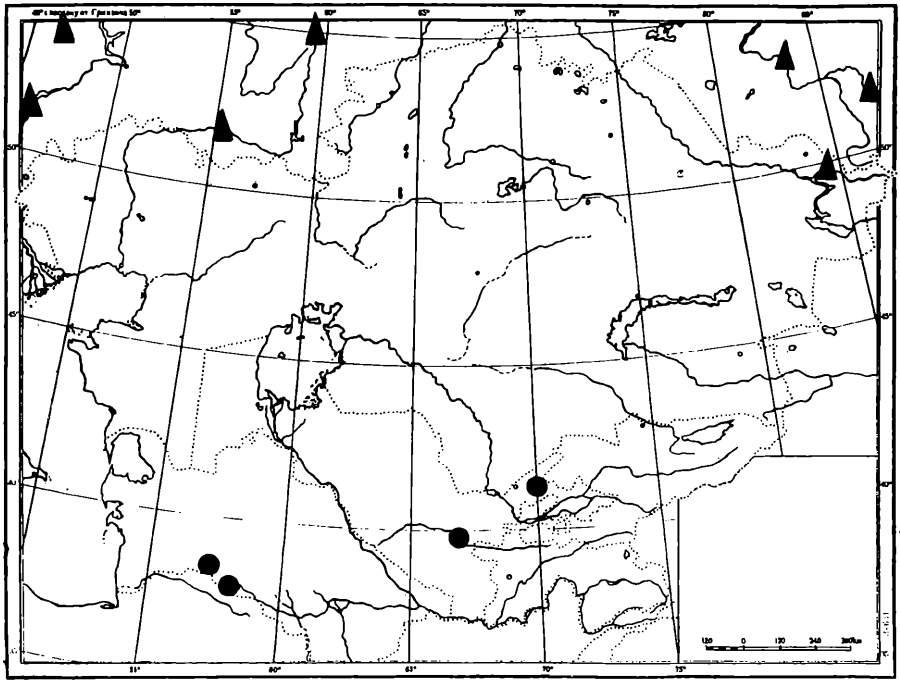
Map 1: *Chondrostega hyrcanum* (●), *Poecilocampa populi* (▲)

A: E VIII-X, in Kopal collected from 15.–18.VII.1910 [!]. Eggs hibernate.
C: It is assumed that this species will occur throughout the whole of Northern Tien Shan.

3. *Trichiura crataegi crataegi* LINNAEUS, 1758
R (Map 2): Forest-steppes and forests of Northern Kazakhstan, reliable records from Zyrjanovsk (NE Kazakhstan).
FP: Unknown for the region.
A: VIII-IX. Eggs hibernate.

4. *Trichiura mirzayani kopetdaghi* DUBATOLOV & ZOLOTUHIN, 1992
R (Map 2): Mountains of Turkmenia and Uzbekistan.
FP: *Pistacea* and probably others.
C: Differs from the nominate subspecies in wing colouration.

5. *Malacosoma franconicum franconicum* DENIS & SCHIFFERMÜLLER, 1775
R (Map 3): Very local in the steppes of Northern Kazakhstan (Kustanaj district).
FP: *Artemisia, Achillea, Rumex.*
A: VI. Formed larvar hibernate within the egg-shell.

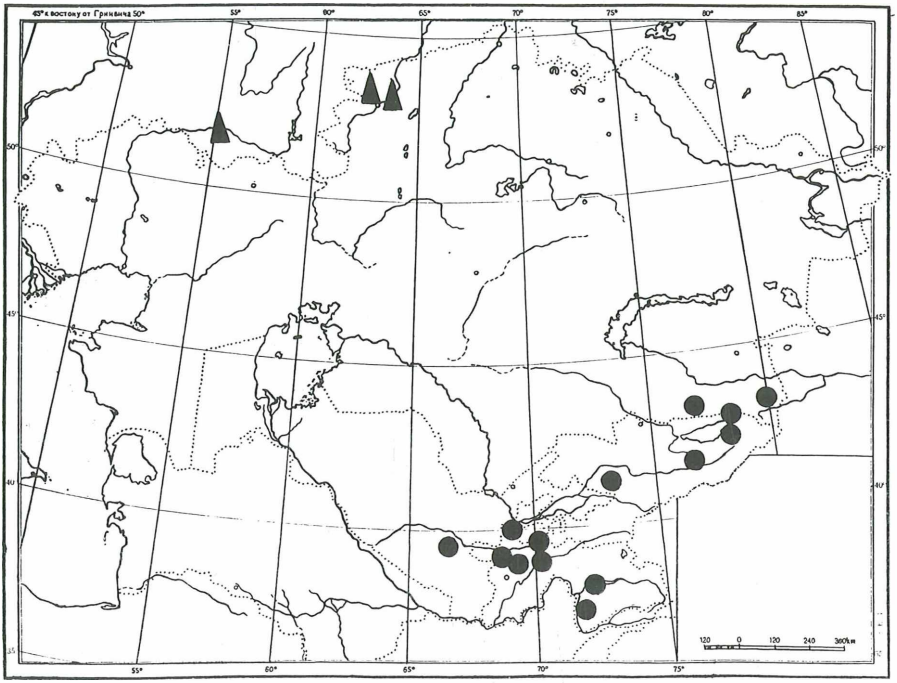


Map 2: *Trichiura mirzayani* (●), *Trichiura crataegi* (▲)

6. *Malacosoma prima* STAUDINGER, 1887 (fig. 3)
R (map 5): Alpine and subalpine grasslands of the mountains of Kirghizia, Uzbekistan and Tajikistan.
FP: *Polygonum* and, probably, others.
A: M VI-E VII. Hibernate as larva in the egg.
C: This taxon was described as variation of *alpicolum* and repeatedly mentioned later with that status or as a subspecies. It differs well from *alpicolum* in colouration, presence of fore-leg's epiphysis and structure of genitalia.

7. *Malacosoma neustrium neustrium* LINNAEUS, 1758
R: Local in the forests and forest-steppes of NW Kazakhstan (Janybek) and along Ural River.
FP: *Quercus, Betula, Salix, Malus, Rosa.*
A: E VI-E VII. Formed larvae hibernate within the egg-shell.

8a. *Malacosoma castrense kirghisicum* STAUDINGER, 1879
R (Map 4): Steppes and foothills of Kazakhstan, Turkmenia and Uzbekistan.
FP: *Artemisia, Geranium, Euphorbia.*
A: E V-VII in one generation. Formed larvar hibernate within the egg-shell.



Map 3: *Malacosoma prima* (●), *Malacosoma franconicum* (▲)

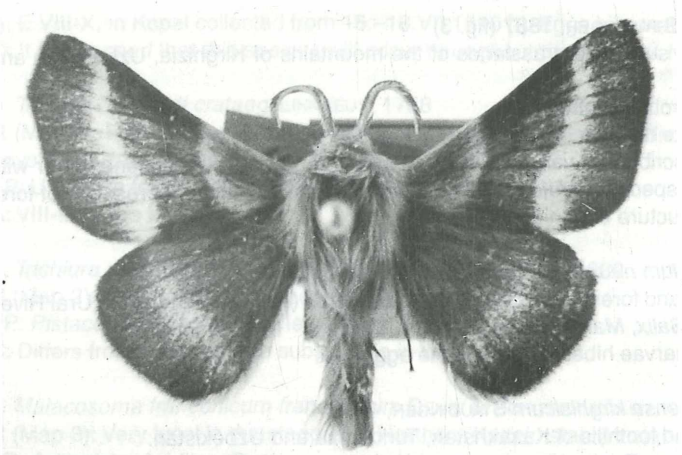
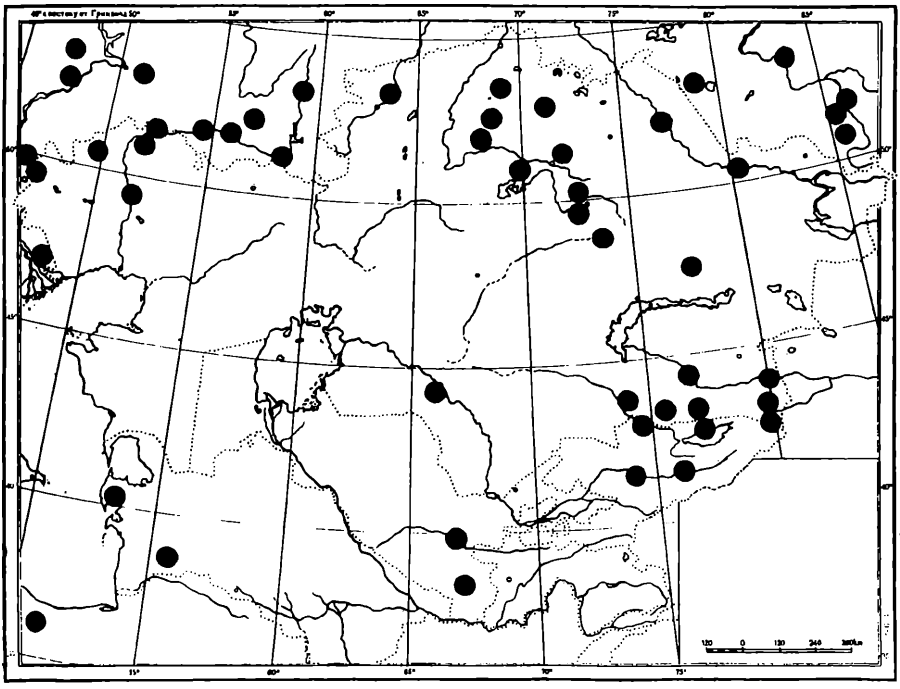


Fig. 3: *Malacosoma prima* STGR., ♂, Typus ex coll. Humboldt Universität Berlin.

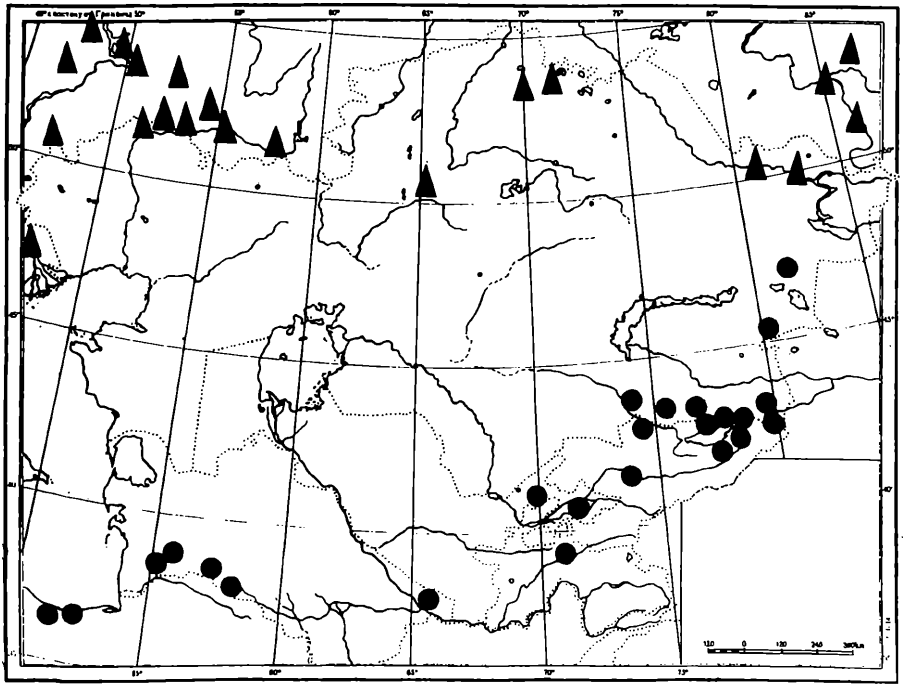


Map 4: *Malacosoma castrense*

8b. *Malacosoma castrense thomalae* GAEDE, 1932 (= *M. thianshanica* DANIEL, 1949)
R (Map 4): Mountains of Tien Shan.
A: M VI-VII.
C: A larger and lighter coloured subspecies than *kirghisicum* STGR.

9. *Malacosoma parallelum parallelum* STAUDINGER, 1887
R (Map 5): Everywhere in the mountains.
FP: *Amygdalus, Malus, Prunus, Pyrus, Cerasus, Rosa, Sorbus, Crataegus, Cydonia, Chaemomeles, Padus, Ribes, Hippophae, Berberis, Juglans, Populus, Salix, Quercus, Atraphaxis, Myricaria, Fraxinus, Lonicera, Vitis.*
A: VI–VIII.
C: This species is mentioned regularely as a grave pest of orchards and mountain forests.

10. *Eriogaster lanestris lanestris* LINNAEUS, 1758
R (Map 6): Single records from Kazakhstan along Ural River and from Semipalatinsk district.
FP: *Prunus, Cerasus, Rosa, Crataegus, Amygdalus, Spiraea, Malus, Salix, Populus, Alnus, Ulmus.*
A: V-M VI. Pupa or developed imago within the pupa hibernates.



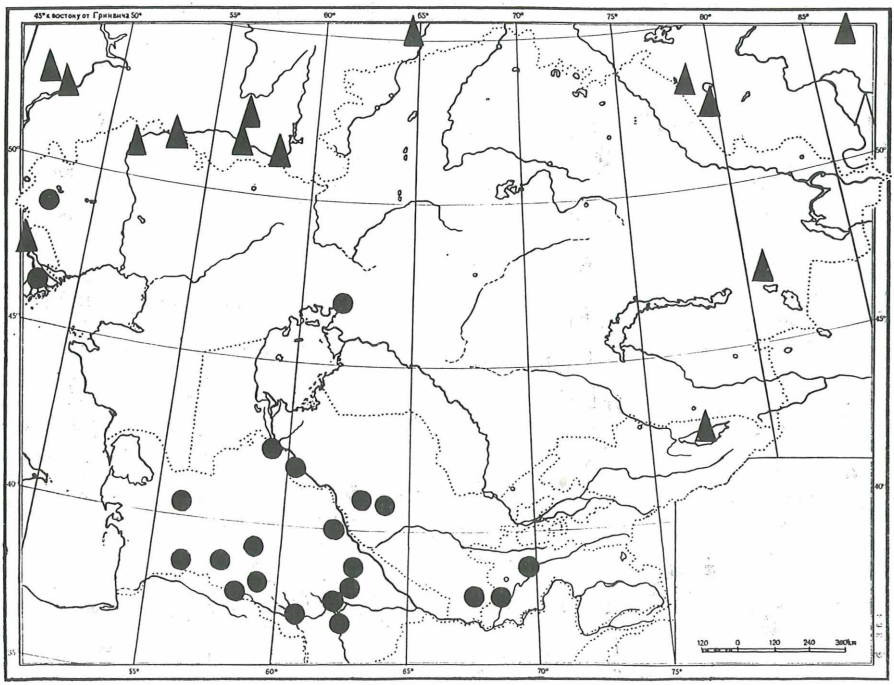
Map 5: *Malacosoma parallelum* (●), *Lasiocampa quercus* (▲)

11a. *Eriogaster neogena neogena* FISCHER DE WALDHEIM, 1824
R (Map 7): Steppes of South Ural and Kazakhstan.
FP: *Caragena frutex.*
A: IX. Eggs hibernate.

11b. *Eriogaster neogena rueckbeili* GRAESER, 1892 (= *sokolowi* BANG-HAAS, 1934, syn. nov.)
R (Map 7): Mountains of Altai and Tien Shan.
A: M IX-M X. Eggs hibernate.
C: Differs from n. neogena by a more contrasting colouration.

12. *Eriogaster henkei henkei* STAUDINGER, 1879
R (Map 6): Semideserts and deserts all over the region.
FP: *Calligonum aphyllum, C. griseum.*
A: E IX-B XI. Eggs hibernate.

13. *Eriogaster acanthophylli acanthophylli* CHRISTOPH, 1882
R (Map 7): Local in Turkmenia (Kopetdagh mts.).
FP: *Atraphaxis spinosa, Onobrychis cornuta, Pistacea vera, Oxytropis pumila.*



Map 6: *Eriogaster henkei* (●), *Eriogaster lanestris* (▲)

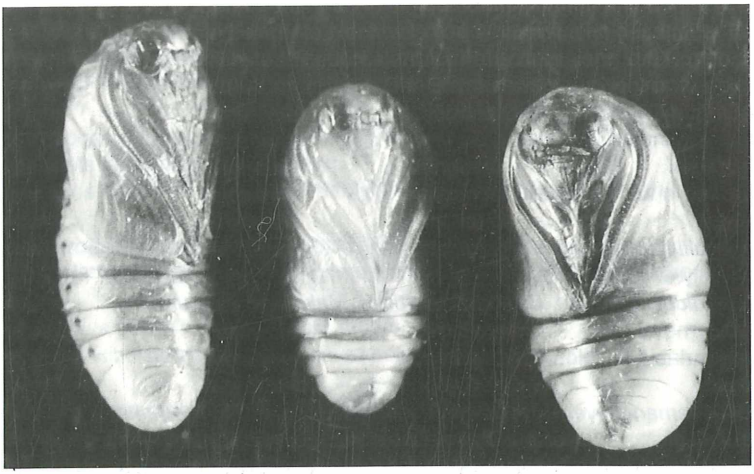
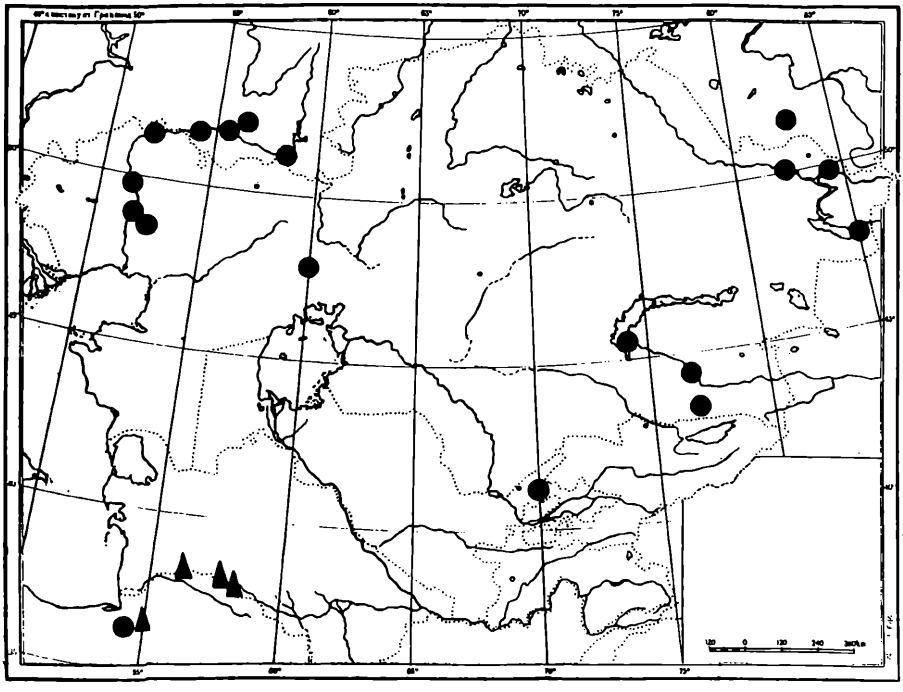


Fig. 4: Pupae of *Eriogaster acanthophylli* CHR., male (in centre) and females.



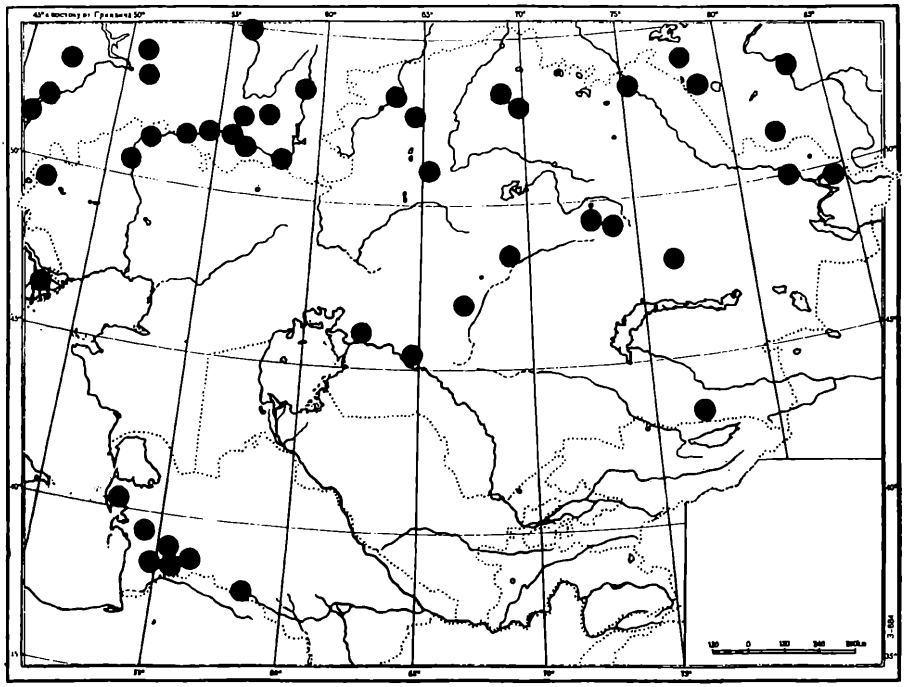
Map 7: *Eriogaster neogena* (●), *Eriogaster acanthophylli* (▲)

C: Pupa (fig. 4) diapauses from May until August, then the moth developes, but rests completely formed for another month in the pupa.

14. *Lasiocampa quercus quercus* LINNAEUS, 1758
R (Map 5): Local in N and NE Kazakhstan.
FP: *Cerasus, Quercus.*
A: VI-VIII. Hibernates in various larva instars.

15. *Lasiocampa trifolii trifolii* DENIS & SCHIFFERMÜLLER, 1775
R (Map 8): Practically everywhere in Kazakhstan; Kopetdagh and Transcaspia in Turkmenia.
FP: *Artemisia, Lepidium, Quercus, Caragana, Cytisus, Malus, Hedysarum.*
A: VIII-IX. Eggs hibernate.
C: A species very variable in colouration.

16. *Lasiocampa eversmanni eversmanni* EVERSMANN, 1843 (= *L. eversmanni attrita* STSHETKIN, 1960)
R (Map 9): Practically everywhere, but usually more in semideserts, steppes and foothills.
FP: *Carex physodes, Caragana fruticosa, Astragalus, Rosa persica, Ferula, Zygophyllum*



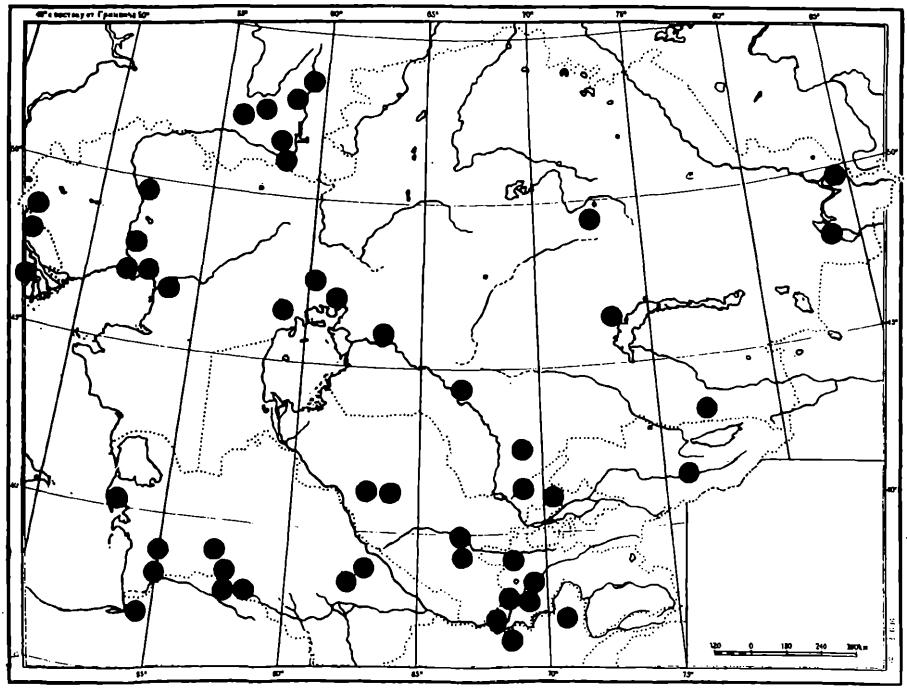
Map 8: *Lasiocampa trifolii*

gontscharovii, Calligonum griseum, C. setosum, C. turcestanicum, Artemisia, Ammodendron conollyi, Bromus tectorum, Ephedra strobilacea, Medicago.
A: E VIII-B X. Eggs hibernate.

17. *Lasiocampa nana* STAUDINGER, 1887
R: Alai mts. (Ferghana); Kopetdagh.
C: Species status is doubtful, probably an abberant of *L. eversmanni.*

18. *Macrothylacia rubi rubi* LINNAEUS, 1758
R: Local in the steppes of Kazakhstan: along Ural River, Leninogorsk and Temer-su of Zaisan district.
FP: *Populus tremula* and, possibly, others.
A: M V-VI. Hibernates as mature larva before pupation.

19. *Euthrix potatoria potatoria* LINNAEUS, 1758
R: Local in the steppes of Kazakhstan together with *M. rubi.*
FP: Poaceae
A: VI-VII. Hibernates as larva of middle instar.

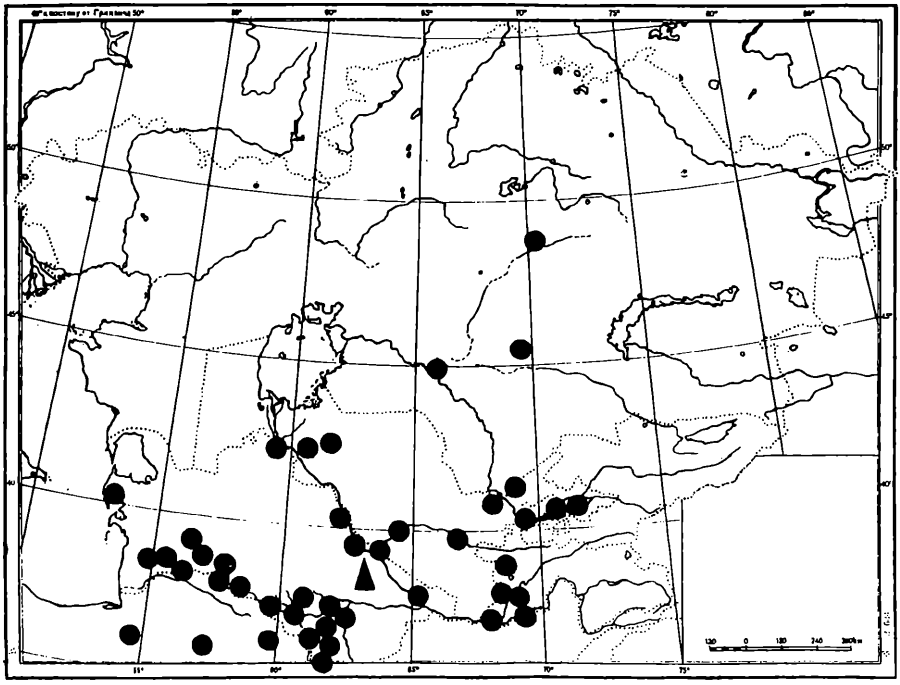


Map 9: *Lasiocampa eversmanni*

20. *Chilena sirdida sordida* ERSCHOFF, 1874 (≈ *Ch. s. cinerescens* OBERTHÜR, 1916)
R (Map 10): Semideserts and deserts of Turkmenia, Tajikistan and Usbekistan.
FP: *Alhagi persarum, A. canescens.*
A: V-IX in 2–3 generations. Pupa hibernates.
C: The most common Lasiocampidae-species in the deserts and in areas requiring irrigation.

21. *Sena proxima proxima* STAUDINGER, 1894
R (Map 10): Known only from Repetek, but it is possible that its distribution is more extended, the species might occur well all over the Kara-Kum deserts.
FP: Unknown.
A: V.

22. *Dendrolimus pini pini* LINNAEUS, 1758
R: Rare in coniferous and mixed forests of northern Kazakhstan.
FP: *Pinus.*
A: VI-VII. Larva hibernates.



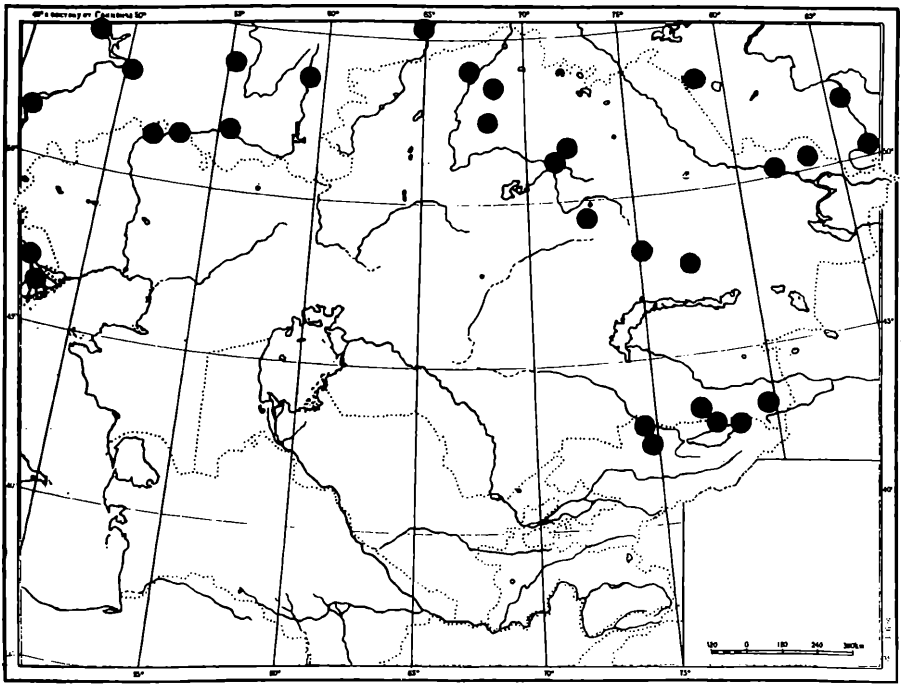
Map 10: *Chondrostega sordida* (●), *Sena proxima* (▲)

23. *Dendrolimus superans sibiricus* TSCHETVERIKOV, 1908
R: Coniferous and mixed forests of NE Kazakhstan.
FP: *Larix, Picea, Pinus.*
A: M VI-VII. Larva hibernates.

24. *Odonestis pruni pruni* LINNAEUS, 1758
R: Local in the forests and forest-steppes of Kazakhstan.
FP: *Ulmus, Prunus, Tilia.*
A: VI-VII. Hibernates as larva of middle instar.

25. *Gastropacha quercifolia quercifolia* LINNAEUS, 1758
R (Map 11): Steppes of Kazakhstan and mountains of Tien Shan.
FP: *Quercus, Populus nigra, Malus, Spiraea, Prunus, Cerasus.*
A: E VI-E VIII. Hibernates as larva of middle instar.

26. *Gastropacha populifolia populifolia* ESPER, 1784
R: Known only from Alma-Ata.
FP: *Populus, Salix.*



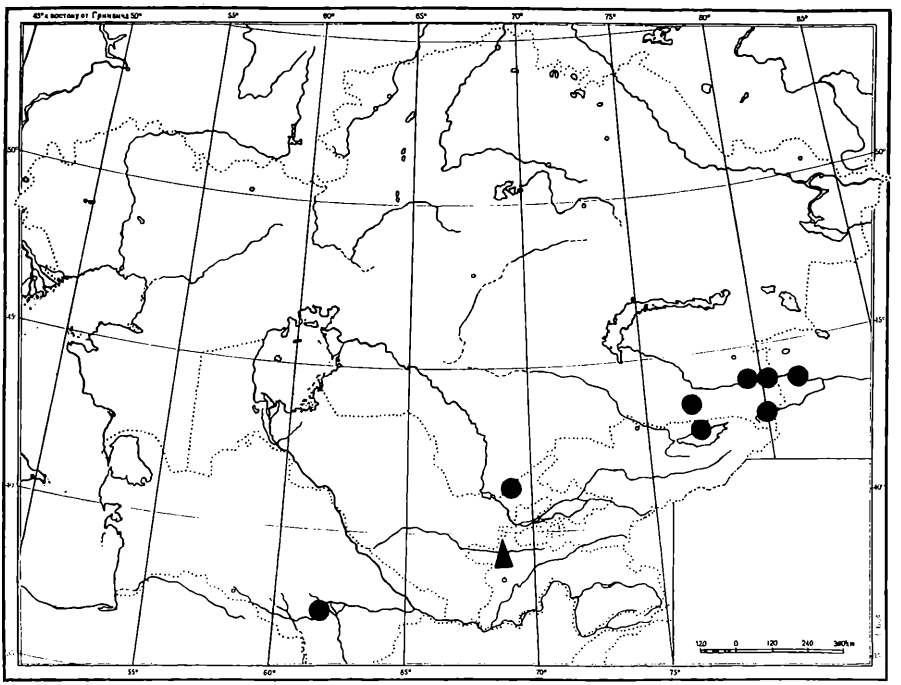
Map 11: *Gastropacha quercifolia*

A: The only known 2 ♂♂ were caught on 7.VII.1966 (coll. V. MURZIN).
C: It is possible that this species will be found all over the Tien Shan.

27. *Phyllodesma tremulifolium tremulifolium* HÜBNER, 1810
R: Single records from along the Ural River (NW Kazakhstan).
FP: *Salix*.
A: V-VI. Pupa hibernates.

28. *Phyllodesma ambigua ambigua* STAUDINGER, 1901 (= *Ph. sopena* ZOLOTUHIN, in litt.)
R (Map 12): Local in deserts and flood-forests.
FP: *Populus pruinosa, Tamarix*.
A: M V-VIII in two generations, pupa hibernates.
C: Rare species.

29. *Phyllodesma alice alice* JOHN, 1909
R (Map 13): Local in the central parts of the region.
FP: Presumably *Tamarix, Populus euphratica, P. diversifolia, Haloxylon, Eleagnus* (JOHN, 1910).

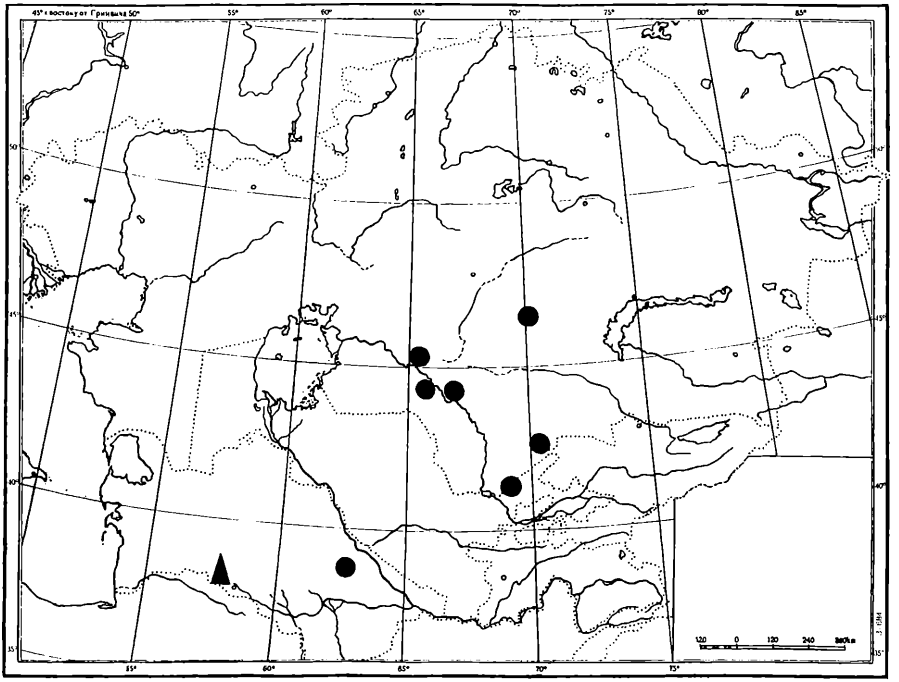


Map 12: *Phyllodesma ambigua* (●), *Phyllodesma hyssarum* (▲)

A: V-VI and M VII-B VIII in two generations, pupa hibernates.
C: Smallest of the middle-asian *Phyllodesma*-species.

30. *Phyllodesma hyssarum hyssarum* ZOLOTUHIN & DUBATOLOV, 1992
R (Map 12): Tajikistan: Hissar mts.
FP: *Populus tadshikistanica* and, probably, others.
A: V-VI and VIII in two generations, pupa hibernates.

– *Phyllodesma joannisi joannisi* DE LAJONQUIERE, 1963
As was suggested (DUBATOLOV & ZOLOTUHIN, 1992:546), the type locality of this species was designated incorrectly by LAJONQUIERE (1963) as Geok-tepe (Turkmenia). This species, being very common in Caucasia, is absent from Middle Asia. I acquainted myself with labels of a male paratype in the collection of Museum Alexander Koenig (Bonn), due to courtesy of Dr. D. STÜNING. The geographic label of this specimen reads "Geok tapa" (= Geok-tapa), located in Transcaucasia (Azerbaijan). During Soviet time this town was renamed for Port Iljich, therefore leading LAJONQUIERE to attribute the type locality of *Ph. joannisi* to Geok-tepe, located in Turkmenia. Therefore I delete this species from the list of asiatic Lasiocampidae.



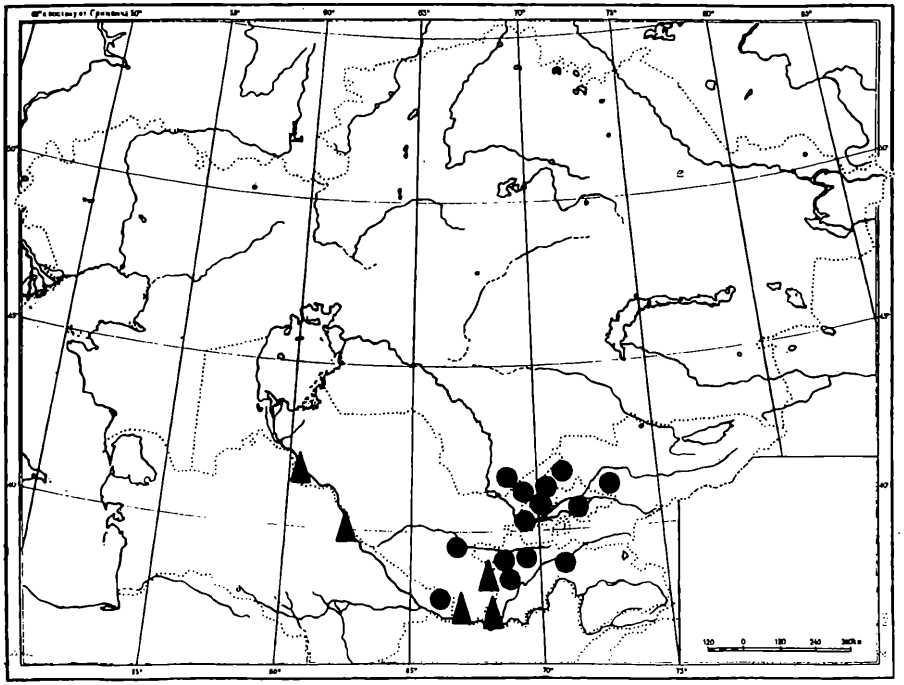
Map 13: *Phyllodesma alicae* (●), *Phyllodesma joannisi* (▲)

31a. *Streblote primigenum primigenum* STAUDINGER, 1887
R (Map 14): Hissar and Alai mts.
FP: *Malus domestica, Calophaca grandiflorus, Caragana turkestanica, Acer negundo, A. campestre, Salix babylonica, Populus bolleana, Ulmus foliaceae, U. pinnato-ramosa, Robinia pseudacacia, Pistacea vera, Prunus armeniaca, Rhamnus.*
A: V-VI and M VII-B VIII in two generations, pupa hibernates.

31b. *Streblote primigenum uzbeka* SHELJUZHKO, 1935
R (Map 14): Mountains of SW Tien Shan.

31c. *Streblote primigenum kuhitangicum* DUBATOLOV & ZOLOTUHIN, 1992
R (Map 14): SE Turkmenia: Kuhitang mts.
A: V in one generation, pupa hibernates.

32. *Streblote fainae fainae* GERASIMOV, 1931
R (Map 14): Flood-forests of Amu-Darya River.
FP: *Populus (Turanga) pruinosa.*
A: V-VI a. M VII-M VIII in two generations, occ. a third one E VIII-IX. Pupa (fig. 5) hibernates.



Map 14: *Streblote primigenum* (●), *Streblote fainae* (▲)

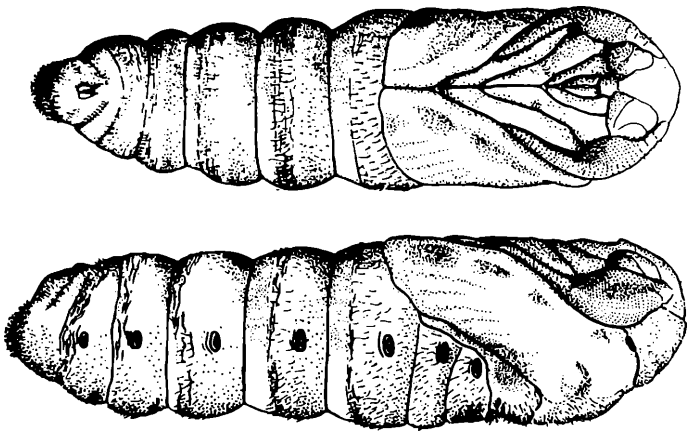


Fig. 5: Pupa of *Streblote fainae* GERAS., ventral and lateral view.

References

DARICHEVA, M. A. & V. V. DUBATOLOV (1990): Fauna and ecology of the Lasiocampidae of the Turkmenian SSR. – Izvestija Akad. Nauk Turkm. SSR **2**: 27–33 (in russian).

DEGTJAROVA, V. I. (1973): Dendrophileous Lepidoptera of the Hissar mountains and Hissar valley. – Dushanbe, 195 pp (in russian).

DUBATOLOV, V. V. &. V. V. ZOLOTUHIN (1992): A list of the Lasiocampidae from the territory of the former USSR (Insecta, Lepidoptera). – Atalanta **23** (3/4): 531–548.

EMELJANOV, A. F. (1974): Suggestions to classification and nomenclature of areas. – Entomol. obozr. **53** (3): 497–522 (in russian).

JOHN, O. (1910): Neubeschreibung von *Epicnaptera Alice* JOHN. – Ent. Ztschr. **24** (2): 7–8.

KUZNETZOV, V. I. (1960): Materials on fauna and biology of the Lepidoptera of the Western Kopetdagh. – Trudy ZIN **27**: 11–93 (in russian).

KUZNETZOV, V. I. & E. F. MARTYNOVA (1954): List of the Lepidoptera of the middle flow of the Ural river. – Trudy ZIN **16**: 32–350 (in russian).

LAJONQUIÈRE, Y. DE (1963): Révision de genre *Phyllodesma* HÜBNER (= *Epicnaptera* auctorum) espèces paléarctiques (Lepidoptera, Lasiocampidae). – Ann. Soc. ent. Fr. **132**: 31–84.

SCHOORL, J. W. (1990): Phylogenetic study of Cossidae (Lepidoptera, Dytrisia) based on external adult morphology. – Zool. Verh. **263**: 1–295.

STSHETKIN, JU. L. (1960): Lepidoptera of the Vakhsh river's valley. – Stalinabad, 293 pp (in russian).

ZOLOTUHIN, V. V. & V. V. DUBATOLOV (1992): A new species of Lasiocampidae from Tajikistan (Lepidoptera). – Atalanta **23** (1/2): 215–217

Address of the author

Dr. VADIM V. ZOLOTUHIN
Ablukova 13-12
432005 Uljanowsk
Russia