

A CHECK-LIST OF THE NEUROPTERA- PLANIPENNIA OF THE USSR FAR EAST, WITH SOME TAXONOMIC REMARKS

V. N. MAKARKIN

Institute of Biology and Pedology, Far Eastern Division of the USSR Academy of
Sciences, Vladivostok-22, USSR

(Received 15 May, 1989)

Seventy-seven species of the Far Eastern Neuroptera are listed. *Chrysopa cognata* is considered to be a separate species from *Ch. septempunctata*. *Wesmaelius pseudo-furcatus*, *Mantispia kononenkoi*, and *Euroleon sinicus* are synonymized with *W. furcatus*, *M. styriaca*, and *E. coreanus* respectively. *Drepanepteryx pleshanovi* is now considered as a colour form of the *D. punctata*. With 5 figures.

Up to now 67 species of Neuroptera-Planipennia have been recorded from the Far East of the USSR. In this paper I add further 11 species, from which three ones are new to the USSR fauna (*Wesmaelius asiaticus*, *Dendroleon jezoensis* and *Glenuroides japonicus*); *Drepanepteryx pleshanovi* MAKARKIN, 1985 is now considered to be a colour form of *D. punctata* OKAMOTO. Thus 77 species are included in this checklist. Of these 2 species (*Micromus multipunctatus* and *Chrysopa sapporensis*) are unknown to me in nature. The cited literature only include the works contained the records of the USSR Far Eastern Neuroptera. New records are asterisked (*). The USSR Far East regions are shown in Figure 1.

Abbreviations — Am = Amur province, Ch = Chukotka, Kh = Khabarovsk province, Km = Kamchatka, Kr = Kurile islands, Mg = Magadan province, N Kh = North of Khabarovsk province, Pr = Primorje (Maritime province), Sa = Saghalien.

OSMYLIDAE

1. *Osmylus* (**O.**) *hyalinatus* MACLACHLAN, 1875 — KUWAYAMA 1936: 109, 1956: 79, 1967: 65 (*Plethosmylus*); MAKARKIN 1985c: 39, figs 8, 17, 25. — Distribution: Kr (Kunashir Is.), Sa. Japan.

2. *Osmylus* (**O.**) *decoratus* NAKAHARA, 1913 — MAKARKIN 1985c: 41, figs 2, 12, 13, 26. *hyalinatus* (nec MACLACHLAN): NAVÁS 1912: 421. — Distribution: Kh, Kr (Kunashir Is.), Pr. Japan.

3. *Osmylus* (**O.**) *pryeri* MACLACHLAN, 1875 — MAKARKIN 1985c: 41, figs 11, 15, 23. — Distribution: Kr (Kunashir Is.) Japan.

4. *Osmylus* (*Plesiosmylus*) *tessellatus* MACLACHLAN, 1875 — Kuwayama 1936: 108, 1956: 79, 1967: 65; MAKARKIN 1985c: 41, figs 7, 16, 28. — Distribution. Kr (Kunashir Is.) Japan.

5. *Lysmus harmandinus* (NAVÁS, 1910) — KUWAYAMA 1924: 115, 1936: 108 (*Eosomylus*), 1956: 79, 1967: 65; MAKARKIN, 1985c: 45, figs 3, 6, 21, 29. *kurilensis* KUWAYAMA, 1956: 20, fig. 2, 1967: 65. *flavicornis* (nec MACLACHLAN): MATSUMURA 1911: 15 (*Osmylus*); KUWAYAMA 1936: 104 (*Heliosmylus*).

SISYRIDAE

6. *Sisyr terminalis* CURTIS, 1834 — DOROKHOVA 1987: 48. ZAKHARENKO 1988: 766, fig. 23. — Distribution: Kh, Pr. Europe.

7. *Sisyr nikkoana* (NAVÁS, 1910) — KUWAYAMA 1967: 65. ZAKHARENKO 1988: 767, figs 17–21. — Distribution: *Kh (55 km east of Birobidzhan), Kr (*Kunashir, Is. Iturup Is.), Pr, *Sa. Japan.

DILARIDAE

8. *Dilar septentrionalis* NAVÁS, 1912 — NAVÁS 1912: 420; ZAKHARENKO 1988: 764, figs 1–7. — Distribution: Pr. — China.

MANTISPIDAE

9. *Mantispa styriaca* (PODA, 1761) — ZAKHARENKO, 1987a: 622. — *kononenkoi* MAKARKIN, 1985b: 620 figs a–d, *syn. n.* — Distribution: Pr. Europe, Asia Minor, Armenia, North Iran, Middle Asia, Mongolia, China.

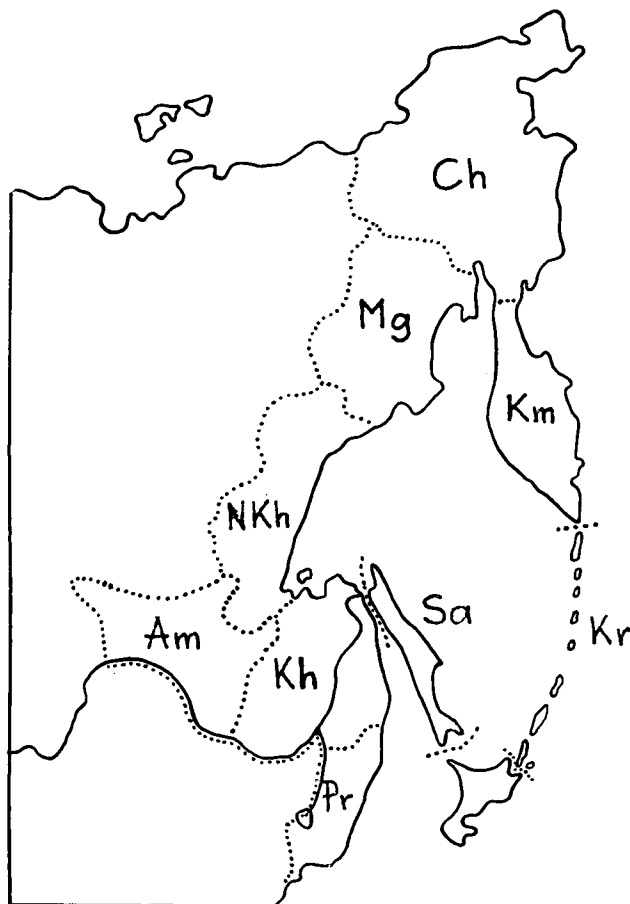


Fig. 1. Far Eastern regions: Am = Amur province, Ch = Chukotka, Kh = Khabarovsk province, Km = Kamchatka, Kr = Kurile Islands, Mg = Magadan province, N Kh = North of Khabarovsk province, Pr = Prymorsje, Sa = Saghalien

10. *Mantispa japonica* MACLACHLAN, 1875 — MAKARKIN 1985b: 622, fig. e-f. — Distribution: Pr. Japan, China, Korea. — Remarks: It is possible that this species is a synonym of *M. perla* PALLAS or *M. lobata* NAVÁS.

11. *Eumantispa harmandi* (NAVÁS, 1909) — MAKARKIN 1985b: 622; ZAKHARENKO 1987a: 624, figs 2, 13. — Distribution: Pr. Japan, Korean Peninsula.

CHRYSOPIDAE

12. *Chrysopa* (Ch.) *perla* (LINNAEUS, 1758) — NAVÁS 1912: 419; PLESHANOV 1974: 189; DOROKHOVA 1980: 21; MAKARKIN 1985f: 57, fig. 4. — Distribution: Kh, *N Kh, Sa. Palaearctic Region.

13. *Chrysopa* (Ch.) *intima* MACLACHLAN, 1893 — KUWAYAMA 1924: 110, 1936: 108, 1956: 81, 1967: 65; PLESHANOV 1974: 189; DOROKHOVA 1979: 107; MAKARKIN 1985e: 91, 1985f: 57, fig. 5. var. *fracta* NAVÁS, 1912: 419 (*Chrysopa perla*). (?) *perla* (nec LINNAEUS): MATSUMURA, 1911: 14. — Distribution: Am, Kh, Km, Kr (Iturup Is., Kunashir Is.), Pr, Sa. *Jakutia, Siberia, Mongolia, China, Japan, Korea.

14. *Chrysopa* (Ch.) *formosa* BRAUER, 1850 — PLESHANOV 1974: DOROKHOVA 1979: 107; SHUVAKHINA 1980a: 22; MAKARKIN 1985e: 91, 1985f: 57, fig. 6. — Distribution: Am, Kh, Km, *Kr (Kunashir Is.), Pr, *Sa. Palaearctic Region.

15. *Chrysopa* (Ch.) *abbreviata* CURTIS, 1854 — Distribution: *N Kh (District of Okhotsk). Europe, Siberia, Middle Asia, Mongolia.

16. *Chrysopa* (Ch.) *commata* KIS et ÚJHELYI, 1965 — MAKARKIN 1985e: 91, 1985f: 59, figs 1, 9. — Distribution: Am, Kh, Kr (Kunashir Is.), Pr. Europe, Armenia, North Iran, Siberia.

17. *Chrysopa* (Ch.) *sapporensis* OKAMOTO, 1914 — KUWAYAMA 1956: 81. — *phyllochroma* (nec WESMAEL): KUWAYAMA 1967: 66. — Distribution: Kr (Iturup Is.). Japan. — Remark: *Ch. sapporensis* was considered to be a synonym of *Ch. phyllochroma*. However, TSUKAGUCHI (1985) found that the latter species do not occur in Japan. It is possible that *Ch. sapporensis* and *Ch. commata* refer to the same species.

18. *Chrysopa* (Ch.) *perplexa* MACLACHLAN, 1887 — DOROKHOVA 1979: 108; MAKARKIN 1985e: 91, 1985f: 60, figs 3, 8. — Distribution: Am, Kh, Pr. East Siberia, China, Japan, Korea.

19. *Chrysopa* (Ch.) *phyllochroma* WESMAEL, 1841 — (?) PLESHANOV 1974: 188; MAKARKIN 1985f: 61, figs 2, 10. — Distribution: Am, ?Pr. Palaearctic Region.

20. *Chrysopa* (Parachrysopa) *septempunctata* WESMAEL, 1841 — KUWAYAMA 1924: 111, fig. 3; PLESHANOV 1974: 188 (partim); DOROKHOVA 1979: 111 (partim); SHUVAKHINA 1980b: 23 (partim); MAKARKIN 1985: 58, fig. 7 (partim). — Distribution: Am, Kh, Km, Pr, Sa. Palaearctic Region.

21. *Chrysopa* (Parachrysopa) *cognata* MACLACHLAN, 1867 — NAVÁS 1912: 419. *septempunctata* (nec WESMAEL): PLESHANOV 1974: 188 (partim); DOROKHOVA 1979: 111 (partim); SHUVAKHINA 1980b: 23 (partim); MAKARKIN 1985e: 91; 1985f: 58, fig. 7 (partim). — Distribution: *Am, *Kh, Pr. China, Korea, Japan, Cambodia. — Remark. This species was described from Cambodia, China and Japan, but for a long time it was considered as a synonym of *Ch. septempunctata*. However, *Ch. cognata* differs from the latter species externally as well as in male genitalia structures as follows:

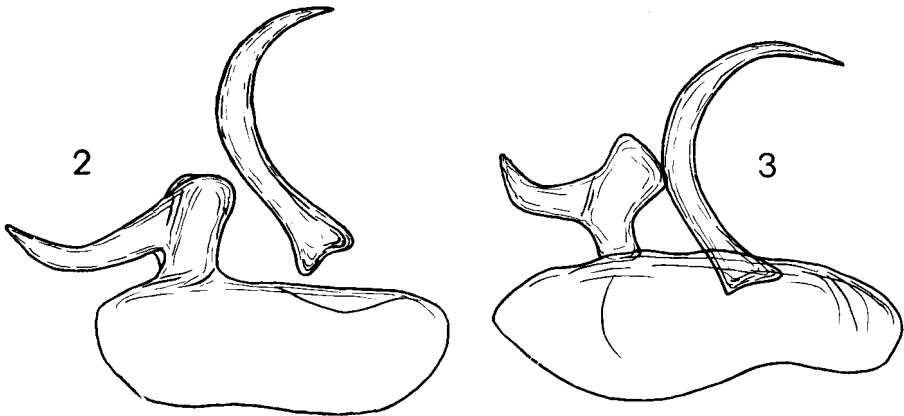
1 (2) Body wholly green; head mainly with 7 spots: on genae (2), on clypeus (2), under antennae (2), and between antennae (1). Entoprocessus long, extending out of hind margin of gonarcus (Fig. 2) **Ch. septempunctata**

2 (1) Body green dorsally with median yellow stripe; head mainly with 4–5 spots: on clypeus (2), under antennae (2), and between antennae (1 or absent). Entoprocessus short and curved (Fig. 3) **Ch. cognata**

22. *Chrysopa* (Cunctochrysa) *albolineata* KILLINGTON, 1935 — MAKARKIN 1985e: 91, 1985f: 61, fig. 11. — Distribution: Pr. Europe, Anatolia, Armenia, Iran, Afghanistan, Japan, Korea.

23. *Chrysopa* (?*Aperthochrysa*) *joannisi* NAVÁS, 1910 — MAKARKIN, 1985d: 48, figs 1–5; 1985f: 61, fig. 12. — Distribution: Pr. China.

24. *Chrysopa* (?*Chrysoperla*) *cognatella* OKAMOTO, 1914 — KUWAYAMA 1962: 366; MAKARKIN 1985d: 48, figs 6–8, 1985f: 61, fig. 13. — Distribution: Pr, Sa. Japan, Korea, China (including Taiwan).



Figs 2—3. Male gonarcus and pseudopenis of *Chrysopa septempunctata* WESM. (2) and *Ch. cognata* McL. (3), lateral view

25. *Chrysoperla carnea* (STEPHENS, 1836) — PLESHANOV 1974: 187; MAKARKIN 1985f: 61, fig. 14. — Distribution: Am, Kh, Pr. Holarctic Region.

26. *Chrysoperla nipponensis* (OKAMOTO, 1914) — MAKARKIN 1985e: 91, 1985f: 61, fig. 15. *sinica* (? nec TJEDER, 1936): DOROKHOVA 1979: 110 (*Chrysopa*). — Distribution: Kh, Kr (Kunashir Is.), Pr. China, Japan, Korea.

27. *Chrysotropia ciliata* (WESMAEL, 1841) — PLESHANOV 1974: 187; DOROKHOVA 1979: 106; MAKARKIN 1985e: 91, 1985f: 62, fig. 19. — Distribution: Am, Kh, Kr (Kunashir Is.), Pr, Sa. Palaearctic Region.

28. *Mallada prasina* (BURMEISTER, 1839) — KUWAYAMA 1967: 66 (*Chrysopa*); PLESHANOV 1974: 187 (*Chrysopa*); DOROKHOVA 1979: 109, 1981: 5 (*Chrysopa*); MAKARKIN 1985e: 91, 1985f: 61, fig. 16 (*Anisochrysa*). *sachalinensis* MATSUMURA, 1911: 14 (*Chrysopa*); KUWAYAMA 1924: 111, 1956: 82 (*Chrysopa*). — Distribution: Am, Kh, Kr (Kunashir Is.), Shikotan Is.), Pr, Sa. Palaearctic Region.

29. *Mallada laurae* (MAKARKIN, 1985) comb. n. — MAKARKIN 1985d: 49, figs 9—14, 1985f: 62, fig. 17 (*Anisochrysa*). — Distribution: Kh, Kr (Kunashir Is.), Pr, *Sa.

30. *Mallada ussuriensis* (MAKARKIN, 1985) comb. n. — MAKARKIN 1985d: 51, figs 15—20 1985e: 91, 1985f: 62, fig. 18 (*Anisochrysa*). — Distribution: Kh, Pr.

31. *Nineta vittata* (WESMAEL, 1841) — NAVÁS 1925: 1; KUWAYAMA 1924: 109, 1936: 108, 1956: 81 (*Chrysopa*), 1967: 66 (*Chrysopa*); PLESHANOV 1974: 187; DOROKHOVA 1979: 108; MAKARKIN 1985f: 62, fig. 20. *inornata* MATSUMURA 1911: 14 (*Chrysopa*). — Distribution: Kh, Km, Kr (Iturup Is., Kunashir Is., Shikotan Is.), Pr, Sa. Palaearctic Region.

32. *Nineta carinthiaca* (HÖLZEL, 1965) — MAKARKIN 1985d: 52, figs 21—24, 1985e: 91, 1985f: 62, fig. 21. — Distribution: Am, Kh, Pr. Europe, Siberia.

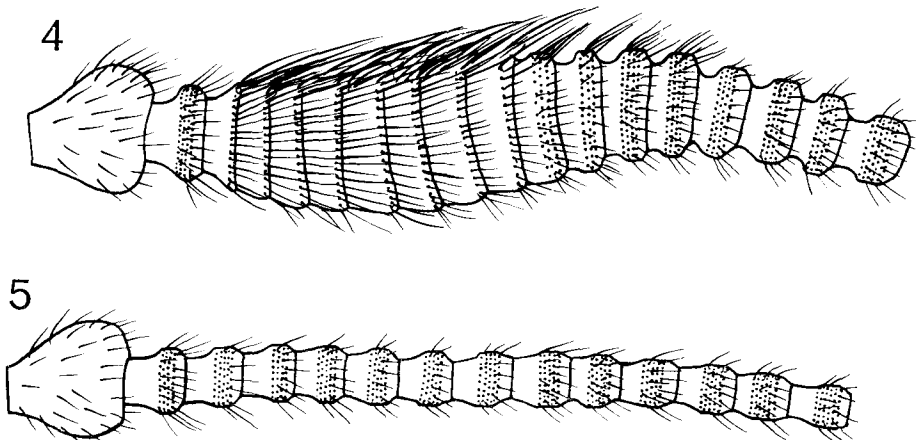
HEMEROBIIDAE

33. *Hemerobius* (H.) *humulinus* LINNAEUS, 1758 — NAVÁS 1912: 419, 1925: 2; ESBEN-PETERSEN 1921: 40; KUWAYAMA 1936: 109, 1962: 353; MAKARKIN, 1985a: 163, figs 16, 32; 1985e: 91. ? *shikotanus* KUWAYAMA, 1956: 77, fig. 1; 1967: 65. — Distribution: Am, Kh, Km, Kr (Kunashir Is., ? Shikotan Is.), Mg, Pr, Sa. Holarctic Region. — Remarks: An examination of the female holotype of *H. shikotanus* will decide whether is it identical with *H. humulinus* or *H. japonicus*?

34. *Hemerobius* (H.) *japonicus* NAKAHARA, 1915 — KUWAYAMA 1956: 77, 1967: 65; MAKARKIN 1985a: 164, figs 17, 36; 1985e: 91. — Distribution: Kr (Kunashir Is.), Pr. Japan.

35. *Hemerobius* (H.) *simulans* WALKER, 1853 — MAKARKIN 1985a: 165, figs 18, 44, 1985e: 91. — *piceus* NAVÁS 1925: 2, fig. 1. — Distribution: Am, Kh, N Kh, Km, Mg, Pr, Sa. Holarctic Region.

36. *Hemerobius (H.) fujimotoi* NAKAHARA, 1960 — Distribution: *Am, *Kh, *Sa. Caucasus, Siberia, Japan.
37. *Hemerobius (H.) fenestratus* TJEDE, 1932. — MAKARKIN, 1985a: 166, figs 12, 33. — Distribution: *Am, *Kh, *Km, Kr (Kunashir Is.), Pr, Sa. Europe, Mongolia, Siberia, ? Japan.
38. *Hemerobius (H.) atrifrons* MACLACHLAN, 1868 — MAKARKIN 1985a: 166, figs 15, 29. — Distribution: Am, Kh, *N Kh, Km, Mg, Sa. Europe, Mongolia, China, Japan.
39. *Hemerobius (H.) nitidulus* FABRICIUS, 1777 — NAVÁS 1925: 2; MAKARKIN, 1985a: 165, figs 11, 31. — Distribution: Km, Kr (Paramushir Is.), Mg. Europe, Caucasus, Siberia, Mongolia.
40. *Hemerobius (H.) stigma* STEPHENS, 1836 — MAKARKIN, 1985a: 166, figs 15, 29. — Distribution: Am, *N Kh, Km, Mg, *Pr, Sa. Holarctic Region.
41. *Hemerobius (Brauerobius) marginatus* Stephens, 1836 — ESBEN-PETERSEN 1921: 40; NAVÁS 1925: 2; MAKARKIN 1985a: 167, figs 27, 39. — Distribution: Kh, *N Kh, Km, Mg, Pr, Sa. Palaearctic Region. — Remarks: In the northern part of its range, this species is considerably smaller and darker. Such specimens from Finland were named by MEINANDER (1962) as *H. m. lapponicus*. It occurs also in the Komi ASSR (ZAKHARENKO & SEDYKH 1981), in Yakutia and in the northern part of the Far East and are possibly identical with *H. costalis* CARPENTER distributed in North America (including Alaska).
42. *Hemerobius (Brauerobius) tristriatus* KUWAYAMA, 1954 — KUWAYAMA 1954: 97; MAKARKIN 1985a: 167, figs 26, 37. — Distribution: *Am, Kh, Kr (Kunashir Is., Shikotan Is.), Pr, Sa. Japan.
43. *Hemerobius (Allemerobius) exoterus* NAVÁS, 1936 — MAKARKIN 1985a: 168, figs 24, 45; 1985e: 91. — Distribution: Pr. China. — Remarks: The subgenus *Monorobius* MAKARKIN, 1985 (type-species *H. lutescens*, by original designation) is a junior synonym of *Allemerobius* BANKS, 1940 (type-species *A. flavolus* BANKS, 1940 by original designation) *syn. n.* BANKS (1905) designated *H. lutescens* F. as genotype of *Mucropalpus* RAMBUR, 1842. However, *H. lutescens* in sensu RAMBUR, 1842 is identical with *H. humulinus* L., the type species of *Hemerobius* LINNAEUS, 1758 (HAGEN 1866, LERAUT 1980). Therefore, *Mucropalpus* is an objective synonym of *Hemerobius*.
44. *Hemerobius (Allemerobius) poppii* ESBEN-PETERSEN, 1921 — MAKARKIN 1985a: 168, figs 25, 43. — Distribution: *Am, *Km, *N Kh, Mg, *Sa. Siberia, China, Mongolia.
45. *Hemerobius (Allemerobius) subfalcatus* NAKAHARA, 1960 — MAKARKIN 1985a: 168, figs 20, 42. — Distribution: *Kr (Kunashir Is.), *Pr, Sa. Japan.



Figs 4–5. *Wesmaeilus asiaticus* YANG, basal parts of the antennae of male (4) and female (5), lateral view

46. *Wesmaelius (W.) quadrifasciatus* (REUTER, 1894) — NAKAHARA 1956: 182; MAKARKIN 1986: 607, figs 13, 15. — Distribution: Am, Kh, *Km, *N Kh, Kr (Kunashir Is.), Mg, Sa. Palaearctic Region.
47. *Wesmaelius (W.) asiaticus* YANG, 1980 — Distribution: *Kh, *Pr. China. — Remarks: This species was described on the basis of a single female from North China. It is closely related to *W. quadrifasciatus*, but differs from it by the genitalia structures of both males and females as well as by an unusual shape of the male antennae (Figs 4–5).
48. *Wesmaelius (Kimminsia) nervosus* (FABRICIUS, 1793) — HAGEN 1858: 130 (*Hemerobius*): NAVÁS 1925: 3 (*Hemerobius*). *betulinus* STRÖM, 1788; MAKARKIN 1986: 607, figs 3, 17. — Distribution: *Ch. Km, Kr (Kunashir Is.), N Kh, Pr, Sa. Holarctic Region.
49. *Wesmaelius (Kimminsia) fureatus* (BANKS, 1935) = *pseudofurcatus* MAKARKIN, 1986: 608, figs 7, 9, 10, 25 (syn. n.). — Distribution: Mg. Altaj, Buryatia, North America. — Remarks: *W. pseudofurcatus* was based mainly on the subgenital plate characters, but it is recently showed that this structure is very variable (KLIMASZEWSKI & KEVAN 1987).
50. *Wesmaelius (?Kimminsia) lateralis* (NAVÁS, 1912) — NAVÁS 1912: 419, fig. 4 (*Boriomyia*); MAKARKIN 1986: 611, figs 1, 11, 12, 27. — Distribution: Kh, Mg, Sa. Altaj, Buryatia, Japan.
51. *Neuronema laminata* TJEDER, 1936 — *tjederi* KIMMINS, 1943; MAKARKIN 1986: 613, fig. 34, 44. *albstigma* (nec MATSUMURA): PLESHANOV, 1974: 186. *deltoides* (nec NAVÁS, 1910): NAVÁS 1912: 420 (*Ninga*); (?) KUWAYAMA 1924: 107 (*Ninga*). — Distribution: *Am, *Kh, Pr, Sa. China.
52. *Neuronema albstigma* (MATSUMURA, 1907) — MAKARKIN, 1986: 613, figs 35, 45. — Distribution: Kr (Kunashir Is.). Japan.
53. *Drepanopteryx phalaenoides* (LINNAEUS, 1758) — NAVÁS 1929: 36; KUWAYAMA 1962: 358; MAKARKIN 1985b: 91; 1986: 615, fig. 36. — Distribution: *Kh, *Km, *Kr (Shikotan Is.), Pr, Sa. Palaearctic Region.
54. *Drepanopteryx algida* (ERICHSON, 1851) — MAKARKIN, 1986: 616, fig. 38. — Distribution: Am, *N Kh, *Sa. Europe, Siberia, Mongolia.
55. *Drepanopteryx punctata* (OKAMOTO, 1905) — KUWAYAMA 1962: 357 (*Oedobius*); MAKARKIN 1986: 616, fig. zh. — Distribution: Kr (Kunashir Is.), Pr, Sa. Japan. — Remarks: *D. pleshanovi* differs from *D. punctata* in having a longitudinal brown stripe on the fore wings. However, it does not differ from the latter species by the genitalia structures of both males and females. I believe that *D. pleshanovi* is a colour form of *D. punctata*. This form occurs in the Primorje and Saghalien.
56. *Micromus angulatus* (STEPHENS, 1836) — NAVÁS 1912: 420; KUWAYAMA 1962: 350 (*Eumicromus*); MAKARKIN 1985a: 169, fig. 48, 1985e: 91. *aphidivorus*: NAVÁS 1925: 3. — Distribution: Am, Kh, Km, Mg, Pr, Sa. Holarctic Region.
57. *Micromus paganus* (LINNAEUS, 1767) — NAVÁS 1925: 3; KUWAYAMA 1956: 78 (*Eumicromus*); MAKARKIN 1985a: 169, fig. 46. *alpinus* NAKAHARA, 1915; KUWAYAMA 1956: 78 (*Eumicromus*) — Distribution: Am, Kh, Km, Kr (Kunashir Is., Paramushir Is., Urup Is.), Sa, Pr. Palaearctic Region.
58. *Micromus variegatus* (FABRICIUS, 1793) — MAKARKIN 1985a: 168, fig. 47, 1985e: 91. — Distribution: Pr. Asia Minor, Caucasus, North Iran, South Kazakhstan, Japan.
59. *Micromus multipunctatus* MATSUMURA, 1907 — KUWAYAMA 1962: 348. *novitius* NAVÁS, 1910; KUWAYAMA 1924: 108. — Distribution: ?Sa. Japan, China (including Taiwan Is.). — Remarks: I have not seen any specimens of this species from the USSR. As it may be confused with *Paramicromus dissimilis*, its distribution in our country needs a confirmation.
60. *Paramicromus dissimilis* (NAKAHARA, 1915) — KUWAYAMA 1962: 351; MAKARKIN 1985a: 170, fig. 49. — Distribution: Kr (Iturup Is.), Kunashir Is.), Sa. Japan.
61. *Psectra diptera* (BURMEISTER, 1839) — MAKARKIN 1985e: 91, 1986: 613. — Distribution: Km, Kr (Kunashir Is.), Pr. Holarctic Region.
62. *Symphorobius manchuricus* NAKAHARA, 1960 — MAKARKIN 1985e: 91, 1986: 611, fig. 39. — Distribution: *Am, Pr. China.
63. *Symphorobius fuscescens* (WALLENGREN, 1863) — Distribution: *Kr (Kunashir Is.). Europe, Anatolia, Kazakhstan, Siberia, Japan (Hokkaido). — Remark: Two females were found in the Kunashir Island. They are darker than the European and Siberian specimens. The Hokkaido specimen (a male) is also darker (NAKAHARA 1971).

CONIOPTERYGIDAE

64. *Coniopteryx (C.) pygmaea* ENDERLEIN, 1906 — MEINANDER 1981: 107. — Distribution: Kr (Kunashir Is.), Shikotan Is.), *Pr. Europe.
65. *Coniopteryx (C.) parthenia* (NAVÁS et MARCET, 1910) — Distribution: *Kh. Europe, Morocco, Asia Minor, Siberia, Mongolia.
66. *Coniopteryx (C.) aspoecki* KIS, 1967 — Distribution: *Pr. Roumania, Austria, Jakutia.
67. *Coniopteryx (C.) helvola* ZAKHARENKO, 1987 — ZAKHARENKO 1987: 76, figs 1—5. — Distribution: Pr.
68. *Semidalis aleyrodiformis* (STEPHENS, 1836) — Distribution: *Pr. Palaearctic Region, India, Thailand, Malaya, Taiwan Is.

ASCALAPHIDAE

69. *Libelloides sibiricus* (EVERSMANN, 1850) — KOZHANCHIKOV 1953: 432 (*Ascalaphus*); PLESHANOV 1974: 191 (*Ascalaphus*). Distribution: *Am, *Kh, Pr. South Siberian, China, Korea.

MYRMELEONTIDAE

70. *Acanthaclisis japonica* MACLACHLAN, 1875 — MAKARKIN 1984: 38. — Distribution: Pr. China, Japan, Korea.
71. *Myrmeleon (M.) formicarius* LINNAEUS, 1767 — KUWAYAMA 1962: 388; PLESHANOV 1974: 190; MAKARKIN 1984: 39. — Distribution: Kh, Pr., Sa. Palaearctic Region.
72. *Myrmeleon (Morter) bore* (TJEDER, 1941) — KUWAYAMA 1962: 388, 1967: 66 (*Grocus*); PLESHANOV 1974: 191 (*Grocus*); MAKARKIN 1984: 39. *formicarius* (nec LINNAEUS): KUWAYAMA, 1936: 107, 1956: 82. — Distribution: *N Kh (district of Okhotsk), Kr (Kunashir Is.), Pr, Sa. Palaearctic Region.
73. *Deutoleon lineatus* (FABRICIUS, 1798) — NAVÁS 1912: 418 (*Formicaleo*); PLESHANOV 1974: 140 (*Formicaleo*); MAKARKIN 1984: 39. — Distribution: Kh, Pr. East Europe, Kazakhstan, South Siberia, Mongolia, China, Korea.
74. *Euroleon polyspilus* (GERSTAECKER, 1885) — GERSTAECKER 1885: 24 (*Myrmeleon*); MAKARKIN 1984: 39 (*Formicaleo*). Distribution: *Kh (Aungun river), Pr, Sa. Siberia, Mongolia.
75. *Euroleon coreanus* OKAMOTO, 1926 — OKAMOTO 1926: 19, fig. 1. *sinicus* NAVÁS, 1930; HÖLZEL 1970a: 254, fig. 13—15, *syn. n. nostras* (nec FOURCROY); PLESHANOV 1974: 190. — Distribution: *Pr. Burjatia, Mongolia, China, Korea. — Remark: I have examined two specimens from the Primorje (Novokachalinsk and Novonezhino) and a number of specimens from the Burjatia. The latter specimens were determined by H. HÖLZEL as *E. sinicus*. On the other hand, they agree well with the description of *E. coreanus*. I think that *E. sinicus* is a synonym of *E. coreanus*, although H. HÖLZEL (1970b) proposed the synonymy of *E. coreanus* with *E. polyspilus*. However, the latter species differs in many respects from both *E. coreanus* and *E. sinicus*.
76. *Dendroleon jezoensis* OKAMOTO, 1910 — Distribution: *Pr. Japan, China, Korea. — Remark: I have examined only one male collected by me at Borisovka river 27 July 1987.
77. *Glenuroides japonicus* (MACLACHLAN, 1867) — Distribution: *Pr. Japan, China (including Taiwan Is.), Korea. — Remark: I have studied three specimens collected at Rjazanovka, the extreme South Primorje.

REFERENCES

- BANKS, N. (1905): A revision of the Nearctic Hemerobiidae. — Trans. Amer. Ent. Soc., **32**: 21—51.
- DOROKHOVA, G. I. (1979): Lacewings of the family Chrysopidae (Neuroptera) of the USSR. — Ent. Obozr., **58**: 105—111. (in Russian.)
- DOROKHOVA, G. I. (1980): *Chrysopa perla* (Linnaeus, 1758) (Neuroptera, Chrysopidae). — In: The insect areas of the USSR European part, Nauka Publ., Leningrad, p. 21 (map 38) (in Russian).

- DOROKHOVA, G. I. (1981): *Chrysopa prasina* Burmeister, 1839 (Neuroptera, Chrysopidae). — In: The insect areas of the USSR, European part, Nauka Publ., Leningrad, p. 5. (map 74) (in Russian).
- DOROKHOVA, G. I. (1987): Neuropteroidea. — In: Identification book of insects of the USSR, European part, Nauka Publ., Leningrad, vol. 4, pt. 6, p. 7—96 (in Russian).
- ESBEN-PETERSEN, P. (1921): Notes concerning some Neuroptera in the Helsingfors Museum together with a description of *Hemerobius poppii*. — *Nor. Ent.*, **1**: 38—43.
- GERSTAECKER, A. (1885): Vier Decaden von Neuropteren aus der Familie Megaloptera Burm. — *Mitt. naturwiss. Ver. Neuvorpomm. Rügen*, **16**: 1—49.
- HAGEN, H. A. (1858): Russlands Neuropteren. — *Stett. Ent. Z.*, **19**: 110—134.
- HAGEN, H. A. (1866): *Hemerobidarum synopsis synonymica*. — *Stett. Ent. Z.*, **27**: 369—462.
- HÖLZEL, H. (1970a): Myrmeleonidae aus den westlichen Teilen der Mongolie (Neuroptera-Planipennia). — *Mitt. Zool. Mus. Berlin*, **46**: 247—264.
- HÖLZEL, H. (1970b): Ergebnisse der zoologischen Forschungen von Dr. Z. Kaszab in der Mongolei. 222. Beitrag zur Kenntnis der Myrmeleoniden der Mongolei (Neuroptera-Planipennia). — *Acta Zool. Hung.*, **16**: 115—136.
- KLIMASZEWSKI, J. & KEVAN, D. K. MC. E. (1987): The brown lacewing flies of Canada and Alaska (Neuroptera: Hemerobiidae). Part. 2. The genus *Wesmaelius* Krüger. — *Neur. Intern.*, **4**: 153—204.
- KOZHANTCHIKOV, I. V. (1953): Neuroptera. — In: Animal Kingdom of the USSR, Nauka Publ., Moscow & Leningrad, vol. 4, p. 424—433. (in Russian.)
- KUWAYAMA, S. (1924): A contribution to the knowledge of the Neuropterous insects of South Saghalien. — *Trans. Sapporo-Nat. Hist. Soc.*, **9** (1): 93—140. (in Japanese.)
- KUWAYAMA, S. (1936): Materials for the study of the Neuropteroid fauna of the Kurile Islands. I. — *Ins. Mats.*, **10**: 107—110.
- KUWAYAMA, S. (1954): Neuroptera-Planipennia from the Daisetsuzan National Park, Hokkaido, Japan. — *Ins. Mats.*, **18**: 94—102.
- KUWAYAMA, S. (1956): Further studies on the Neuroptera-Planipennia of the Kurile Islands. — *Ins. Mats.*, **20**: 77—82.
- KUWAYAMA, S. (1962): Revisional synopsis of the Neuroptera in Japan. — *Pac. Ins.*, **4**: 325—412.
- KUWAYAMA, S. (1967): Insect fauna of the Southern Kurile Islands, Sapporo, 225 pp. (in Japanese.)
- LERAUT, P. (1980): Liste des Planipennes de France. — *Bull. Soc. Ent. Fr.*, **85**: 237—253.
- MAKARKIN, V. N. (1984): The ant lions (Neuroptera, Myrmeleontidae) of the Far East. — In: Systematics of insects of the Far East, Far East Sci. Center Publ., Vladivostok, p. 38—40. (in Russian.)
- MAKARKIN, V. N. (1985a): A review of Hemerobiidae (Neuroptera) of the fauna of the USSR. I. The genera *Hemerobius* L., *Micromus* Ramb. and *Paramicromus* Nakah. — *Ent. Obozr.*, **64**: 158—170. (in Russian.)
- MAKARKIN, V. N. (1985b): A contribution of the fauna of the Neuroptera from the Far East. — *Zool. Zhurn.*, Moscow, **64**: 620—622. (in Russian.)
- MAKARKIN, V. N. (1985c): A review of the family Osmylidae (Neuroptera) of the USSR fauna. — In: Taxonomy and ecology of Arthropoda of the Far East, Far Eastern Sci. Center Publ., Vladivostok, p. 33—47. (in Russian.)
- MAKARKIN, V. N. (1985d): New or little known species of the green lacewings (Neuroptera, Chrysopidae) from the Far East. — In: Taxonomy and ecology of Arthropoda of the Far East, Vladivostok, p. 48—52. (in Russian.)
- MAKARKIN, V. N. (1985e): Influence of the conditions of a large city upon species composition in Neuroptera. — *Ekologia, Sverdlovsk*, N **4**: 90—92. (in Russian.)
- MAKARKIN, V. N. (1985f): A faunal review of the green lacewings (Neuroptera, Chrysopidae) of the Far East. — In: Fauna and ecology of insects of the Primorje and Kamchatka (pests and entomophages), Far Eastern Sci. Center Publ., Vladivostok, p. 55—64. (in Russian.)
- MAKARKIN, V. N. (1986): A review of Hemerobiidae (Neuroptera) of the fauna of the USSR. 2. The genera *Wesmaelius* Krüger, *Symphorobius* Banks, *Psectra* Hagen, *Megalomus* Rambur, *Neuronema* McLach., and *Drepanopteryx* Leach. — *Ent. Obozr.*, **65**: 604—617. (in Russian.)
- MATSUMURA, S. (1911): Erster Beitrag zur Insecten-Fauna von Saghalien. — *J. Coll. Agr. Tohoku Imp. Univ.*, **4**: 1—144.
- MEINANDER, M. (1962): The Neuroptera and Mecoptera of Eastern Fennoscandia. — *Fauna fenn.*, **13**: 1—96.

- MEINANDER, M. (1981): A review of the genus *Coniopteryx* (Neuroptera, Coniopterygidae). — Ann. Ent. Fenn., **47**: 97—110.
- NAKAHARA, W. (1956): New or little known Hemerobiidae from Japan and adjacent territories (Neuroptera). — Kontyû, **24**: 182—191.
- NAKAHARA, W. (1971): Some genera and species of the Hemerobiidae (Neuroptera). — Kontyû, **39**: 7—14.
- NAVÁS, L. (1912): Quelques Neuroptères de la Sibérie méridionale-orientale. — Rev. Ent. d'Rus., **12**: 414—422.
- NAVÁS, L. (1925): Entomologische Ergebnisse der schwedischen Kamtchatka-Expedition 1920—1922. 6. Neuroptera et Mecoptera. — Ark. Zool., **18** B: 1—4.
- NAVÁS, L. (1929): Insecta orientalia. VI—VII series. — Mem. Pont. Accad. Sci. Nuovi Lincei, sér 2, **12**: 33—56.
- OKAMOTO, H. (1926): Some Myrmeleonidae and Ascalaphidae from Corea. — Ins. Mats., **1**: 18—23.
- PLESHANOV, A. S. (1974): A review of the lacewings (Neuroptera) of Siberia and Far East. — In: Fauna of insects of the Eastern Siberia and Far East, Irkutsk State Univ. Publ., p. 180—193 (in Russian.)
- SHUVAKHINA, E. YA. (1980a): *Crysopa formosa* Brauer, 1850. — In: The insects areas of the USSR European part, Nauka Publ., Leningrad, p. 22. (map 39) (in Russian).
- SHUVAKHINA, E. YA. (1980b): *Chrysopa septempunctata* Wesmael, 1841. — In: The insect areas of the USSR European part, Nauka Publ., Leningrad, p. 23 (map 40). (in Russian.)
- TJEDER, B. (1936): Schwedisch-chinesische wissenschaftliche Expedition nach den nord-westlichen Provinzen Chinas. 62. Neuroptera. — Ark. Zool., **28** A: 1—36.
- TSUKAGUCHI, T. (1985): A check-list of published species of Japanese Chrysopidae (Neuroptera). — Kontyû, **53**: 503—506.
- ZAKHARENKO, A. V. (1987): Neuroptera of the fauna of the USSR. I. Family Mantispidae. — Ent. Obozr., **66**: 621—626 (in Russian).
- ZAKHARENKO, A. V. (1987b): A new species of the genus *Coniopteryx* (Neuroptera, Coniopterygidae) from the Far East. — Vestn. Zool., Kiev, N **5**: 76 (in Russian).
- ZAKHARENKO, A. V. (1988): Neuroptera of the fauna of the USSR. II. Fam. Dilaridae, Berthidae and Sisyridae. — Ent. Obozr., **67**: 763—768 (in Russian).
- ZAKHARENKO, A. V. & SEDYKH, K. F. (1981): Neuroptera of the Komi ASSR. — Ent. Obozr., 598—600 (in Russian))