

## Archieariinae, Rhodometrinae, Geometrinae II, Sterrhinae II and Ennominae III (Lepidoptera, Geometridae) from Mongolia\*

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**Abstract** — *Leucobrephos mongolicum* sp. n. is described from Mongolia. *Hipparchus herbacearius* MÉN. and *Scopula cajanderi* HERZ are new to the region. VIIDALEPP and VOJNITS hitherto recorded 2 Archieariinae, 1 Rhodometrinae, 10 Geometrinae, 33 Sterrhinae and 73 Ennominae species from Mongolia. With 1 figure.

On the basis of VIIDALEPP's paper (1975) and the material collected by KASZAB in the course of his expeditions, 113 species of the subfamilies Archieariinae, Rhodometrinae, Geometrinae, Sterrhinae and Ennominae have so far been shown from the fauna of Mongolia. One species each of the subfamily Archieariinae has been reported from Mongolia by VIIDALEPP (1975) and VOJNITS (present paper), namely: *Archiearis parthenias* L. and *Leucobrephos mongolicum* sp. n. — VIIDALEPP (1975) published the single known species relegated to the subfamily Rhodometrinae: *Rhodometra sacraria* L. — VIIDALEPP (1975) listed 6 species of the subfamily Geometrinae, while 9 have been found in KASZAB's material. Contracting the species recorded in both papers, data are available of a total of 10 species: *Hipparchus papilionarius* L., *H. herbacearius* MÉN., *Euchloris volgaria mongolica* STGR., *E. atyche* PROUT, *Holoterpa impararia* GN., *Chlorissa viridata* L., *Thalera chlorosaria* GRAES., *Hemistola chrysoprasaria lisaea* PROUT, *H. zimmermanni* HED. *Microloxia herbaria advolata* EV.

VIIDALEPP (1975) recorded the Mongolian occurrence of 26 species of the subfamily Sterrhinae: the same number was found in KASZAB's collections. VIIDALEPP listed 7 which have not found by KASZAB, thus the total of the known species is 33, namely: *Rhodostrophia jacularia* HBN., *R. vibicaria* CL., *Calothysanis paralias* PROUT, *C. amata recompta* PROUT., *Scopula impersonata macescens* Butler, *Sc. immorata* L., *Sc. dignata* GN., *Sc. rubiginata* HUFN., *Sc. nigropunctata* HUFN., *Sc. marginipunctata* GOEZE, *Sc. beckeraria amatoria* WEHRLI., *Sc. umbelaria graeseri* PROUT, *Sc. incanata* L., *Sc. cajanderi* HERZ, *Sc. ternata* SCHRANK, *Sc. contranotata* PROUT, *Sc. virgulata substrigaria* STGR., *Sc. decorata przewalskii* VIIDALEPP, *Sc. ornata* SCOP., *Sc. permixta* STGR., *Sc. albiceraria vitellinaria* EV., *Sc. submutata* TR., *Sc. sp.*, *Sterrra rufaria* HBN., *S. vulpinaria* H. SCH., *St. muricata* HUFN., *St. muricata minor* STERNECK, *St. sibirica* DJAK, *St. serpentata* HUFN., *St. aureolaria* DEN. et SCHIFF., *St. pallidata* DEN. et SCHIFF., *St. inornata* HAW., *Holactias ruficiliaria* BREM.

VIIDALEPP (1975) published 54 species of the subfamily Ennominae, while 48 have been found in KASZAB's material. With due regard to the species common in both publications, the number of species known to occur in Mongolia is 73. They are as follows: *Abraxas grossulariata dsungarica* WEHRLI, *Lomasplis marginata amurensis* HED., *Astegania honesta* PROUT, *Semiothisa artesiaria* DEN. et SCHIFF., *S. serenaria* STGR., *S. clathrata djakonovi* KARD., *S. latefasciata* STGR., *S. notata kirina* WEHRLI, *S. rippertaria* DUP., *S. saburraria kenteata* STGR., *S. signaria* HBN., *S. alternata* DEN. et SCHIFF., *Iame circumflexaria* EV., *I. wauaria* L., *I. fulvaria* VILL., *I. loricaria* EV., *Tephrina arenacearia mongolica* VOJNITS, *T. kaszabi* VOJNITS, *Narraga fasciolaria* HUFN., *Plagodis pulveraria singularis* VOJNITS, *P. dolabraria* L., *Epione vespertaria amura* WEHRLI, *Hypoxystis pluviaria* F., *Pseudopanthera macularia* L., *Selenia hypomelethiaria djoaknovi* BANG-HASS, *S. bilunaria* ESP., *S. tetralunaria* HUFN., *Gonodontis bidentata rava* VOJNITS, *G. bidentata exsul* TCNET., *Angerona prunaria kentearia* STGR., *Godonela aestimaria kuldschana* WEHRLI, *Erannis jacobsoni* DJAK, *Megametopon piperatum* ALPH., *Apocheima hispidaria* DEN. et SCHIFF., *Biston betularius* L., *Spartopteryx kindermannaria* STGR., *Synopsis strictaria* LED., *Hemerophila emaria* BREM., *Pleogynopteryx bituminaria* LED., *Cleora cinctaria* DEN., et SCHIFF., *Boar-*

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*mia roboraria isabellaria* STGR., *Alcis maculata* STGR., *A. extinctaria* Ev., *Ectropis bistortata* GOEZE, *Arichanna melanaria praecolorata* WEHRLI, *Cabera pusaria* L., *C. exanthemata hamica* WEHRLI, *Organognophos sibiricus* GUEN, *Kemtrognophos ambiguatus viidaleppi* VOJNITS, *K. ophthalmicus* LED. (?), *K. stennmatarius* Ev., *Dysgnophos benepunctarius* WEHRLI, *D. difficilis* ALPH., *D. glaciatus* WEHRLI, *D. exilis* WEHRLI, *D. gozmanyi* VOJNITS, *Pterygnophos ochrofasciatus* STGR, *Rhipignophos vastarius* STGR., *Zystrognophos bipartitus* VOJNITS, *Elophos banghaasi* WEHRLI, *Ematurga atomaria krassnojarscensis* FUCHS, *Atomorpha falsalis* ALPH., *Siona lineata* SCOP., *Gozmanyita smirnovi* ROM., *Apotaspilates tristriarius* BREM. et GREY, *Conchia mundataria uncinataria* VOJNITS, *Aspilates gilvarius minimus* VOJNITS, *Semiaspilates curvarius* Ev., *S. obscuratus* WEHRLI, *S. insignis* ALPH., *S. mongolicus* VOJNITS, *S. staudingeri* VOJNITS, *Perconia strigillaria* HBN.

#### ARCHIEARIINAE (BREPHINAE)

##### 1. *Leucobrephos mongolicum* sp. n. (Fig. 1)

**D i a g n o s i s.** Alar expanse of the single known male specimen 25 mm. Fore wing rather narrow, apex pointed, tornus obtuse. Hind wing wide, projecting, margin angular. Basic colour of fore wing dark grey, basal and median fields with a whitish, marginal field with a brownish irroration. Antemedian broken in an acute angle, broad; postmedian similarly wide, but paler in colour, dentately projecting into terminal field, and backed (terminad) by a yellowish white stripe. Terminal field with a narrow, dark brown band. Basal and median fields of hind wing indistinctly overlapping; dark greyish basic colour with a slight brownish hue darkest in basal field, then dark scales gradually lessening in number, wing there sprinkled yellowish white and fading into slightly greyish but still yellowish white postmedian stripe. Postmedian also multiply arcuate and/or angulate. Terminal field evenly fuscous. Underside of wings with a distinct pattern, dark fuscous, with a yellowish irroration, stripes light yellowish sprinkled with grey. Cilia short, light whitish yellow, with brown or fuscous subterminal lines.

**G e n i t a l i a, ♂:** Stout, strongly sclerotized and rather simple. Uncus large, apically obtuse, slightly curved. Valvae narrow, comparatively short, medially slightly constricted, terminally spatulate. Vinculum wide, obtusely rounded. Anellus bilaterally alate, posteriorad with an obtusely pointed, tail-like appendage. Aedeagus long, thin, curved or doubly angulate, tapering and rounded (Fig. 1). — ♀: unknown.

**B i o n o m i c s.** First stages and foodplant unknown. The single known specimen was collected in May.

**D i s t r i b u t i o n.** The new species was found in Mongolia. — Locus typicus: Aduēin (Chentej aimak).

**H o l o t y p e,** ♂ “Mongolia Chentej aimak Aduēin” “15. V. 1966, leg. A. Bold” “Chentej aimak: Aduēin am 15. V. 1966, leg. A. Bold” “Gen. prep. No. 10. 577 ♂ Dr. A. VOJNITS Budapest, TTM”. Holotype deposited in the Hungarian Natural History Museum, Budapest.

**R e m a r k s.** The new species stands nearest to *Leucobrephos ussuriensis* MOLTRACHT comb. n. The main distinguishing characters are as follows: the basic colour of *L. ussuriensis* might be termed brown as a whole, whereas *L. mongolicum* sp. n. is definitely grey or greyish. The decurrence of the antemedian stripe is different: more sharply broken in *L. mongolicum* sp. n. In the new species, both the

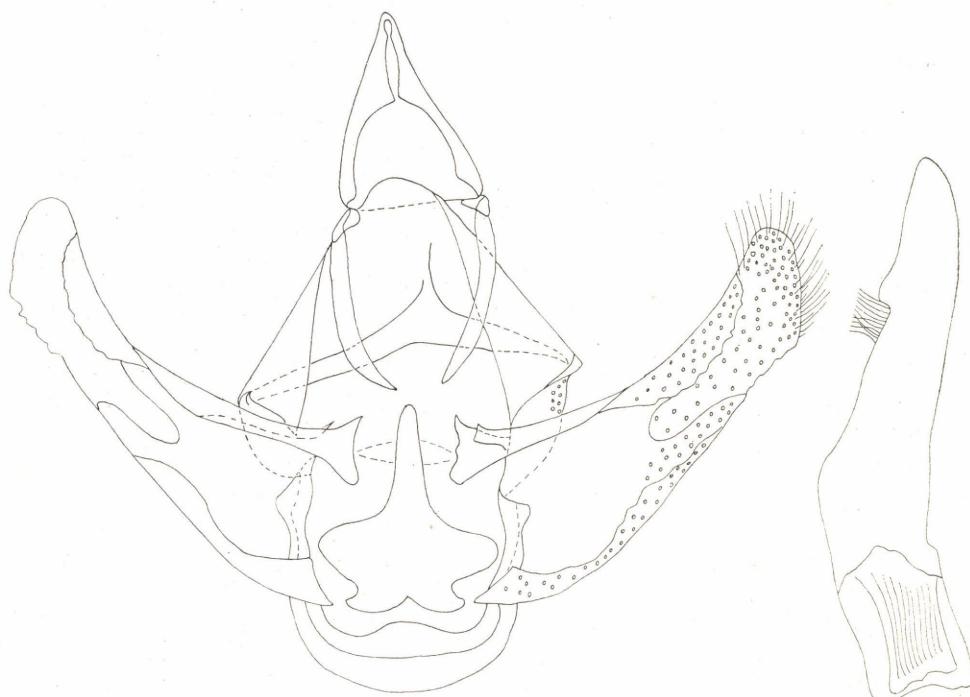


Fig. 1. Male genitalia of *Leucobrepheos mongolicum* sp. n.

ante- and the postmedian stripes excel by their dark hue, while they are indicated by light elements in *L. ussuriensis*. The hind wing of the species is darker, the light shade extends to a relatively smaller area, whereas the larger part of the hind wing of *L. ussuriensis* is yellowish white. The difference of the flight period is also striking: *L. ussuriensis* is on the wing in the early spring, collected "on snow"; the single known specimen of the new species is not worn but absolutely fresh, although the date of collection is in May.

#### GEOMETRINAE (HEMITHEINAE)

ad 2. [*Euchloris anomica* PROUT, 1935] (In SEITZ, A.: Die Gross-Schmetterlinge der Erde, Spanner, 1934–1954, Supplement ad IV: 17). — In my previous paper I identified 29 specimens as representing this species (VOJNITS 1976). Subsequently, I realized in agreement with VIIDALEPP (1975), that the exemplars in question in fact represent *Euchloris (Thetidia) volgaria* GUENÉE, 1858 (see also under "ad 8.").

ad 3. *Euchloris atyche* PROUT, 1935 (In SEITZ, A.: Die Gross-Schmetterlinge der Erde, Spanner, 1934–1954, Supplement ad IV: 18). — In my previous paper, only a single male specimen (VOJNITS 1976) was recorded. After studying some further materials, I found also a female exemplar.

Collection data. — Chövsgöl aimak: 8 km W von Somon Burenchaan, am Fluss Delger mörön, 1450 m, 16. VII. 1968 (Nr. 1117), 1 ♀.

Slide: No. 10.586 ♀, gen. prep. A. VOJNITS.

ad 4. *Holoterpnia impararia* (GUENÉE, 1857) (Spec. Gén. Lép. I.: 354). — I published the data of 16 Mongolian specimens of this rather local taxon in my preceding paper (VOJNITS 1976). I am adding now new localities of 4 further specimens. The species is also listed in VIIDALEPP's (1975) Mongolian material.

Collection data. — Central aimak: 12 km S von Somon Bajanbaraat, 1380 m, 13. VII. 1967 (Nr. 919), 1 ♀. — Chövsgöl aimak: 6 km WNW von Somon Tosoncengel, 1480–15550 m, 20. VII. 1968 (Nr. 1131), 1 ♀. — Uvs aimak: Mogoin arschaan, N Rand des Sees Chjargas nuur, 48 km OSO von Somon Naranbulag, 1100 m, 9. VII. 1968 (Nr. 1087), 2 ♀.

Slides: Nos. 10.580, 10.581 (♀), gen. prep. A. VOJNITS.

ad 5. *Thalera chlorosaria* GRAESER, 1890 (Berl. ent. Ztg. 33:81). — I submitted the data of 24 specimens in a former paper (VOJNITS 1976). I am submitting now those of 11 male and 4 female additional exemplars. A part of the localities listed here is new. — *T. chlorosaria* GRAESER was also listed in VIIDALEPP's work (1975), the first author to show it from Mongolia.

Collection data. — Bulgan aimak: Namnan ul Gebirge, 23 km NW von Somon Chutag, 1150 m, 21. VII. 1968 (Nr. 1137), 3 ♂; 7 km NW von Somon Chanžargalant, 1350 m, 22. VII. 1968 (Nr. 1140), 6 ♂, 1 ♀; SO von Somon Daschinčilen, 1050 m, 23. VII. 1968 (Nr. 1141), 1 ♀. — Central aimak: 25 km O von Somon Lun, 1200 m, 25. VII. 1968 (Nr. 1148), 1 ♀. — Chövsgöl aimak: 34 km NW von der Stadt Mörlön, 1500 m, 19. VII. 1968 (Nr. 1128), 2 ♂, 1 ♀.

Slide: No. 10.579 (♂), gen. prep. A. VOJNITS.

Ad 7. *Hemistola zimmermanni* (HEDEMAN 1875) (Hor. Ent. Ross., 14: 509). — I published the data of 28 specimens in my previous paper (VOJNITS 1976); I am adding now those of 4 further specimens, deriving from hitherto unrecorded localities. The occurrence of the species in Mongolia was first recorded by VIIDALEPP (1975).

Collection data. — Bulgan aimak: 11 km W von Somon Bajanuur am Südrand des Sees Bajan nuur, 1000 m, 24. VII. 1968 (Nr. 1144), 1 ♀. — Chövsgöl aimak: 8 km W von Somon Burenchaan, am Fluss Delger mörlön, 1450 m, 16. VII. 1968 (Nr. 1117), 1 ♂; 4 km NW von der Stadt Mörlön, 1500 m, 19. VII. 1968 (Nr. 1128), 1 ♂, 1 ♀.

Slide: No. 10.583 (♂), gen. prep. A. VOJNITS.

8. *Euchloris volgaria mongolica* STAUDINGER, 1897 (D. ent. Z. Iris; 9: 271). — In my opinion, the entire species-group needs revision: for the time being, I assign here the exemplars hitherto identified as *E. anomica* PROUT (see also under "ad 2."), as well as 4 further specimens.

Collection data. — Bulgan aimak: 7 km NW von Somon Chanžargalant, 1350 m, 22. VII. 1968 (Nr. 1140), 1 ♂. — Central aimak: 25 km O von Somon Lun, 1200 m, 25. VII. 1968 (Nr. 1148), 1 ♂. — Chövsgöl aimak: 8 km W von Somon Burenchaan, am Fluss Delger mörlön, 1450 m, 16. VII. 1968 (Nr. 1117), 1 ♀. — Südgobi aimak: Nojon nuruu Gebirge, unweit von Dzun adu chutag, 34 km NO vom Grenzposten Ovot Chuural, 1800 m, 19. VI. 1967 (Nr. 823). 1 ♂.

Slides: Nos. 10.584, 10.585 (♂), gen. prep. A. VOJNITS.

9. *Microloxia herbaria advolata* EVERSMANN, 1837 [Bull. Soc. Moscou, 10(2): 51]. — The species, ranging in S and SW Europe, Asia Minor, the Near East and in Turkestan, was lately shown from the Caucasus and from Central Asia. Its occurrence in Mongolia was reported by VIIDALEPP (1975).

Collection data. — Bajanchongor aimak: Oase Echin gol, cca 90 km NO vom Grenzposten Caganbulag, 950 m, 28. VI. 1967 (Nr. 859), 1 ♂.

Slide: No. 10587 (♂), gen. prep. A. VOJNITS.

10. *Hipparchus herbacearius* Ménétries, 1859, stat. n. (Biol. Ac. Sci. St. Pé., 3: 112). — The species was first considered to be an aberration of *H. papilionarius* L. by PROUT (1915); later he published it as a distinct subspecies (PROUT 1935) or species. In addition to the features mentioned by PROUT, some differences appear also in the state of the labial palps, though this may be — as in so many other cases — a result of preparation or desiccation. The decurrence of the postmedian seems a more significant difference. In the case of specimens set according to "normal" standards, the postmedian proceeds contiguously from foreto hind wing (*H. herbacearius* MÉN.), or it is broken between the two wings and thus runs more terminad on the costa of the hind wing than its termination on the dorsum of the fore wing (*H. papilionarius* L.). Accordingly, the form regarded as *H. herbacearius* MÉN. appears to be justifiably listed as a species.

The species, recorded primarily from the Amur region, is new to the fauna of Mongolia.

Collection data. — Bulgan aimak: Namnan ul Gebirge, 23 km NW von Somon Chutag, 1150 m, 21. VII. 1968 (Nr. 1137), 2 ♂.

Slide: No. 10.578 (♂), gen. prep. A. VOJNITS.

## STERRHINAE

ad 1. *Rhodostrophia jacularia* (HÜBNER, 1814) (Sammlg. Eur. Schmett. Geom., p. 431).

— In my previous paper (VOJNITS 1976) I recorded the data of 139 Mongolian specimens of this extremely varying species. In the following, I submit those of 196 additional exemplars. — VIIDALEPP (1976) also discussed the occurrence of this species in Mongolia.

Collection data. — A r c h a n g a j a i m a k: Changaj Gebirge, 8 km W von Somon Urdtamir, 1620 m, 21. VII. 1966 (Nr. 725), 1 ♀. — B a j a n c h o n g o r a i m a k: Changaj Gebirge, 120 km W von Somon Zag, 2280 m, 17. VII. 1966 (Nr. 704), 1 ♂; Oase Dzun mod, cca 100 km S von Somon Schine žinst, 1300 m, 29. VI. 1967 (Nr. 869), 1 ♂; Žinst ul Gebirge, 50 km O von Somon Schine žinst, 2000 m, 30. VI. 1967 (Nr. 873), 1 ♂; 8 km OSO von Somon Bajanleg, 1350, m, 2. VII. 1967 (Nr. 879), 3 ♂, 2 ♀. — B a j a n Ölgij a i m a k: im Tal des Flusses Chavcalyn gol, 24 km 0 von Somon Cagaannuur, 1890, m 29. VI. 1968 (Nr. 1042), 1 ♂; rechtes Ufer des Flusses Chovd gol bei der Stadt Ölgij, 1750 m, 30. VI. 1968 (Nr. 1046), 4 ♂; NO-Ecke des Sees Tolbo nuur, 2100 m, 1. VII. 1968 (Nr. 1051), 3 ♂, 1 ♀. — B u l g a n a i m a k: 9 km 0 von Somon Abzaga, 1300 m, 22. VII. 1966 (Nr. 729), 10 ♂. — C e n t r a l a i m a k: Ulaan chodag, 16 km S von Somon Öndörschireet, 1500 m, 23. VII. 1966 (Nr. 737), 9 ♂; Tal des Flusses Tola, zwischen Somon Altanbulag und Somon Tariat, cca 30 km ONO von Somon Tariat, 1200 m, 24. VII. 1966 (Nr. 742), 6 ♂; 12 km S von Somon Bajanbaraat, 1380 m, 8. VI. 1967 (Nr. 776), 16 ♀; id., 13. VII. 1967 (Nr. 919), 22 ♂; 11 km S vom Pass Zosijn davaa (cca 90 km S von Ulan-Baator), 1650 m, 15. VII. 1967 (Nr. 923), 33 ♂. — C h o v d a i m a k: Mongol Altaj Gebirge, 6 km N vom Pass Bag Ulaan davaa, 2800 m, 8. VII. 1966 (Nr. 643), 4 ♂; cca 5 km SW von Chovd (Kobdo), 1500 m, 10. VII. 1966 (Nr. 668), 5 ♂; 6 km WNW von Somon Tosoncengel, 1480, m, 18. VI. 1968 (Nr. 981), 5 ♂; 8 km N von Somon Burenchaan, am Fluss Delger mörön, 1450 m, 20. VI. 1968 (Nr. 991), 1 ♂; 4 km NW von der Stadt Mörön, 1500 m, 19. VII. 1968 (Nr. 1128), 3 ♂. — G o b i A l t a j a i m a k: NW-Ecke des Chasagt chajrchan ul Gebirge, 2 km NW von Somon Bičigt, 1900 m, 14. VII. 1966 (Nr. 688), 2 ♂; 12 km O von Jesönbulag, 2220 m, 16. VII. 1966 (Nr. 701), 13 ♂. — M i t e l g o b i a i m a k: 20 km S von Somon Delgercogt, 1480 m, 9. VI. 1967 (Nr. 780), 1 ♂; id., 13. VII. 1967 (Nr. 916), 20 ♂; Choot bulag, zwischen Somon Chuld und Somon Delgerchangaj, 38 km ONO von Delgerchangaj, 1480, m 10. VI. 1967 (Nr. 784), 2 ♂; 8 km NW von den Ruinen des Klosters Oldoch Chijd, 54 km NNW von Somon Cogt Ovoo, 1350 m, 9. VII. 1967 (Nr. 905), 7 ♂. — S ü d g o b i a i m a k: Gurban Sajchan ul Gebirge, 15 km S von der Stadt Dalanzagdad, cca 1750 m, 13. VI. 1967 (Nr. 793), 1 ♂; 7 km W von Somon Bulgan, 1350 m, 4. VII. 1967 (Nr. 885), 1 ♂; Tachilga ul Gebirge, zwischen Somon Cogt Ovoo und Dalanzagdad, 68 km S von Cogt-Ovoo, 1550 m, 8. VII. 1967 (Nr. 902), 3 ♂. — U b u r e h a n g a j a i m a k: am halben Weg zwischen Somon Bajanleg und Somon Bulgan, cca 130 km OSO von Somon Bajanleg, 1150 m, 3. VII.-1967 (Nr. 882), 1 ♂. — U v s a i m a k: Sandgebiet Altan els, 35 km WNW von Somon Tes, 1400 m, 23. VI. 1968 (Nr. 1008), 2 ♂; S-Rand des Sees Örög nuur, 1500 m, 28. VI. 1968 (Nr. 1037), 2 ♂; 4 km OSO vom Pass Ulaan davaa, zwischen dem See Örög nuur und der Stadt Ulaangom, 1700 m, 6. VII. 1968 (Nr. 1074), 7 ♂. — Z a v e c h a n a i m a k: Choit chunch, 26 km ONO vom See Telmen nuur, 2150 m, 13. VII. 1968 (Nr. 1103), 2 ♂.

Slides: Nos. 10.396, 10.397, 10.398, 10.399, 10.401, 10.405, 10.406, 10.407 (♂), 10400, 10402, 10403, 10404 (♀) gen. prep. A. VOJNITS.

ad 2. *Calothysanis paralias* PROUT, 1935 (In SEITZ, A.: Die Gross-Schmetterlinge der Erde, Spanner, 1934–1954, Supplement ad IV: 28). — In my previous paper (VOJNITS 1976), I discussed this species as new to the fauna of Mongolia. Now I find that VIIDALEPP's work (1975) has precedence in this regard.

ad 4. *Scopula impersonata macescens* (BUTLER, 1878) (Ann. Mag. Nat. Hist., 4(5): 162). — I published the data of 5 Mongolian specimens in my previous paper (VOJNITS 1976); I am adding now the data of a further exemplar. — VIIDALEPP (1975) was the first to record its occurrence in Mongolia; he deemed the Mongolian populations to represent the subspecies *S. impersonata accurataria* CHRISTOPH, 1881.

Collection data. — B u l g a n a i m a k: 11 km W von Somon Bajannuur am Südrand des Sees Bajan nuur, 1000 m, 24. VII. 1968 (Nr. 1144), 1 ♂.

ad 6. *Scopula rubiginata* (HUFNAGEL, 1769) (Berl. Mag., IV: 610). — In my previous paper (VOJNITS 1976) I published the data of 79 Mongolian exemplars. I am adding now those of 15 further specimens. The species was mentioned also in VIIDALEPP's paper (1975) as new to the fauna of Mongolia.

Collection data. — Bulganaia: 11 km W von Somon Bajannuur am Südrand des Sees Bajan nuur, 1000 m, 14. VI. — 24. VII. 1968 (Nr. 958) 9 ♂, 2 ♀; id., 24. VII. 1968 (Nr. 1144), 2 ♂; SO von Somon Daschinčilen, 1050 m, 23. VII. 1968 (Nr. 1141) 2 ♂.

Ad 7. *Scouplia beckeraria* (LEDERER, 1853) (Versuch die Europäischen Spanner in möglichst natürliche Reihenfolge zu stellen, p. 94). — In my previous communication (VOJNITS 1976), I submitted the data of 11 Mongolian exemplars of this highly varying species. I am submitting now those of 24 additional specimens. VIIDALEPP (1975) was the first to show this species from Mongolia; he also established that the Mongolian population represented the subspecies *S. beckeraria anataria* WEHRLI, 1926.

Collection data. — Bulganaia: 11 km W von Somon Bajannuur am Südrand des Sees Bajan nuur, 1000 m, 14. VI. — 24. VII. 1968 (Nr. 958), 1 ♂, 1 ♀; SO von Somon Daschinčilen, 1050 m, 23. VII. 1968 (Nr. 1141), 1 ♀. — Chövsgöl aimak: 8 km N von Somon Burenchaan, am Fluss Delger mörön, 1450 m, 16. VII. 1968 (Nr. 1117), 3 ♂; 4 km NW von der Stadt Mörön, 1500 m, 19. VII. 1968 (Nr. 1128), 3 ♂, 1 ♀. — Mittelgebirge: Choot bulag, zwischen Somon Chuld und Somon Delgerchangaj, 38 km ONO von Delgerchangaj, 1480 m, 10. VI. 1967 (Nr. 784), 1 ♂. — Uvs aimak: Senke des Sees Uvs nuur am SW Rand des Sees, 84 km W von Somon Zuungobi und 63 km O von der Stadt Ulaangom, 790 m, 26. VI. 1968 (Nr. 1024), 4 ♂; S-Rand des Sees Örög nuur, 1500 m, 28. VI. 1968 (Nr. 1037), 1 ♀.

ad 8. *Scopula virgulata* (DENIS & SCHIFFERMÜLLER, 1775) (Wien. Verz., p. 111). — I listed the data of 86 Mongolian specimens in my preceding paper (VOJNITS 1976); I am adding now those of 68 further exemplars. The species was recorded from Mongolia also by VIIDALEPP (1975); according to him, the Mongolian exemplars represent the subspecies *S. virgulata substrigaria* STAUDINGER, 1900.

Collection data. — Bulganaia: 11 km W von Somon Bajannuur am Südrand des Sees Bajan nuur, 1000 m, 14. VI. — 24. VII. 1968 (Nr. 958), 1 ♂; Namnan ul Gebirge, 23 km NW von Somon Chutag, 1150 m, 21. VII. 1968 (Nr. 1137), 37 ♂, 3 ♀; 7 km NW von Somon Chanžargalant, 1350 m, 22. VII. 1968 (Nr. 1140), 15 ♂, 3 ♀. — Central aimak: 11 km S vom Pass Zosjin davaa (ceca 90 km S von Ulan-Bator), 1650 m, 15. VII. 1967 (Nr. 923), 2 ♂; 25 km O von Somon Lun, 1200 m, 25. VII. 1968 (Nr. 1148), 5 ♂. — Chövsgöl aimak: 8 km N von Somon Alag-erdene, am Fluss Egijn gol, 1600 m, 17. VII. 1968 (Nr. 1121), 1 ♂; 4 km NW von der Stadt Mörön, 1500 m, 19. VII. (Nr. 1128), 1 ♂.

ad 9. *Scopula decorata* (DENIS & SCHIFFERMÜLLER, 1775) (Wien. Verz., p. 111). — I published the data of 42 Mongolian specimens in my previous paper (VOJNITS 1976); I am adding now those of 11 further exemplars. The species was also recorded by VIIDALEPP (1975). He considered the Mongolian populations to represent a new geographical subspecies and, on the basis of his description, I too assign the exemplars in question to the taxon *S. decorata przewalskii* VIIDALEPP, 1975.

Collection data. — Bulganaia: 11 km W von Somon Bajannuur am Südrand des Sees Bajan nuur, 1000 m, 14. VI. — 24. VII. 1968 (Nr. 958), 3 ♂, 1 ♀. — Chövsgöl aimak: 6 km WNW von Somon Tosoneengel, 1480 m, 18. VI. 1968 (Nr. 981), 1 ♀; 4 km NW von der Stadt Mörön, 1500 m, 19. VII. 1968 (Nr. 1128), 2 ♂, 2 ♀. — Uvs aimak: am Fluss Changileagijn gol, 6 km SW von Somon Baruunturuun, 1350 m, 24. VI. 1968 (Nr. 1011), 1 ♂.

ad 10. *Scopula arenosaria* (STAUDINGER, 1879) (Stett. e. Ztg., 40: 325). — This species, recorded in my previous communication (VOJNITS 1976), was listed on the basis of an incorrect identification; the available specimens have all been worn and with an indistinct pattern. According to my subsequent studies, the 13 known exemplars represent in fact *S. albiceraria vitellinaria* Ev. (see also under "No. 17.").

ad 14. *Sterrha muricata* (HUFNAGEL, 1769) (Berl. Mag., IV: 606, 625). — The species, recorded on the basis of a single Mongolian specimen in my previous paper (VOJNITS 1976), was first shown by VIIDALEPP (1975) from Mongolia. According to VIIDALEPP's investigations, a part of the populations represent the subspecies *S. muricata minor* STERNECK, 1927.

ad 16. *Sterrha pallidata* (DENIS & SCHIFFERMÜLLER, 1775) (Wien. Verz., p. 111). — The species, represented by two specimens in my previous publication (VOJNITS 1976), was first shown by VIIDALEPP (1975) from Mongolia.

17. *Scouplia albiceraria vitellinaria* EVERSMANN, 1851 (Bull. Soc. Moscou. 2: 641). — In addition to the data of 13 specimens reported under *S. arenacea* STGR. in my previous

paper (VOJNITS 1976), I am submitting those of 83 additional exemplars. The species was rekkorded also by VIIDALEPP (1975)

Collection data. — Chövsgöl aimak: 8 km W von Somon Burenchaan, am Fluss Delger mörön, 1450 m, 16. VII. 1968 (Nr. 1117), 12 ♂, 3 ♀; 8 km N von Somon Alagerdene, am Fluss Egijn gol, 1600 m, 17. VII. 1968 (Nr. 1121), 2 ♂; N von Somon Chatgal am SW-Ecke des Sees Chövsgöl nuur, 1650 m, 18. VII. 1968 (Nr. 1124); 1 ♂; 4 km NW von der Stadt Mörön, 1500 m, 19. VII. 1968 (Nr. 1128), 51 ♂, 7 ♀. — Uvs aimak: Sandgebiet Altan els, 35 km WNW von Somon Tes, 1400 m, 23. VI. 1968 (Nr. 1008), 1 ♀; 4 km OSO vom Pass Ulaan davaa, zwischen dem See Örög nuur und der Stadt Ulaangom, 1700 m, 6. VII. 1968 (Nr. 1074), 2 ♂, 1 ♀.

18. *Scopula permutterata* (STAUDINGER, 1897) (D. ent. Z. Iris, 9: 272). — VIIDALEPP (1975) considered it an endemic species of the Central Asiatic steppes; the subspecies *S. permutterata gnophosaria* LEACH (Tibet) is presumably a distinct species. Z. KASZAB collected a series of fine and fresh specimens from this extremely interesting and rare species.

Collection data. — Chövsgöl aimak: 8 km W von Somon Burenchaan, am Fluss Delger mörön, 1450 m, 16. VII. 1968 (Nr. 1117), 10 ♂; 4 km NW von der Stadt Mörön, 1500 m, 19. VII. 1968 (Nr. 1128), 6 ♂, 2 ♀. — Uvs aimak: 4 km OSO vom Pass Ulaan davaa, zwischen dem See Örög nuur und der Stadt Ulaangom, 1700 m, 6. VII. 1968 (Nr. 1074), 1 ♂; am Fluss Chöndlön gol, 32 km NW von der Stadt Ulaangom, 1200 m, 7. VII. 1968 (Nr. 1078), 1 ♂.

19. *Scopula umbelaria graeseri* PROUT, 1935 (In SEITZ, A.: Die Gross-Schmetterlinge der Erde, Spanner, 1934–1954, Supplement ad IV: 17). — The Central Asiatic populations of the species, ranging from Europe to the Far East, represent a distinct subspecies. VIIDALEPP (1975) was the first to show it from Mongolia.

Collection data. — Bulgan aimak: zwischen Somon Chischig-Öndör und Somon Orchon, 23 km NNO von Chischig-Öndör, 1390 m, 15. VI. 1968 (Nr. 964), 1 ♂; Namnan ul Gebirge, 23 km NW von Somon Chutag, 1150 m, 17. VI. 1968 (Nr. 977), 3 ♂, 2 ♀.

20. *Scopula ornata* (SCOPOLI, 1763) (Ent. Carn., p. 219). — The species, occurring in Europe, the Caucasus and beyond it (Iran, Central Asia, the larger part of Siberia, the Tuva and Yakut regions), was first recorded from Mongolia by VIIDALEPP (1975). The Asiatic specimens display no difference against the European ones.

Collection data. — Bulgan aimak: Namnan ul Gebirge, 23 km NW von Somon Chutag, 1150 m, 21. VII. 1968 (Nr. 1137), 5 ♂; 7 km NW von Somon Chanžargalant, 1350 22. VII. 1968 (Nr. 1140), 1 ♂.

21. *Scopula ineanata* (LINNÉ, 1758) (Syst. Nat. X, p. 528). — The Asiatic exemplars of the species ranging in the larger part of Europe, in the Transcaucasus, and in Asia Minor and Central Asia, agree in the essential characteristics with those of the European ones, although several aberrations have already been described. VIIDALEPP (1975) was the first to show it from Mongolia.

Collection data. — Bulgan aimak: 11 km W von Somon Bajannuur am Südrand des Sees Bajan nuur, 1000 m, 14. VI. — 24. VII. 1968 (Nr. 958), 1 ♂. — Uvs aimak: Senke des Sees Uvs nuur am SW-Rand des Sees, 84 km W von Somon Zuungobi und 63 km O von der Stadt Ulaangom, 790 m, 26. VI. 1968 (Nr. 1024), 1 ♂.

22. *Scopula cajanderi* (HERZ, 1888) (Ofv. Finsk, Förh., 45/15: 13). — The species, collected in Siberia and in the Amur region, is rather rare and was from a systematical point of view also debated for some time. KASZAB's material contained a poorly worn specimen which I identify, with some reservations, as representing this species. New for Mongolia.

Collection data. — Uvs aimak: 4 km OSO vom Pass Ulaan davaa, zwischen dem See Örög nuur und der Stadt Ulaangom, 1700 m, 6. VII. 1968 (Nr. 1074), 1 ♂.

23. *Scopula ternata* SCHRANK, 1902 (N. Beytr., 77: 4). — The species, occurring in Europa, the Ural and Altai Mountains, and in Central Asia, was recorded from Mongolia also by MOUCHA (1967). The Mongolian species seems to agree with the European exemplars.

Collection data. — Uvs aimak: 4 km OSO vom Pass Ulaan davaa, zwischen dem See Örög nuur und der Stadt Ulaangom, 1700 m, 6. VII. 1968 (Nr. 1074), 1 ♂.

24. *Scopula* sp. — There is a specimen in KASZAB's collection which is similar in many respects, mainly in the basic elements of the pattern, to *S. permutterata* STGR., but it has a lighter and more yellowish basic colour, a less marked pattern, without the dark brown spots, and with more elongated fore wings. For a decision on its specific relegation, the study of further and more extensive material is needed.

Collection data. — Chovd aimak: Mongol Altaj Gebirge, Uljasutajn gol, 45 km NNO von Somon Bulgan, 1400 m, 6. VII. 1966 (Nr. 638), 1 ♀.

25. **Sterrhia serpentata** (HUFNAGEL, 1769) (Berl. Mag., IV: 4). — The species ranges in an enormous area within the Palaearctic Region, from the Atlantic shores of Europe to the Far East. For a subspecific clarification of the Asiatic populations, the material available is insufficient. Its occurrence in Mongolia was recorded also by VIIDALEPP (1975).

Collection data. — Chovsgöl aimak: Alag Mort, 42 km NO vom Pass Chaldzan Sogotyn davaa, am Fluss Tesijn gol, 1900 m, 14. VII. 1968 (Nr. 1108), 1 ♂. — Uvs aimak: Mogoin arschaan, N-Rand des Sees Chjargas nuur, 48 km OSO von Somon Narankulag, 1100 m, 9. VII. 1968 (Nr. 1087), 1 ♀.

26. **Holarctias ruficiliaria** (BREMER, 1864) (Lep. Ost-Sibir., p. 78). — The species, occurring in Siberia and especially in the mountains around Siberia and in Mongolia, was first recorded from the latter area by VIIDALEPP (1975).

Collection data. — Chovsgöl aimak: N von Somon Chatgal am SW-Ecke des Sees Chövsgöl nuur, 1650 m, 18. VII. 1968 (Nr. 1122), 1 ♂, 1 ♀.

#### ENNOMINAE (BOARMIINAE)

ad 1. **Abraxas grossulariata dsungarica** WEHRLI, 1939 (In SEITZ, A.: Die Gross-Schmetterlinge der Erde, Spanner, 1934–1954, Supplement ad IV.: 280–281). — Concerning the subspecific assignment, VIIDALEPP (1975) relegated the Mongolian populations to *A. grossulariata ribesata* STAUDINGER, 1892, contrary to my assertion (VOJNITS 1974). The Mongolian specimens at my disposal do not justify VIIDALEPP's statement: though they are paler than the nominate subspecies, they are hardly or not at all smaller. The typical exemplars of *A. grossulariata ribesata* STGR. are essentially smaller, similar to those from Korea.

ad 2. **Lomaspilis marginata amurensis** HEDEMANN, 1881 (Hor. Soc. ent. Ross., 16: 44). — VIIDALEPP (1975) saw no essential difference between the European and Mongolian specimens, and he mentioned only *f. nigrofasciata* SCHÖYEN. In my opinion, the population ranging in the Amur and Ussuri regions, and in Japan, China and Mongolia, differ from the European ones, and principally in the configuration of the median stripe of the fore wing (VOJNITS 1974).

ad 3. **Semiothisa artesiaria** DENIS & SCHIFFERMÜLLER, 1775 (Syst. Verz., p. 195). — VIIDALEPP (1975) recorded the species as new for Mongolia, but the publication of KASZAB's material preceded it (VOJNITS 1974).

ad 4. **Semiothisa elathrata djakonovi** KARDAKOFF, 1926 (Ent. Mitt., 17: 423). — VIIDALEPP (1975) saw no essential difference between the populations inhabiting various regions. According to my investigations (VOJNITS 1974), the imagos of populations ranging widely over Asia (Mongolia, Amur region, North Korea), differ from the nominate subspecies mainly by the formation of the transverse stripes. — In my previous paper (VOJNITS 1974) the locality data of the species have been incorrectly published. The correct data were given subsequently, and also the subspecific problems discussed in detail (VOJNITS 1975). However, the serial number of the species was again incorrectly given ("12").

ad 5. **Semiothisa notata kirina** WEHRLI, 1940 (In SEITZ, A.: Die Gross-Schmetterlinge der Erde, Spanner, 1934–1954, Supplement ad IV: 386). — VIIDALEPP (1975) published the data of the species as new to Mongolia; he also could not observe differences of a subspecific rank between the several populations. His work was preceded by the elaboration of the material deriving from KASZAB's expeditions, according to which the smaller and lighter populations Mongolia, Manchuria and Korea manifestly represent a distinct geographic subspecies (VOJNITS 1974).

ad 6. **Semiothisa saburraria kenteata** STAUDINGER, 1896 (D. ent. Z. Iris, 9: 273). — VIIDALEPP (1975) failed to recognize the subspecific relegation of the Mongolian populations. In my previous paper and on the basis of the extensive series present in KASZAB's collections, I have discussed in detail the subspecific distinctness, the systematico-nomenclatorial circumstances, and also gave a detailed redescription of the subspecies (VOJNITS 1975).

ad. 8. **Itame circumflexaria** (Eversmann, 1848) (Bull. Soc. imp. nat. Moscou, p. 226). — VIIDALEPP (1975) published *Itame costimaculata* GRAESER, 1888, as a species new for Mongolia. The synonymy has been established already by TSCHETVERIKOV and DJAKONOV,

on the basis of EVERMANN's type-specimen preserved in the Leningrad Museum. The paper establishing the occurrence of *Itame circumflexaria* Ev. in Mongolia (VOJNITS 1974) preceded VIIDALEPP's list cited above.

ad 9. *Itame fulvaria* (VILLIERS, 1789) (Entom., 2: 329). — The species mentioned under this name in my preceding paper (VOJNITS 1974) is identical with VIIDALEPP's (1975) *I. brunneata* (THUNBERG, 1784).

ad 11. *Tephrina kaszabi* VOJNITS, 1974 (Ann. Hist.-nat. Mus. Nat. Hung., 66: 285–287). — The species identified at *T. murinaria* FABRICIUS, 1775, by VIIDALEPP (1975) assumably represent the species I described in my previous paper (VOJNITS 1974).

ad 13. *Plagodis pulveraria singularis* VOJNITS, 1975 (Ann. Hist.-nat. Mus. Nat. Hung., 67: 184–185). — The populations representing the subspecies, described and discussed in detail in my previous paper (VOJNITS 1975), have been incorrectly assigned by VIIDALEPP (1975) to *Anagoda pulveraria violacea* GRAESER, 1888. Also KARDAKOFF (1926), HERZ (1904) and WEHRLI (1939–1954) agreed in denying a subspecific state to *violacea*, it being, at most, a "Sommerform". Specimens of a violet hue occur in most localities mixed with "normal" exemplars. The Mongolian ones are, on the other hand, different.

ad 17. *Gonodontis bidentata rava* VOJNITS, 1975 (Ann. Hist.-nat. Mus. Nat. Hung., 67: 186–188). — According to my investigations, two subspecies of *G. bidentata* CLERCK, 1759, occur in Mongolia. The recently described ssp. *rava* VOJNITS occurs in the aimaks Bulgan and Chövsgöl, whereas ssp. *exsul* TSCHETVERIKOV, 1904, inhabits other areas in Mongolia. The occurrence of this latter subspecies was recorded both by VIIDALEPP (1975) and me (VOJNITS 1975), and I discussed in detail the systematical position of ssp. *rava* VOJNITS in the same paper.

ad 21. *Megametopon piperatum* ALPHÉRAKY, 1892 (Rom. Mém. Lep., VI: 58–60). — VIIDALEPP (1975) published the species as new to the fauna of Mongolia; he also gave a description and figure of the genitalia. The paper reporting the elaboration of the material deriving from KASZAB's expeditions preceded it (VOJNITS 1975). The two communications well complement each other, since the latter paper gave a detailed description of the external morphology of the species.

ad 22. *Spartopteryx kindermannaria* (STAUDINGER, 1871) (Cat. Lep. Euro., II: 163). — The species was published in VIIDALEPP's (1975) work as *S. kindermannaria* (EVERSMANN, 1881), probably an oversight.

ad 23. *Synopsis strictaria* (LEDERER, 1853) (Verh. Zool.-Bot. Ges. Wien, 3: 378). — VIIDALEPP (1975) assigned the species to the genus *Megalycinia* WEHRLI. In my opinion (VOJNITS 1975), it is more correctly relegable to *Synopsis* HBN., in agreement with WEHRLI (1941).

ad 25. *Pleogynopteryx bituminaria* LEDERER, 1853 (Verh. Zool.-Bot. Ges. Wien, 3: Pl. 6, Fig. 1). — VIIDALEPP (1975) assigned the species to the genus *Cleora* CURT., and also mentioned *amurensis* WEHRLI, 1929, described from the Amur region. However, this name is not available, but superseded by *raddensis* WEHRLI (= *amurensis* WEHRLI, nom. praeocc.).

ad 26. *Alecis maculata* STAUDINGER, 1892 (D. ent. Z. Iris, 5: 377–378). — VIIDALEPP (1975) published the species as new to the fauna of Mongolia, but the paper containing a part of KASZAB's material from Mongolia preceded it (VOJNITS 1975).

ad 27. *Boarmia roboraria isabellaria* STAUDINGER, 1871 (Cat. Lep. Eur., III: 341). — VIIDALEPP (1975) recorded the Mongolian occurrence of both *S. roboraria* DENIS et SCHIFFERMÜLLER, 1775, and *isabellaria* STGR. In the material I studied, only the latter taxon occurred (VOJNITS 1975).

ad 29. *Arichanna melanaria praeolivana* WEHRLI, 1939 (In SEITZ, A.: Die Gross-Schmetterlinge der Erde, Spanner, 1934–1954, Supplement ad IV.: 256). — VIIDALEPP (1975) published the species as new to the fauna of Mongolia, but the paper dealing with the material of KASZAB's expeditions preceded it (VOJNITS 1975). The former author listed four supposed "forms" from eastern localities: *decolorata* STAUDINGER, 1882; *askoldinaria* OBERTHÜR, 1880; *hansenii* HEDEMANN, 1881, and *praeolivana* WEHRLI, 1939.

ad 31. *Cabera pusaria* LINNÉ, 1758 (Syst. Nat. X., p. 522). — VIIDALEPP (1975) published data of the species as new to Mongolia, but the paper seriatly dealing with the material deriving from KASZAB's expeditions preceded it (VOJNITS 1975).

ad 34. **Dysgnophos benepunctarius** (WEHRLI, 1922) (D. ent. Z. Iris, 36: 16–17). — VIIDALEPP's work (1975) gave no nearer details concerning *Gnophos benepunctarius* WEHRLI. However, he published *G. erschoffi* WEHRLI, 1922, as new to the fauna of Mongolia. As I have discussed in great detail in my previous paper (VOJNITS 1975), the nominate species *erschoffi* WEHRLI and *benepunctarius* WEHRLI are synonymous, notwithstanding the fact that their author relegated them to different groups. Of them, *benepunctarius* WEHRLI should be regarded as valid. Incidentally WEHRLI intended *erschoffi* (= *benepunctarius*) to be a redescription of *G. creperarius* ERSCHOFF, 1876–7; a species now no more interpretable. — In the same paper, I elevated the taxon *Dysgnophos* WEHRLI, 1951\* to generic rank.

ad 38. **Pterygnophos ochrofasciatus** (STAUDINGER 1885) (D. ent. Z. Iris, 8: 362–364). — I have erroneously listed this species as new to the fauna of Mongolia (VOJNITS 1975). VIIDALEPP (1975) gave a detailed description and figure of the genitalia; however, the correct date of the original description is 1885 and not 1892.

ad 40. **Ematura atomaria krassnojarscensis** FUCHS, 1901 (Stett. e. Ztg., 62: 135). — VIIDALEPP (1975) saw no subspecific differences between representatives of the European and Asiatic populations.

ad 43. **Conchia mundataria uncinataria** VOJNITS, 1975 (Ann. Hist.-nat. Mus. nat. Hung., 67: 199–201). — VIIDALEPP (1975) saw no subspecific differences between representatives of the populations of *Conchia* (= *Aspilates*) *mundataria* CRAMER, 1782. In my previous paper (VOJNITS 1975) I have put forward my respective inferences in detail.

ad 44. **Aspilates gilvarius minimus** VOJNITS, 1975 (Ann. Hist.-nat. Mus. Nat. Hung., 67: 201–202). — VIIDALEPP (1975) incorrectly identified the Mongolian populations as *Aspilates gilvarius orientarius* ALPHÉRAKY, 1882. In my preceding paper (VOJNITS 1975), I have discussed in detail the systematics and nomenclature of the species.

ad 45. **Semiaspilates curvarius** (EVERSMANN, 1852) (Bull. Soc. Moscou, p. 167). — The species in VIIDALEPP's work (1975) is incorrectly listed as *Aspilates curvaria* Ev. On the basis of the configuration of the genitalia, the species belongs in the taxon *Semiaspilates* WEHRLI, 1953, elevated to generic rank (VOJNITS 1975).

ad 46. **Semiaspilates obscuratus** WEHRLI, 1953 (In SEITZ, A.: Die Gross-Schmetterlinge der Erde, Spanner, 1934–1954, Supplement ad IV: 678). — VIIDALEPP (1975) correctly stated that the nominate species *obscuratus* WEHRLI and *elwesi* MUNROE, 1963, are synonymous, but this communication was preceded by another paper (VOJNITS 1975), thus VIIDALEPP's action did not establish a new synonymy. He also failed to recognize that the species is assignable to the genus *Semiaspilates* WEHRLI, 1953.

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\* In VIIDALEPP's work (1975), all sensu lato *Gnophos* species are listed without any further (subgeneric or generic) grouping, thus I do not concerning the related species.

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