

Studies on the Heteroptera of the Khorasan province in N. E. Iran. I. Nepomorpha, Gerromorpha, Leptopodomorpha, Cimicomorpha (Nabidae, Anthocoridae), and Pentatomorpha (Coreoidea)

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Linnavuori, R. E. & Modarres, M. 1998: Studies on the Heteroptera of the Khorasan province in N. E. Iran. I. Nepomorpha, Gerromorpha, Leptopodomorpha, Cimicomorpha (Nabidae, Anthocoridae), and Pentatomorpha (Coreoidea). — Entomol. Fennica 9: 237–241.

A list of Heteroptera species of the Khorasan province in N. E. Iran is published.

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Received 9 April 1997, accepted 10 February 1998

1. Introduction

The Hemipteran fauna of Central, South and South-East Iran is relatively well-known (Expeditions of the Natural History in Stuttgart in 1954 and 1956, the National Museum of Natural History in Prague in 1970, 1973 and 1977, and annual field work of entomologists in the Plant Pests and Diseases Research Institute in Tehran). In contrast, much less work has been done in the Khorasan province in N. E. Iran. The present article is based on material collected by the senior author from April to July 1994 in Khorasan. The expedition was made in cooperation with the College of Agriculture of the Ferdowsi University in Mashhad.

2. Material and methods

Khorasan is the largest province in Iran with a total area of 313 000 km². The main part of the province is formed by a

plateau of an average altitude of about 1 000–1 500 m. It is traversed by mountain ranges (altitude up to 3 050 m), such as Kuh-e-Hazar Masied in the North and Kuh-e-Aladagh and Kuh-e-Binalud, a continuation of the Alborz ranges, from the south of Bojnurd to Neyshabur. In the North along the border of Turkmenistan there is a depression (altitude about 300 m) extending from Sarakhs to Darreh Gaz. The climate is semiarid or arid. The vegetation in lower parts varies from *Artemisia* steppes in the North to immense semideserts and salt marshes with halophytes such as *Haloxylon*, *Calligonum*, and *Tamarix* in the South. At higher altitudes occur luxuriant forests with deciduous trees and mountain meadows.

During the expedition, trips were made to all principal areas in order to get a reliable result of the faunal composition of the province. A list of the findings is published below. In nomenclature and distributional data, the Catalogue of the Heteroptera of the Palaearctic Region I–II (Aukema & Rieger 1995, 1996) and the recent monograph of the Coreoidea by Moullet (1995) were consulted.

The material collected is preserved in the Linnavuori collection and in the College of Agriculture of the Ferdowsi University in Mashhad. All material is collected by Rauno Linnavuori, if no other collector is mentioned.

3. List of species

Nepomorpha

Corixoidea

Corixidae

Cymatiainae

Cymatia rogenhoferi (Fieber, 1864). — Lotfabad, 1 ex, 15.VI.1994. — Collected at light trap. — Pontomediterranean with a wide range from Central Europe to Italy and Central Asia.

Corixinae

Corixa affinis Leach, 1817. — Near Sabzevar, 1 ex, 31.V.–1.VI.1994. — In a pool in a garden. — Holomediterranean with a wide range from Central Europe to the Middle East and Middle Asia.

Hesperocorixa occulta (Lundblad, 1929). — Shams Abad 45 km SE of Kashmar, 4 exx, 23.VI.1994. — In pools on a hilly terrain. — Irano-Turanian.

Sigara (Pseudovermicorixa) nigrolineata (Fieber, 1848). — 15 km E of Bojnurd, 1 ex, 15.VII.1994. — In a gravelly brook. — European, extending to the Middle East.

Sigara (Sigara) seistanensis (Distant, 1920). — Lotfabad, many exx, 15.VI.1994. — Collected at light trap. — Known from Iran, Middle and Central Asia and the Oriental Region.

Sigara (Tropocorixa) hoggarica (Poisson, 1929). — Shams Abad 45 km SE of Kashmar, many exx, 23.VI.1994. — In pools on a hilly terrain. — Eremian.

Sigara (Vermicorixa) lateralis (Leach, 1817). — Many exx from 15 km of E Bojnurd, 16.VII.1994; Lotfabad, 15.VI.1994; Mashhad, V–VII.1994; Nodeh 30–40 km ESE of Bojnurd, 11.VII.1994; Parvand 70 km W of Sabzevar, 31.V.–1.VI.1994; near Sabzevar, 31.V.–1.VI.1994; Sarakhs, 29–30.IV.1994; 15–25 km N of Tabas, 14–15.V.1994; near Zaman Soofi 65 km W of Bojnurd, 12–13.VII.1994. — Common in pools and brooks. — Holomediterranean, extending from Central Europe to Africa and Central and South Asia.

Notonectoidea

Notonectidae

Notonectinae

Notonecta maculata Fabricius, 1794. — Lake Bazangan 50 km W of Sarakhs, 1 ex, 30.VI.1994; Shams Abad 45 km SE of Kashmar, 1 ex, 23.VI.1994. — Known from Central Europe, the Mediterranean subregion and the Middle East.

Notonecta viridis Delcourt, 1909. — Shams Abad 45 km SE of Kashmar, 1 ex, 23.VI.1994. — In pools together with the preceding species. — Holomediterranean, extending to Central Europe, the Middle East, Middle Asia, Pakistan, and India.

Gerromorpha

Hebroidea

Hebridae

Hebrus pilipes Kanyukova, 1997. — Khalcanlod 30 km E of Quchan, several exx, 7.VI.1994. — On wet stones in banks of a mountain brook. — Known from Russia, Ukraine, Armenia, Azerbaijan, Georgia, Turkmenistan, Uzbekistan, Tadzhikistan, Kazakhstan, and Iran.

Hydrometroidea

Hydrometridae

Hydrometra stagnorum (Linnaeus, 1758). — 15 km E of Bojnurd, 4 exx, 15.VII.1994. — Among vegetation in a brook. — European, extending to North Africa, the Middle East and Middle Asia.

Gerroidea

Veliidae

Veliinae

Velia affinis affinis Kolenati, 1857. — Zoshk near Shandiz, several exx, 24.V.1994. — In a mountain brook. — Irano-Turanian.

Gerridae

Gerrinae

Gerris (Gerris) costae (Herrich-Schaeffer, 1850). — Many exx from Khalcanlod 30 km E of Quchan, 7.VII.1994; Lake Bazangan 50 km W of Sarakhs, 30.VI.1994; Sarakhs, 29–30.IV.1994, RL; Mashhad, 21.V.1992, Modarres. — Among vegetation in pools and brooks. — Holomediterranean, extending to Middle Asia.

Gerris (Gerris) thoracicus Schummel, 1832. — Many exx from 15 km E of Bojnurd, 15.VII.1994; Lake Bazangan 50 km W of Sarakhs, 30.VI.1994; Sarakhs, 29–30.IV.1994; Zoshk near Shandiz, 24.V.1994. — Among vegetation in brooks and pools. — European, extending to North Africa, the Middle East and Middle Asia.

Leptopodomorpha

Saldoidea

Saldidae

Saldinae

Chartoscirta elegantula longicornis (Jakovlev, 1882). — Lotfabad, 3 exx, 15.VI.1994. — Collected at light trap. — Pontomediterranean.

Saldula pallipes (Fabricius, 1784) — Khargh 70 km SW of Quchan, 1 ex, 8–9.VI.1994; Lotfabad, 6 exx, 15.VI.1994. — On the gravelly shore of a brook. — Holarctic, also known from the Oriental and Neotropical Regions.

Saldula sp.n. near *setulosa* (Puton, 1880). — Lotfabad, 4 exx, 15.VI.1994. — Collected at light trap. — Generally recorded as *S. setulosa* from Middle Asia. According to Lindskog (1995: 133) an undescribed species. The genuine *S. setulosa* occurs only in West Europe and Morocco. New for Iran.

Cimicomorpha

Cimicoidea

Nabidae

Nabinae

Himacerus (Aptus) maracandicus (Reuter, 1890). — Darreh Gaz, 1 ex, 15.VI.1994; Zaman Soofi 65 km W of Bojnurd, 1 ex, 12–13.VII.1994; Zard 100 km WNW of Bojnurd, 1 ex, 15.VI.1994. — On herbaceous plants in hilly habitats. — Irano-Turanian.

Nabis (Aspilaspis) viridulus Spinola, 1837. — Several exx from 15 km E of Bojnurd, 15.VII.1994; Esfideh, 20.IV.1994; Golestan Park 150 km W of Bojnurd, 14.VII.1994; Lake Bazangan 50 km W of Sarakhs, 30.VI.1994; Parvand 70 km W of Sabzevar, 4.VI.1994. — On *Tamarix*. — Holomediterranean, extending to Middle Asia.

Nabis (Aspilaspis) indicus (Stål, 1873). — Several exx from Lotfabad, 15.VI.1994; Sabzevar, 31.V.–1.VI.1994. — On *Tamarix*. — Eremian, extending from Africa to Middle Asia.

Nabis (Halonabis) sareptanus Dohrn, 1862. — Several exx from Deh Shor near Tabas, 15.V.1994; Lotfabad, 15.VI.1994; Sabzevar, 31.V.–1.VI.1994. — On halophytes such as *Suaeda*, *Atriplex* and *Artemisia* in semideserts and salt marshes. — Irano-Turanian, extending from the Balcan Peninsula to Central Asia.

Nabis (Nabis) palifer Seidenstücker, 1954. — Many exx from Anbaran 30 km W of Sarakhs, 11.VII.1994; 70 km W of Darreh Gaz, 14.VI.1994; Deh Shor near Tabas, 16.V.1994; Kashmar, 22–23.VI.1994; Khargh 70 km W of Quchan, 8.VI.1994; Lake Bazangan 50 km W of Sarakhs, 30.VI.1994; Lotfabad, 15.VI.1994; Mashhad, V–VII.1994; Parvand 70 km W of Sabzevar, 4.VII.1994; Sabzevar, 31.V.–1.VI.1994; near Tabas, 14–18.V.1994; Zaman Soofi 65 km W of Bojnurd, 12–13.VII.1994. — In moist habitats with Juncaceae and Cyperaceae. — Irano-Turanian, extending from the Balcan Peninsula and the Middle East to China.

Nabis (Nabis) punctatus A. Costa, 1847. — Nodeh 30–40 km ESE of Bojnurd, 2 exx, 11.VII.1994; Mashhad, 3 exx, V–VII.1994. — On herbaceous plants in fields and gardens. — European, extending to Middle Asia.

Nabis (Nabis) pseudoferus transcaspicus Remane, 1962. — Several exx from Golestan National Park 150 km

W of Bojnurd, 14.VII.1994; Golmakan 35 km NW of Mashhad, 10.V.1994. — In hilly meadows. — Known from Iran and Turkmenistan.

Nabis (Tropiconabis) capsiformis Germar, 1838. — near Tabas, 2 exx, 14–18.V.1994. — On herbaceous plants in fields and semideserts. — Intertropical, extending to the Mediterranean subregion and Middle and Central Asia.

Anthocoridae

Anthocorinae

Temnostethus (Ectemnus) reduvinus parilis (Horváth, 1891). — Mashhad, 1 ex, V–VII.1994. — On *Populus* sp. — Known from Caucasia and Iran.

Anthocoris minki pistaciae Wagner, 1957. — Several exx from Anbaran 30 km W of Sarakhs, 11.VII.1994; Darreh Gaz, 15.VI.1994; Kashmar, 22–23.VI.1994. — On *Pistacia*. — Recorded from Iran and Azerbaijan.

Anthocoris pilosus (Jakovlev, 1877). — Several exx from Anbaran 30 km W of Sarakhs, 11.VII.1994; Khargh 70 km W of Quchan, 8–9.VI.1994; Nodeh 30–40 km ESE of Bojnurd, 11.VII.1994. — On *Salix* and herbaceous plants in edges of forests, mountain meadows and gardens. — Euro-Siberian.

Orius (Orius) niger (Wolff, 1811). — Golmakan 35 km NW of Mashhad, 1 ex, 10.V.1994; Nodeh 30–40 km ESE of Bojnurd, 1 ex, 11.VII.1994. — On herbaceous plants in meadows, gardens and fields. — Holopalaearctic.

Orius (Orius) laevigatus (Fieber, 1860). — 15 km E of Bojnurd, 1 ex, 15.VII.1994. — On herbaceous plants in a garden. — Holomediterranean, extending to Central Europe and Middle Asia.

Orius (Heterorius) vicinus (Ribaut, 1923). — Several exx from Khalcanlod 30 km E of Quchan, 7.VI.1994; Lotfabad, 15.VI.1994; Mashhad, V–VII.1994; Zaman Soofi 65 km W of Bojnurd, 12–13.VII.1994; Zoshk near Shandiz 40 km W of Mashhad, 11.IV.1994. — On deciduous trees and herbaceous plants such as *Chenopodium* and *Mentha*. — Holomediterranean, extending to Central Europe, the Middle East and Central Asia. New for Iran.

Orius (Heterorius) horvathi (Reuter, 1884). — Khargh 70 km SW of Quchan, 5 exx, 8–9.VI.1994; Nodeh 30–40 km ESE of Bojnurd, 2 exx, 11.VII.1994. — On Asteraceae and other herbaceous plants hilly meadows. — Euro-Siberian.

Orius (Heterorius) laticollis discolor (Reuter, 1884). — Mashhad, several exx, V–VII.1994. — On *Salix*. Ponto-mediterranean, extending to Middle Asia. New for Iran.

Orius (Dimorphella) albidipennis (Reuter, 1884). — Several exx from 70 km W of Darreh Gaz, 14.VI.1994; Efine near Esfideh, 20.IV.1994; Khargh 70 km SW of Quchan, 8–9.VI.1994; Parvand 70 km W of Sabzevar, 31.V.–1.VI.1994; Sarakhs, 29–30.IV.1994; near Tabas, 16–17.VI.1994. — In steppes and semideserts on herbaceous plants such as Asteraceae. — Eremian, extending from Africa to Middle Asia.

Lyctocorinae

Amphiareus obscuriceps (Poppius, 1909). — Mashhad, several exx, V–VII.1994. — On deciduous trees. — Widely distributed in the Far East, extending westwards to Middle Asia, Iran, Caucasia, Russia, Byelorussia, Hungary, and Romania.

Pentatomomorpha**Coreoidea****Coreidae****Coreinae**

Gonocerus acuteangulus (Goeze, 1778). — Near Zaman Soofi 65 km W of Bojnurd, 3 exx, 12–13.VII.1994. — On deciduous trees in a mountain forest. — Holomediterranean.

Coreus marginatus (Linnaeus, 1758). — Anbaran 30 km W of Sarakhs, 2 exx, 11.VII.1994; Zoshk near Shandiz 40 km W of Mashhad, 2 exx, 11.IV.1994. — On undergrowth in mountain forests. — Euro–Siberian.

Syromastes rhombeus (Linnaeus, 1767). — Golestan National Park 150 km W of Bojnurd, 2 exx, 14.VII.1994. — On undergrowth in a mountain forest. — Holomediterranean.

Haploprocta pustulifera (Stål, 1859). — Chan Chiroc 50 km S of Tabas, 3 exx, 17.V.1994; Parvand 70 km W of Sabzevar, 1 ex, 4.VII.1994. — On halophytes such as *Pteropyrum aucheri*. — Turanian, extending to Mongolia.

Centrocoris volxemi (Puton, 1878). — Golestan National Park 150 km W of Bojnurd, 1 ex, 14.VII.1994; Parvand 70 km W of Sabzevar, several exx, 4.VII.1994. — On Chenopodiaceae halophytes. — Irano–Turanian.

Centrocoris inflaticeps Kiritshenko, 1916. — Sarakhs, 2 exx, 29–30.IV.1994. — On Chenopodiaceae halophytes in a salt marsh. — Irano–Turanian.

Phylomorpha lacerata Herrich–Schaeffer, 1835. — Parvand 70 km W of Sabzevar, 1 ex, 31.V.–1.VI.1994. — Pontomediterranean.

Pseudophloeinae

Coriomeris validicornis Jakovlev, 1904. — Khargh 70 km SW of Quchan, 1 ex, 8–9.VI.1994. — In a mountain meadow. — Known from Iran and Transcaucasia.

Coriomeris vitticollis Reuter, 1900. — Khargh 70 SW of Quchan, 1 ex, 8–9.VI.1994. — In a mountain meadow. — Pontomediterranean.

Rhopalidae

Corizus hyoscyami (Linnaeus, 1758). — 70 km W of Darreh Gaz, 1 ex, 14.VI.1994; Zoshk near Shandiz 40 km W of

Mashhad, 3 exx, 21.V.1994. — On herbaceous plants such as Fabaceae and Asteraceae. — Euro–Siberian.

Liorhyssus hyalinus (Fabricius, 1794). — Deh Shor 25 km N of Tabas, 1 ex, 17.IV.1994; near Tabas, 2 exx, 14–18.V.1994. — On herbaceous plants in fields and semi-deserts. — Cosmopolitan.

Brachycarenum tigrinus (Schilling, 1829). — Several exx from Darreh Gaz, 15.VI.1994; Khalcanlod 30 km E of Quchan, 7.VI.1994; Khargh 75 km SW of Quchan, 8–9.VII.1994; Shourloogh 35 km SW of Sarakhs, 30.IV.1994; Zard 100 km WNW of Bojnurd, 13.VII.1994; Zoshk near Shandiz 40 km W of Mashhad, 24.V.1994. — In hilly meadows. — Holarctic.

Brachycarenum languidus (Horváth, 1891). — Darreh Gaz, 15.VI.1994; Khalcanlod 30 km E of Quchan, 2 exx, 7.VI.1994; Shourloogh 35 km SW of Sarakhs, 1 ex, 30.IV.1994. — Together with the preceding species. — Irano–Turanian.

Rhopalus (Rhopalus) subrufus (Gmelin, 1790). — Zaman Soofi 65 km W of Bojnurd, 1 ex, 12–13.VII.1994. — Euro–Siberian.

Rhopalus (Rhopalus) parumpunctatus Schilling, 1829. — Khalcanlod 30 km E of Quchan, 1 ex, 7.VI.1994. — Euro–Siberian.

Rhopalus (Rhopalus) lepidus Fieber, 1861. — Several exx from 70 km W of Darreh Gaz, 14.VI.1994; Khargh 75 km SW of Quchan, 8–9.VII.1994; Lake Bazangan 50 km W of Sarakhs, 30.VI.1994; Zoshk near Shandiz 40 km W of Mashhad, 24.VI.1994. — In meadows. — Pontomediterranean.

Rhopalus (Rhopalus) curtulus (Kiritshenko, 1914). — Khargh 75 km SW of Quchan, 1 ex, 7.VI.1994. — In a mountain meadow. — Irano–Turanian.

Stictopleurus pictus (Fieber, 1861). — Several exx from Anbaran 30 km W of Sarakhs, 11.VII.1994; Nodeh 30–40 km ESE of Bojnurd, 11.VII.1994; Roubat Sharaf 65 km SW of Sarakhs, 30.IV.1994; Zaman Soofi 65 km W of Bojnurd, 12–13.VII.1994; Zoshk near Shandiz 40 km W of Mashhad, 11.IV.1994. — In fields and meadows. — Holomediterranean.

Stictopleurus subtomentosus (Rey, 1888). — Khalcanlod 30 km E of Quchan, 3 exx, 7.VI.1994. — In a hilly meadow. — Holomediterranean.

Maccevevethus caucasicus (Kolenati, 1845). — Golmakan 35 km NW of Mashhad, 1 ex, 10.V.1994; Khargh 75 km SW of Quchan, 1 ex, 8–9.VII.1994; Nodeh 30–40 km ESE of Bojnurd, 1 ex, 11.VII.1994. — In mountain meadows. — Pontomediterranean.

Maccevevethus corsicus Signoret, 1862. — Darreh Gaz, 1 ex, 15.VI.1994; Golestan National Park 160 km W of Bojnurd, 1 ex, 14.VII.1994; 15–25 km N of Tabas, 1 ex, 14–15.V.1994. — In hilly meadows. — Holomediterranean.

Agraphopus suturalis Reuter, 1900. — Lotfabad, 1 ex, 15.VI.1994; Parvand 70–80 km W of Sabzevar, 1 ex, 31.V.–1.VI.1994. — On grasses such as *Aristida* and *Panicum*. — Eremian, extending from Africa to Middle Asia.

Chorosoma schillingi (Schummel, 1829). — Darreh Gaz, 1 ex, 15.VI.1994; 70 km W Darreh Gaz, 1 ex,

14.VI.1994; Golestan National Park 160 km W Bojnurd, 1 ex, 14.VII.1994. — On grasses in mountain meadows. — European, extending to Middle Asia.

Chorosoma gracile Josifov, 1968. — Parvand 80 km W of Sabzevar, several exx, 31.V.–1.VI.1994. — In dunes on *Stipagrostis* sp. — Pontomediterranean.

Pyrrhocoridae

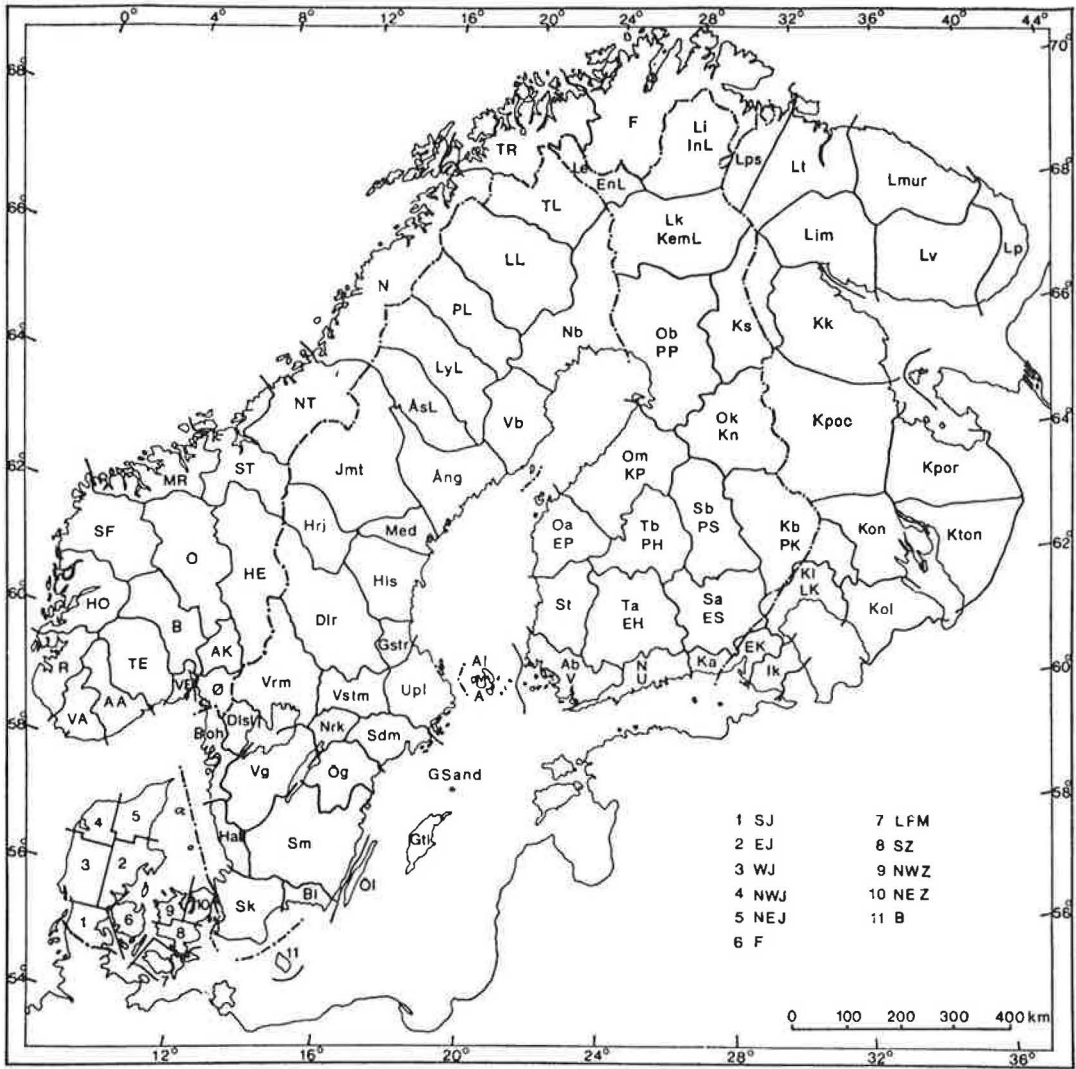
Pyrrhocoris apterus (Linnaeus, 1758). — Zaman Soofi 65 km W of Bojnurd, 1 ex, 12–13.VII.1994. — Holarctic.

Acknowledgements. The authors are greatly indebted to the Dean, Dr. M. H. Rashed and other members of the Faculty of Agriculture of the Ferdowsi University for all cooperation received during the expedition. We thank the

Finnish Society of Sciences and Letters, Helsinki, for financial help.

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The biogeographical provinces of Fennoscandia and Denmark