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A Review of the Weevil Subgenus *Metaphyllobius* Smirnov (Coleoptera, Curculionidae, Entiminae) from Eastern Europe and Siberia

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Abstract—A review of the subgenus *Metaphyllobius* Smirnov of the weevil genus *Phyllobius* Germ. is given. The name *Ph. maculatus* Tournier, 1880 is restored from synonymy with *Ph. pomaceus fessus* Boheman, 1843. A new synonymy is established: *Ph. maculatus* Tournier, 1880 (= *jacobsoni* Smirnov, 1913, syn. n.). *Ph. fessus* Boheman, 1843 is downgraded to a subspecies of *Ph. pomaceus* Gyllenhal, 1834—*Ph. pomaceus fessus* Boheman, 1843, stat. n. Data on the distribution and hosts of, and a key to European and Siberian species of the subgenus *Metaphyllobius* are given.

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Large weevils of the subgenus *Metaphyllobius* belong to the commonest species of the fauna of Europe and Siberia but their identification is not always easy due to broad intraspecific variation of the coloration and vestiture of the very similar species. A particular group of problems is associated with an existence of a set of very similar color forms in several species of *Metaphyllobius* including the co-occurring *Phyllobius pomaceus* Gyll. and *Ph. calcaratus* (F.). Smirnov (1913) gave a comprehensive description of the variation in *Metaphyllobius* species. In the paper on the Siberian fauna by Korotyaev and Egorov (1977), the name *Ph. fessus* Boh. was restored for the Siberian species described by D. Smirnov as *Ph. tournieri* Smirn., but the name *Ph. maculatus* Tourn. was erroneously placed in synonyms.

Faunistic surveys in northern Russia at the end of the XX century helped to reveal specific distinctness of *Ph. maculatus*, which clearly differs from *Ph. pomaceus* in the areas of their co-occurrence both in the morphological characters and food specialization. The name of *Ph. jacobsoni* Smirn., described from Ukraine and West Kazakhstan, has proved to be a synonym of *Ph. maculatus*. This species is distributed from Belarus and Ukraine to the middle Volga area, South Urals, and West Kazakhstan up to lower Onega River in the northwest, but was not found in the North and Polar Urals, where *Ph. pomaceus pomaceus* is common.

The species status of the Siberian *Ph. fessus*, on the contrary, has not been supported in the recent 30 years: no data on the ecological distinctions of this taxon from *Ph. pomaceus* in the zone of their sympatry in West Siberia are available (Legalov, Opanasenko, 2000; Krivets, Legalov, 2002). Korshunov and Opanasenko (1971) have reported on the simultaneous co-occurrence of the typical form of *Ph. pomaceus* on nettle and *Ph. calcaratus* F. (in somewhat greater numbers) in a meadow (i.e., also on herbaceous vegetation) in the "Stolby" Nature Reserve south of Krasnoyarsk. The data on *Ph. calcaratus* probably refer to large females of *Ph. pomaceus pomaceus* or to *Ph. pomaceus fessus*. We do not know of any published data on the occurrence of these forms in one place on different plant species. As the morphological distinctions between these two taxa are limited to the characters of the coloration and vestiture which are widely variable in *Metaphyllobius* species including European populations of *Ph. pomaceus*, we downgrade *Ph. fessus* to a subspecies of *Ph. pomaceus*. Although some short series and single specimens of *Ph. pomaceus* from southern West Siberia are almost indistinguishable from European material of this species, we believe that this variation pattern is more compatible with a gradual change of the genetic structure of the transpalaearctic species up to forming of clear distinctions in its Eastern Siberian populations (*Ph. pomaceus fessus*) than with the substitution of one species by another in West Siberia.

In addition to these changes in the systematics of the subgenus *Metaphyllobius*, the paper presents a key to the species from European Russia. In the key, a rare

Ph. dahli Kor. distributed only along eastern border of Europe from the Arctic coast to South Urals (Korotyaev, 1984) is included for the first time.

The presence of two endemic species in the fauna of European Russia with the ranges not crossing the border between Europe and Asia in spite of their latitudinal stretching from the northern taiga zone to the steppes may be considered an additional evidence of quite clear zoogeographic distinctions between Europe and the Siberia not associated with sharp physical boundaries.

The study is based on examination of the material from the Zoological Institute, Russian Academy of Sciences, St. Petersburg (ZIN); Siberian Zoological Museum, Institute for Systematics and Ecology of Animals, Novosibirsk; Museum of Nature, Kharkov National University, Kharkov, Ukraine; Zoological Museum, Kiev National T. G. Shevchenko University, Kiev, Ukraine, and Hungarian Natural History Museum, Budapest, Hungary.

GENUS ***PHYLLOBIUS*** GERMAR, 1824

Subgenus ***METAPHYLLOBIUS*** Smirnov, 1913

Smirnov, 1913 : 100. Type species *Curculio glaucus* Scopoli, 1763 (= *Curculio calcaratus* Fabricius, 1792), by subsequent designation (Korotyaev and Egorov, 1977).

= *Hoplophyllobius* Apfelbeck, 1915 : 245; Korotyaev, 1984 : 362.

Rostrum noticeably longer than wide. Antennal scrobes directed toward eyes and gradually obliterated. Rostral dorsum at base as wide as, or noticeably narrower than frons. All femora always with well developed, usually large tooth. Outer margin of tibiae usually obtuse along its entire length, never flattened, but occasionally sharpened near apex. Aedeagus with paired rounded membranous areas near apex, distal to which sharply narrowing and produced in rather fine projection, latter usually noticeably bent dorsally. Body usually with erect hairs; recumbent scales narrow, hair-like or narrow-lanceolate, never round or broad-oval. Body length 5–9 mm.

The subgenus includes alate and apterous species distributed in Europe, the Caucasus, Siberia, and the Far East (with Kurile Is. and Japan); three species are endemic to Kazakhstan. Alate species concentrate in western part of the subgenus range, the main centers of their diversity being situated in Southeastern Europe and the Caucasus, but no species is known from the Crimea and Anatolia. Most of the wingless species are distributed in mountainous regions of eastern part of the range, in Central and Eastern Kazakhstan, and in Altai. All species of *Metaphyllobius* occur in the woodland or riparian landscape and are typical of the forest zone. In the steppe zone of southern European Russia, *Metaphyllobius* are extremely rare in the Don basin and are not found in Kalmykia (Arzanov, 1990); in the plain part of Krasnodar and Stavropol territories neither European, nor endemic Caucasian species have been found; the latter do not descend beyond the piedmont territories.

Most of *Metaphyllobius* are associated with woody vegetation. *Ph. obovatus* Gebl., endemic to Altai, is one of the commonest and most abundant species in the riparian willow stands (Krivets, 1999). Only *Ph. pomaceus pomaceus* feeds mostly on nettle and herbaceous Rosaceae, but the Siberian subspecies of *Ph. pomaceus* also is associated with deciduous trees, although does not belong to the most abundant dendrophilous weevils in West Siberia (Opanasenko, 1978).

Phyllobius* (*Metaphyllobius*) *maculatus Tournier, 1880, sp. propria
(Figs. 2, 3, 5, 17–19, 23)

= *jacobsoni* Smirnov, 1913, **syn. n.**

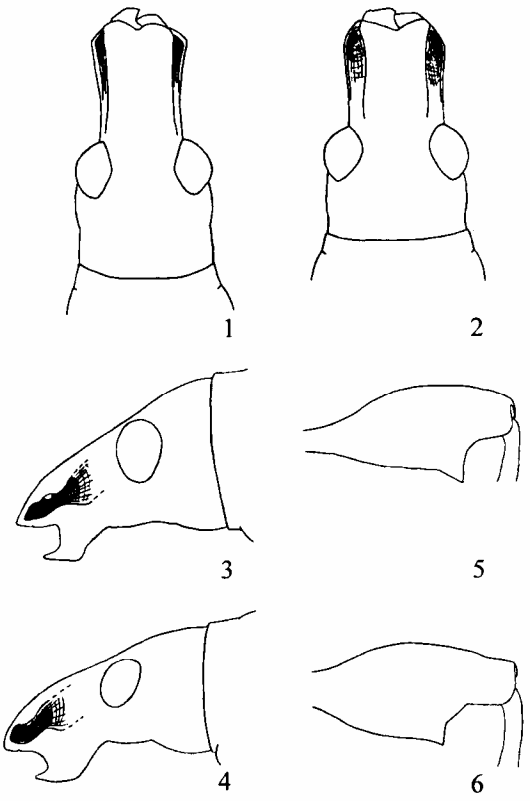
The name *Ph. maculatus* was erroneously synonymized with *Ph. fessus* Boh. (Korotyaev, Egorov, 1977). The mistake is explained, in part, by the presence of only a few specimens of *Ph. maculatus* in the ZIN collection at that time. The poorly sclerotized aedeagus of the only male dissected by D. Smirnov was examined in the dried state, which, because of the deformation, resulted in overlooking its considerable distinctions from the aedeagus of *Ph. fessus*; the two taxa are very similar in appearance. In July 1986, B.A. Korotyaev collected a long series of *Ph. maculatus* on bird cherry in Onega District of Arkhangelsk Province. This species clearly differs from *Ph. pomaceus*, common there on nettle and lady's mantle (*Alchemilla* sp.), in the red legs, short rostrum with flattened dorsum, presence of erect hairs on the elytra in both sexes, and shape of the aedeagus (practically indistinguishable in *Ph. pomaceus pomaceus* and *Ph. pomaceus fessus*). The finding of a species sympatric with *Ph. pomaceus* but clearly differing in the morphological and ecological characters has confirmed the existence of a distinct species, *Ph. ma-*

culatus, in northern European Russia. For some unknown reason Wanat (2005) synonymized *Ph. maculatus* with *Ph. glaucus* Scop. (= *calcaratus* F.) in spite of clear differences between these species in the structure of the rostrum and aedeagus.

Examination of all material of the subgenus *Metaphyllobius* in the ZIN has shown an absence of *Ph. maculatus* in the collections from Siberia and its rather wide distribution in European part of the former USSR south of the previously known border. The beetles from Ukraine and West Kazakhstan, i.e., the territories where *Ph. jacobsoni* Smirnov was described from based on three specimens, hardly can be distinguished from *Ph. maculatus*. This intrazonal riparian species occurs in European part of the former USSR from the Onega River in the northwest to the Ural River in the southeast. From Onega River, the northern boundary of the known localities *Ph. maculatus* runs eastward toward Vel'sk (Arkhangelsk Province), Ust'-Tsyl'ma (Komi Republic) and Surskii District of Ul'yanovsk Province, where the species is rare and feeds, similar to Arkhangelsk Province, on bird cherry (Isaev, 1994).

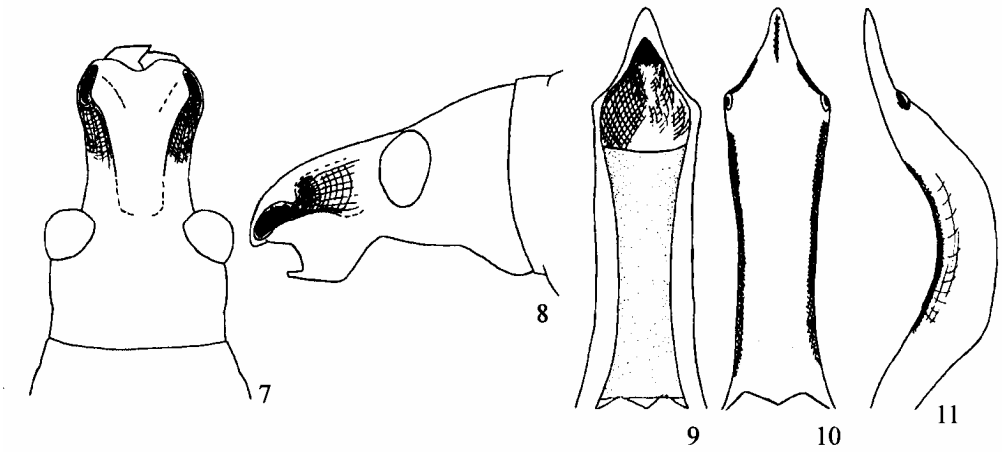
In the south, *Ph. maculatus* has been found in Odessa and in Kharkov, Lugansk, Donetsk, and Rostov provinces. In Kharkov Prov., in the Severskii Donets River flood land, adults feed mostly on *Frangula alnus* and, in addition, consume leaves of young trees of *Populus tremula*, *Salix* sp. and *Betula* sp.; in Kanev *Ph. maculatus* was found on *Ulmus* sp., occurring mostly in the fall fields, cuttings, at forest margins, and at roadsides.

There is another example of the equally broad but disjunctive distribution in the same territory of a *Metaphyllobius*, *Ph. dahli* Kor., described from the middle and lower Volga area (Korotyaev, 1984) and found also in the north of Arkhangelsk Province near Mesen Town. Similarly to *Ph. maculatus*, *Ph. dahli* has a close relative in southwestern Siberia, *Ph. obovatus* Gebl.



Figs. 1–6. *Phyllobius* Germ., head dorsally (1, 2) and laterally (3, 4), and fore left femur (5, 6): (1) *Ph. pomaceus fessus* Boh., (2, 3, 5) *Ph. maculatus* Tourn. (4, 6) *Ph. pomaceus pomaceus* Gyll. (Tyumen Prov.).

Russia. Arkhangelsk, 9.VI.1896, Severnaya Dvina bank, 11.VII.1895, VI.1899 (N.B. Birulya, G. Sumarokov), 3 spms. Arkhangelsk Prov.: Onega Distr., Verkhovie Vill., Mudyuga River, on bird cherry, 6–27.VII.1986, 22.VI.1991 (B.A. Korotyaev), 28 spms.; Vel'sk, on willow foliage, 25.VI.1902 (D.V. Pomerantsev), 1 spm. Komi Republic: Ust'-Tsyl'ma, 5.VII.1904, 13.VI.1905, 20–24.VI.1907, 25.VI.1908, 13.VII.1908, 16–17.VI.1909, Tsyl'ma River bank, 13.VII.1905 (Zhuravskii), 10 spms.; Kortkerosskii Distr., Nidz', Vychegda River bank, pine forest, 24.VII.1975 (K.M. Toloshnyi), 1 spm. Yaroslavl', 1 spm. Nizhegorodskaya Prov., Arzamas, 14.VI.1953 (B.S. Pavlov-Verevkin), 1 spm. Chuvashia, Alatyr Forestry, 6–31.VII.1928, 4 spms. Mordovia, Mordovskii Nature Reserve, Biological Station, 19.VI.1987 (A.V. Matveev), 1 spm. Penza Prov., Khoperskii Nature Reserve, 1.VII.1941 (A.A. Ogloblin), 1 spm. Samara Prov.: Syzran Distr. (Bostanzhoglo), 1 spm.; Western Zhiguli, 17.VI.1937 (Preobrazhenskii), 1 spm. Ryazan Prov.: Shilovo, 14–16.VI.1954 (Minder), 4 spms.; Novoselki, 10.VI.1954 (Minder), 3 spms. Volgograd Prov., Kumylzhenskaya Stanitsa (= Cossack village), Kumylga River flood land, 1 and 2.VI.1988 (E.V. Komarov), 1 spm. Rostov Prov., Tarasovskii Distr., Miketinskaya Stanitsa, 8.VI.1989 (V. Bartashev), 1 spm. **Belarus**. Gomel' Prov., Petrikovskii Distr., Golubitsa, near Pripyat (= Pripet), on poplar, 21.V.1967, 5 spms. **Ukraine**. Lugansk vicinity, 14.V–18.VI.1927 (V.I. Talitskii), 19 spms. Lugansk Prov.: Stanichno-Luganskii Nature Reserve, 27.V.



Figs. 7–11. *Phyllobius calcaratus* (F.): (7) head dorsally (Tuln), (8) head laterally, (9–11) aedeagus dorsally (9), ventrally (10), and laterally (11).

1928 (V.I. Talitskii), 3 spms.; Nizhne-Teploe, Severskii Donets River flood land, grove, marshy area, on *Alnus*, 31.V.1953 (S.I. Medvedev), 4 spms. Donetsk Prov.: Yarovaya, flood-land forest, Svyatogorskaya, Severskii Donets River, Bannoe, 21.V–2.VI.1937, 19.VI.1939 (K.V. Arnoldi), 7 spms. Kharkov Prov.: Zmiev Distr., Gaidary Vill., Biological Station, 31.V.1919 (K.V. Arnoldi), 1 spm.; as above, on *Populus tremula*, 10.VI.2000 (N.N. Yunakov), 1 spm.; Nizhnie Mel'nitsy locality, 18.VI.1991 (A.N. Drogvalenko), 1 spm.; Chuguevskii Distr., Dachi, clearing in a pine forest, on *Frangula alnus* Mill., 25.V.1998, 7.VI.2000 (N.N. Yunakov), 9 spms.; Severskii Donets River flood land, Vetrovka, on *Betula*, 23.VI.1952 (S.I. Medvedev), 5 spms. Cherkassy Prov., Kanev, "Zarech'e" Nature Reserve, Giryavka, on *Ulmus*, 11.VI.1949 (N.D. Globova), 1 spm. Odessa, 6.VI.1982 (Berezovskii), 1 spm. **Kazakhstan**. Eltyshovka near Chinarev, 14.VI.1949 (V.P. Rudolf), 4 spms.; Yanvartsevo, Ural River right bank, on oak [planted.—Ed.], dog rose, poplar, willow, 22.V–30.VI.1950 (K.G. Romadina), 39 spms.; Amangel'dy, Ural River left bank, on oak [planted.—Ed.], 17.VI.1950 (D.M. Shteinberg), 1 spm.

Phyllobius (*Metaphyllobius*) *calcaratus* (Fabricius, 1792) (Figs. 7–11, 25)

The species occurs in the plain and mountain nemoral forests from United Kingdom to the Urals and reaches the steppe zone (found near Poltava) apparently via riparian forests. Record from the Caucasus (Dieckmann, 1980) is not confirmed by examination of our material. The range of host plants is very broad (Dieckmann, 1980): *Salix caprea*, *Sorbus aucuparia*, *Corylus avellana*, *Alnus glutinosa*, *A. incana*, *Betula pendula*, *Populus tremula*, *Epilobium angustifolium*, *Filipendula ulmaria*, *Crataegus*, *Rosa*, *Acer*, *Cornus*, *Tilia tomentosa*, *Onobrychis*, *Trifolium*, *Aegopodium*, *Achillea*, *Galium*. In Transcarpathian Prov., a series of beetles was taken by N.N. Yunakov on *Duschekia alnobetula* from the subalpine belt.

Variation was described in detail by Smirnov (1913).

Switzerland. Helvetia, 2 spms. **Slovenia**. Carniolia, Torub, 6 spms.; Sevenstein (Dr. Wradatsch), 1 spm.; (E. Reitter), 1 spm. **Austria**. "Austria**",** 1 spm. **Czech Republic**. Moravia, 1 spm.; Olmuetz (R. Waworca), 1 spm. **Germany**. Berlin, 1 spm.; Heidelberg, 6 spms.; Tuln (R. Henig), 1 spm. **Poland**. Warsaw, "Belyany" camp, 5.VI.1898 (Barshchevskii), 4 spms.; Beskids (V. Zoufal), 2 spms. **Estonia**. Tartu, 2 spms.; Kirrumpekh, 21.VI.1909 (A.N. Reichardt), 1 spm. **Lithuania**. Jurbarkas (Vinogradov-Nikitin), 2 spms. **Hungary**. "Hungaria", 2 spms. **Russia**. Leningrad Prov.: Romanovka near Kingisepp [Yamburg], 6–10.VI.1905, 1 spm.; Peterburg Uyezd [administrative unit approximately corresponding to modern district], 16.VI. 1875 (coll. Artobolevskii), 1 spm.; Yukki Vill., 27.VI.1874 (coll. Artobolevskii), 1 spm.; VII.1929 (A.N. Reichardt), 1 spm.; Murino, V.1882, 1 spm.; Shuvalovo, 31.V.1907 (D. Smirnov), 1 spm.; Siverskaya Stn. of the Varshavskaya Railroad, Protasovka Vill., 27.V.1898 (Kuznetsov), 2 spms.; 1–6.VI.1898, 7 spms.; Pargolovo, 22.V–4.VI.1896, 2 spms. Pskov (Chistovskii), 3 spms. Novgorod Prov.: Mstinskii Most

Stn., 29.VI.1988 (B.A. Korotyaev), 1 spm. Tver, 1 spm. Tver Prov.: Bologoe, 18.V–21.VI.1902, 17.V–1.VI.1905 (F.A. Zaitsev), 15 spms. Moscow Prov.: Boblovo, 30.IV.1906 (D. Smirnov), 1 spm.; Chashnikovo Agrobiological Station, 4.VI.1969 (B.A. Korotyaev), 1 spm.; Zvenigorod, 6.VI.1970 (B.A. Korotyaev), 1 spm.; Moscow vicinity, Abramtsevo, 16.VI.1962 (B.B. Rohdendorf), 1 spm. Perm Prov., Srednyaya Us'va, spruce-grove, 27.VII.1946 (Soldatkin), 2 spms. **Belarus**. Grodno Prov., Bialowieza Primeval Forest, 7–9.V.1908 (Mordvilko), 4 spms. Brest Prov., Luninets Distr., Dubenskaya Vill., mixed forest, on hazel, 17.V.1967, 1 spm. **Ukraine**. Zakarpatskaya Prov.: Mezhgorskii Distr.: Mereshory Vill., mountain meadow, on *Corylus*, *Doronicum* and *Dryopteris filix-mas*, 17–21.VI.1995, 6.VII.1997 (N.N. Yunakov), 22 spms.; Olshany, flood-land meadow at Tereblya River, 17.VI.1995 (D.V. Vovk), 7 spms.; Mukachevo Distr., Karpaty Vill., 7.VII.1971 (B. M. Yakushenko), 1 spm.; Rakhov Distr.: 5 km NE of Kvasy Vill., 16.VI.1973 (A.S. Kreslavskii), 2 spms.; Marmarosh, Holovachiu Range, northern slope of Nenyaska Mt., 1650 m, 11.VII.2000 (N.N. Yunakov), 30 spms.; Chernaya Tisa Vill., 6.VII.2000 (N.N. Yunakov), 12 spms.; Svidovets Range, Dogyaska Mt., 1700 m, subalpine meadow, on *Duschekia alnobetula*, 8.VII.2000 (N.N. Yunakov), 10 spms.; valley on a road to Yasinya Vill., 29.VI.1958 (V.A. Zaslavskii), 2 spms.; Yasinya Vill., Lazeshchina River, 800 m, 3.VI.1958 (V.A. Zaslavskii), 2 spms. Ivano-Frankovskaya Prov.: Vorokhta, mixed flood-land forest, 26.VI.1964 (M.I. Falkovitsh), 1 spm. Poltava (A.A. Ogloblin), 1 spm.

Phyllobius (*Metaphyllobius*) *pomaceus* Gyllenhal, 1834

= *urticae* (De Geer, 1775), nom. praeocc., nec Scopoli, 1763.

Euro-Siberian species; record from the Caucasus (Dieckmann, 1980) is not supported by our material. Variation of this species was investigated by Smirnov (1913) and Dieckmann (1980); it repeatedly lead specialists to conflicting results concerning the limits of species of the *Ph. calcaratus* group. Polymorphism is especially extensive in females of *Ph. pomaceus*, whose variability is most pronounced in the type of the vestiture and in the coloration of the scales and legs. It is noteworthy that although intra-population variation of the females is very broad, the males even from widely remote populations do not manifest considerable distinctions. To explain this, special genetic investigations are necessary.

Ph. fessus was described from Baikal and subsequently synonymized by Desbrochers (1873) with *Ph. calcaratus*, which clearly differs from this form in the shape of rostrum and structure of aedeagus, and does not occur in Siberia. Smirnov (1913, as *Ph. tournieri*) and Korotyaev and Egorov (1977) considered *Ph. fessus* a distinct species, very closely related to *Ph. pomaceus*.

The typical forms of *Ph. pomaceus* and *Ph. fessus* occur in widely separate areas: *Ph. pomaceus*—in the largest part of Europe, while *Ph. fessus*, in East Siberia. *Ph. fessus* clearly differs in the presence of the distinct (more clearly so in lateral view) suberect dark hairs on the entire surface of the elytra, but in the other characters, including the aedeagus structure, *Ph. pomaceus* and *Ph. fessus* are indistinguishable. Examination of an extensive material of *Ph. pomaceus* s. lato has made possible not only clarifying the distribution of the two subspecies but also interpretation of a variety of forms treated as *Ph. pomaceus* and *Ph. fessus*. Individuals without dark suberect hairs on the elytra and with dark legs (typical form of *Ph. pomaceus*) occur in Europe and West Siberia to Tomsk in the East, whereas individuals with dark suberect hairs on the elytra and with reddish brown legs (i.e., with the characters distinctive of *Ph. fessus*) are distributed almost throughout Siberia. In some specimens of *Ph. fessus* suberect hairs are very short or totally missing. This variation of the character which was considered the only dependable distinction of *Ph. fessus* from *Ph. pomaceus* makes the diagnostics of the two forms obscure, especially in the sympatry zone. Because of this, we believe it more adequate to consider *Ph. fessus* a subspecies of *Ph. pomaceus*.

According to our observations, *Ph. pomaceus pomaceus* prefers herbaceous plants, first of all *Urtica dioica*, which is also typical of this subspecies in the entire Ulyanovsk Province (Isaev, 1994); *Ph. pomaceus fessus* is associated mainly with small-leaved deciduous boreal trees and shrubs. Trophic associations of these two subspecies largely overlap. Taking into consideration the polyphagy of the majority of *Phyllobius* and of the subfamily Entiminae in general, we cannot rely on the host data when solving a problem of the taxonomic ranks of *Ph. pomaceus pomaceus* and *Ph. pomaceus fessus*. Dieckmann (1980) has shown that *Ph. pomaceus pomaceus* can feed on *Salix*

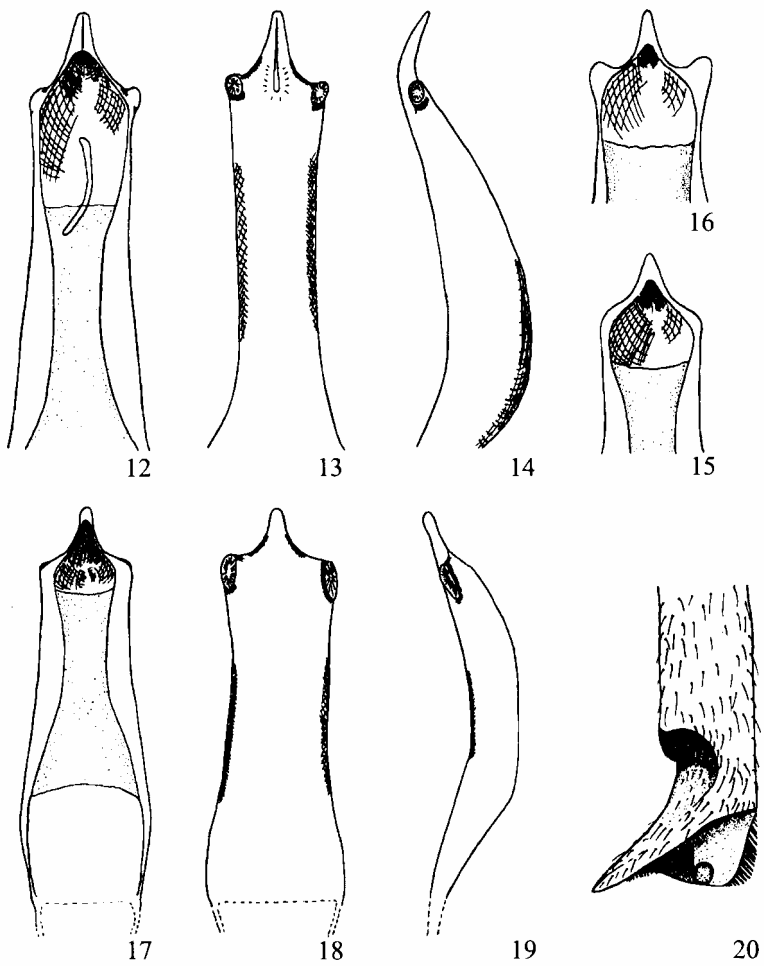
viminalis, *Alnus incana*, *Grossularia reclinata*, *Quercus robur*, *Ribes nigrum*, *Symphytum officinale*, *Cannabis sativa*, *Fragaria ananassa*, *Vicia cracca* and *Crataegus monogyna*.

Phyllobius* (*Metaphyllobius*) *pomaceus pomaceus Gyllenhal, 1834 (Figs. 4, 6, 15, 16, 24*a*)

Germany. Heidelberg, 2 spms. **Austria**. 1 spm. **Poland**. Bodzentin, 14.V.1895 (Jacobson), 4 spms. **Finland**. "Fennia, Ik. Metsaepirtti, leg. W. Loefglein," 1 spm. **Estonia**. "Shmetsk near Narva, summer 1890" (Herzenstein), 1 spm.; Tartu, 1893, 1 spm.; 26.VI. 1925, 13.VI.1927, 2–23.VI.1932 (G. Sumarokov), 10 spms. **Latvia**. Riga, 1 spm.; Jelgava, May (Yu. Kalnyn'), 1 spm. [erroneously listed within Lithuania in the original Russian text]. **Lithuania**. Jurbarkas, 16.V–18.VI.1904, 13.V–21.VI.1905 (Vinogradov-Nikitin), 25 spms. **Belarus**. Gomel Prov.: Nizhnyaya Greblya Vill., 25.V–17.VI.1986 (Yu.G. Arzanov), 10 spms. Vitebsk, 1894 (Cherskaya), 4 spms. Vitebsk Prov.: Antonopol Stn., Berhof, 6–14.VI.1915 (G. Suvorov), 4 spms. Grodno Prov.: Grodno Distr., Solichi Vill., 19.V.1977 (E.I. Khot'ko), 1 spm. **Moldova**. Bendery, 1.VI.1957; Sadovo, 7.VI.1958; Kishinev, 13.VI.1958; Vishnevka, 6.VI.1967 (V.I. Talitskii), 5 spms.; Turunchutskii Post, 25.V.1953 (S.I. Medvedev), 2 spms. **Ukraine**. Zakarpatskaya Prov.: Svidovets Range, Lopukhov Vill., 20.V.1984 (A.G. Rizun), 5 spms.; upper courses of Molodaya River, 800 m, 6.VI.1981 (A.G. Koval'), 1 spm. Lwow, Stryia Park, 10.VI.1995 (N.N. Yunakov), 24 spms. Lwow Prov.: Zatoka Stn., 12.VI.1995 (N.N. Yunakov), 2 spms. Volyn Prov.: Markovitchi, 16.V.1899 (A. Yakovlev coll.), 1 spm.; Konstantinov, VI.1919 (V. Smetachek), 1 spm. Khmelnitskaya Prov.: Kamenets-Podolskii Distr., Bagovitsa Vill., 16.V–11.VI.1895, 5–21.VI. 1896 (G.E. Grum-Grzhimailo), 76 spms. Kiev Prov.: Motovilovka, 25.V.1912 (E.V. Zverezomb-Zubovskii), 1 spm.; Mezhgorie, V.1914 (Artobolevskii coll.), 2 spms.; Goloseevo, 10.V.1930 (A. Reichardt), 1 spm. Kiev, 5 spms. Vinnitsa Prov.: "Mogilev Distr., Verkhovka" [now Trostyanets Distr.], 27.V–9.VI.1901 (A.K. Cechini), 5 spms. [erroneously listed within Odessa Province of Ukraine in the original Russian text]. Odessa Prov.: Kodyma, 30.V–8.VI.1902 (Bazhenov), 2 spms. Cherkasy Prov.: Zolotonosha, 1.V.1906, 4 spms.; Zvenigorod Distr., Novoselitsa, 29.V.1911 (E.V. Zverezomb-Zubovskii), 1 spm. Kirovograd, 29.V–2.VI.1906–1907 (E. Yatsentkovskii), 9 spms. Sumy Prov.: Konotop, VI.1910 (Neklyudova), 19 spms.; 25.V.1990 (V. Tupik), 1 spm. Poltava: 1.V–5.VI.1924, 29.V.1927 (F.K. Lukjanovitsh), 6 spms. Kharkov, 15.V.1988, 15–20.V.1992 (A.F. Bartenev), 14 spms. Kharkov Prov.: "Kharkov Guberniya", 1833 (I.A. Krynicki), 1 spm.; Nikolaevo near border with Sumy Prov. (Benua), 2 spms.; Zmiev Distr., Gaidary: May 1917, 4–13.V.1918, 11–23.V.1919 (K.V. Arnoldi); 5–21.VI.1987 (A.F. Bartenev); 1.VI.1999, 10.VI.2000 (N.N. Yunakov), 30 spms.; Konstantinovka (D.A. Donets-Zakharzhevskii), 6 spms.; Chuguev: 15.VI.1990, 19.V–10.VI.1991 (A.N. Drogvalenko), 6 spms.; Chuguev Distr.: Dachi, 18.V.1998, 7.VI.2000 (A.N. Drogvalenko, N.N. Yunakov), 11 spms.; "Orchik" Reserve, 6.V.1990 (V.F. Chernikov), 1 spm.; Kharkov Distr., Dokuchaeva Vill., 23.V–14.VI.1995 (N.N. Yunakov), 17 spms.; Dergachi Distr., Solonitsevka, 2.VI.1997 (K.S. Nadein), 3 spms.; Kochitok, 28.V.1910, 7 spms.; Oskol River, 1 spm. Lugansk vicinity: 27.V.1928 (V.I. Talitskii), 2 spms. Kherson (E. Fischer coll.), 2 spms. Kherson Guberniya: steppe, 22.V.1899 (Graftio), 1 spm.; "Tauria" (G. Sievers coll.), 1 spm. **Russia**. "Expedition in Novaya Zemlya" (K. Baehr), 1 spm. Arkhangelsk: bank of Severnaya Dvina River, 11.VII.1895, 8.VI.1896 (Birulya), 2 spms.; as above, on strawberry, 28.V.1989 (L. Trofimova), 102 spms. Arkhangelsk Prov.: Kholmogory Uyezd, Emtsa River, 19.VI.1897 (Fudel'), 1 spm. Nenets Autonomous District, Kanin Peninsula, 1 spm.; Mesen Town, late VI–early VII.1915 (V. Legatov), 2 spms.; Onega Distr.: Maloshuika Stn., 11.VII.1929 (Vorobyeva), 2 spms.; Neminga, 3.VII.1929 (Vorobyeva), 1 spm.; Verkhovie Vill., 18.VII.1985, 12–29.VII.1986, 10.VIII.1987 (B.A. Korotyaev), 26 spms. Komi Republic: Vorkuta: Rudnik [city district], river bank, 10.VII.1972 (A.L. Lobanov), 1 spm.; "Seventh Heaven" [resting place in the suburbs], 25.VII.1970 (A.L. Lobanov), 2 spms.; Pechora Distr., Ust'-Tsyl'ma, 4.VI–7.VIII.1905, 2.VII.1906, 18–29.VI.1908, 17.VI–7.VII.1909, 27.VI.1918 (Zhuravskii), 68 spms.; Tsyl'ma River bank from Zavod to Popova Izba, 27.VI.1908 (Zhuravskii), 5 spms.; Popova Izba on Tsyl'ma River, 24.VI.1906, 29.VI.1908 (Zhuravskii), 14 spms.; Pechora River Delta, Andyuga Vill., 6–10.VII–4.VIII.1907 (Zhuravskii), 34 spms.; Andyuzhskaya Lopatka on Pechora River, 17.VII.1907 (Zhuravskii), 3 spms.; Pechora River, from Narian-Mar to Abramovskii, Bol'shezemel'skaya Tundra, 14–17.VII.1933 (Vorobyeva), 7 spms.; Shapkina River, Pechora tributary, Bol'shezemel'skaya Tundra, 20.VII.1933 (Vorobyeva), 7 spms.; Bolvanskaya Tundra, Bol'sheze-

mel'sk, 26.VII–2.VIII.1903 (Zhuravskii), 10 spms.; Bol'shezemel'skaya Tundra, Shapkina River, Matveevskaya Inlet (G. Richter), 1 spm.; Oranets River, 24 and 25.VI.1905 (Zhuravskii), 12 spms.; Ust'-Izhma River, 19.VI.1904, 29.VI.1907 (Zhuravskii), 12 spms.; Vysar-vis River, Kolva River basin, 15.VII.1907 (Zhuravskii), 11 spms.; Yaran-shor River, Bol'shaya Synya, 16.VII.1909 (Zhuravskii), 13 spms.; Kherei-Vor, Kolva River, Bol'shezem'skaya Tundra, 22.VI.1904, 15.VII.1907, 28.VII.1908 (Zhuravskii), 15 spms.; 6 km downstream Kol'va, Ussa, 22.VI.1904 (Zhuravskii), 5 spms.; 15 km downstream Synya River, 23.VI.1904 (Zhuravskii), 2 spms.; Ust'-Kozhva, 24.VII.1906, 10.VII.1909 (Zhuravskii), 3 spms.; confluence of Kozhva and Pechora rivers, VII.1909 (Zhuravskii), 1 spm.; Kozhva River, 23.VII.1908 (Zhuravskii), 2 spms.; Kozla and Vyl' rivers S of Bol'shaya Synya, 22.VII.1909 (Zhuravskii), 9 spms.; Kydziras River, Bol'shaya Synya basin, 9 and 10.VII.1908 (Zhuravskii), 7 spms.; Voi-Sablya-Iz–Lun-Sablya-Iz, Bol'shaya Synya River, 5.VIII.1909 (Zhuravskii), 3 spms.; Lun-Sablya-Iz–Lolinov, Bol'shaya Synya River, 6.VIII.1909 (Zhuravskii), 1 spm.; Niedz'-Nyrdvis River, Bol'shaya Synya River, 13.VII.1909 (Zhuravskii), 2 spms.; Adz'va: Niedz'-el', 27.VII.1909 (Zhuravskii), 2 spms.; Tal'bei Town, 25.VII–11.VIII.1909 (Zhuravskii, Kulik), 8 spms.; Burundikai Pass, 27.VII.1909 (Zhuravskii), 4 spms.; Pyzh-Shor, 5.VIII.1904 (Zhuravskii), 1 spm.; downstream Nur'-yu River, 7.VII.1904 (Zhuravskii), 2 spms.; Kharuta-Ooma-yu-vom, 16–20.VII.1909 (Kulik), 3 spms.; Kossedy River, 18.VII.1909 (Kulik), 3 spms.; Salyuku-vom, 12.VII.1909 (Kulik), 3 spms.; Sira-ty-vis River, 6 and 7.VII.1904 (Kulik), 1 spm.; Mal'veyu-vom, 13.VII.1909 (Kulik), 2 spms.; Chulei River, 23.VI.1906 (A.V. Zhuravskii), 2 spms.; Bugaevo, Polar Pechora, 23.VII.1906 (Zhuravskii), 1 spm.; Prince Gorchakov Island, 13.VII.1906 (Zhuravskii), 2 spms.; Palevitsa, 25.VI–10.VII.1976 (A.L. Lobanov), 2 spms.; Lesser Ural and Lake Vargaty, Obdorsk, 15.VI.1897, 29–31.VIII.1925 (V.Yu. Fridolin), 3 spms.; Man'ya River basin, Woodland Ural, 26–28.VI–12–15.IX.1927 (Lyapin, K. Flerov), 2 spms.; Subpolar Ural, Neroika Mountain, podgoltsy [below goltsy—the plantless upper mountain belt.—Ed.] meadow, 650 m, and watershed plateau, tundra, 600 m, 5 and 15.VIII.1988 (Malozemov), 4 spms. [Some data from the Neroika Mountain labels omitted in the original Russian text.] Vologda: Vologda River flood land, on nettle, 15.VII.1990 (B.A. Korotyaev), 5 spms.; 7.VII.1895 (Birulya), 1 spm. Vologda Prov.: Velikii Ustyug, 9.VII.1895 (Birulya), 1 spm.; Spasskoe-Kurkino Vill., 25–27.V.1921 (L. Bogdanova-Kat'kova), 2 spms.; Tot'ma, 10.VI.1934 (V.V. Barovsky), 1 spm. St. Petersburg: (G. Sievers coll.), 30 spms.; (A. Yakovlev coll.), 3 spms.; (A. Morawitz), 5 spms.; 7–12.VI.1874, 5 spms.; Udel'naya Stn., 6.V–10.VI.1890 (L. Bianchi), 2 spms.; 8.VI.1944, 2 spms.; Avtovo, 2.VII.1907 (D. Smirnov), 4 spms.; Smolenskoe Lutheran cemetery, 3.VI.1909 (A.A. Stackelberg, G.Ya. Jacobson), 30 spms.; Mitrofan'evskoe cemetery, 1883, 4 spms.; Forestry Institute, 1915, 2 spms.; Krestovskii Island, 18–25.V.1897 (A.K. Cechini), 2 spms.; 12.VI.1916 (R. Virketis), 10 spms. Leningrad Prov.: Elizavetino, 30.VI.1939 (F.K. Lukjanovitsh), 3 spms.; Duderhof Stn.: 3.VIII.1898, 5 spms.; 1882 (Sievers coll.), 1 spm.; 6.VI.1909 (A.A. Stackelberg), 1 spm.; 6.VII.1935 (F.K. Lukjanovitsh), 2 spms.; Voronya Gora, 11.VI.1898 (R. Shmidt), 3 spms.; Veimarn (Veshnyakov), 2 spms.; Ostrovki Vill. on the Neva, Shlisselburg Uyezd, 30.V–7.VI.1906 (G.Ya. Jacobson), 10 spms.; Lobanovo landing, 2–18.V.1906 (A.V. Vlasov), 5 spms.; Gorskaya Stn., Primorskaya railroad, 2.VI.1897 (Birulya), 1 spm.; Gorelovo Stn., Baltiiskaya railroad, 5.VII.1898 (L. Bianchi), 1 spm.; Malaya Okhta River, 18.VI.1907 (V. Shteinfeld), 15 spms.; Murino, VI.1881 (D. Smirnov), 1 spm.; Shuvalovo, 9.V.1897 (G.Ya. Jacobson), 1 spm.; Preobrazhenskoe, 25.V.1896 (G.Ya. Jacobson), 1 spm.; Gatchina, 2.VI.1901 (D. Smirnov), 1 spm.; 15.VI.1903, Malaya Gatchina wood plot, 10.V.1906 (V.V. Barovskii), 2 spms.; Pudost', 26.VI.1965 (O.N. Kabakov), 1 spm.; Lakhta, 25.V.1921 (A. Reichardt), 1 spm.; Peterhof Distr., Ligovo, gulf shore, 17.VI.1907 (V.V. Barovskii), 1 spm.; Luga, 16–29.V.1901 (G. Suvorov), 2 spms.; Luga Distr., Nikolaevskoe, 1913 (S. Soloviev), 3 spms.; Log Vill., 13–29.VI.1918 (G.Ya. Jacobson), 2 spms.; Alekseevka Vill., 11.VI.1988 (V.N. Prasolov), 1 spm.; Koerovo, 31.V–17.VI.1888 (L. Bianchi), 21 spms.; Siverskaya Stn., Varshavskaya railroad, Protasovka Vill., 2.VI.1898; Lyazovo Vill., 14.VI.1898 (Kuznetsov), 2 spms.; Lomonosov (= Oranienbaum), 31.VII.1928 (Zakrevskii), 1 spm.; Lomonosov Distr., Cheremykino Vill., 22.VII.1990 (V.N. Prasolov), 2 spms.; Pargolovo vicinity, hills, 11.VI.1990 (V.N. Prasolov), 3 spms.; Dyatlitsy, 20.VI.1990 (V.N. Prasolov), 1 spm.; Lopukhinka, 20.V–16.VI.1894 (L. Bianchi), 9 spms.; Kamenka, 24.V.1920 (A. Vul'f), 1 spm.; Lesnoi, 26.V.1920 (A. Vul'f), 1 spm.; Gorskaya Stn., 2.VI.1897 (Birulya); Tsarskoe Selo (= Pushkin), 12.VII.1912 (A. Dyakonov), 2 spms.; Pushkin, V.1923

(V.G. Olsufiev), 1 spm.; Taitsy, 11.VI.1908, 16.VI. 1909 (A.A. Stackelberg), 2 spms.; Pavlovsk, 10.VI. 1909 (A.A. Stackelberg), 1 spm.; Staryi Peterhof vicinity, 11–25.VI.1928 (Skurikhina), 2 spms.; Lebyazh'ya Vill., 12.VI.1899 (A.K. Cechini), 1 spm.; Nikolaevka, 3.VI.1907 (D. Smirnov), 1 spm.; Vyborg, 7.VI.1988 (V.N. Prasolov), 1 spm.; Vyborg Distr., Tyurisevo Vill., 3 spms.; Beloostrov Vill., 21.VI.1970, 5–12.VI.1981 (V.N. Prasolov), 4 spms.; Kingisepp Distr., Kikeritsy Vill., 4.VI.1954 (L.V. Arnoldi), 1 spm.; Novoladozhskii Uyezd, Sarya Estate, 22.VI. 1908 (V.V. Barovskii), 1 spm.; Staraya Ladoga, 18.VI. 1924 (A. Vul'f), 2 spms.; Lake Lembolovskoe, 14.VI. 1921 (A. Vul'f), 1 spm.; Syargi, 1.VII.1923 (A. Vul'f), 1 spm.; Lebyazh'e, 24.V.1899 (L. Bianchi), 1 spm.; Kamenka River, 10.VI.1918 (A. Vul'f), 1 spm.; Sestroretsk, 11.VI.1978 (B.M. Kataev), 3 spms. Tver Prov.: Bologoe: 14–22.VI.1891 (L. Bianchi), 2 spms.; 13.V.1902, 3–21.VI.1904, 20.V–11.VI.1905, 4.VI. 1906, 9.VII.1907 (F.A. Zaitzev), 30 spms.; Terekhovo-Boinevo, Valdai Distr., 30.VI.1940 (E. Kuznetsova), 2 spms. Pskov (Chistovskii), 3 spms. Pskov Prov.: Shchepets, 4–14.VI.1901 (N. Ivanov), 8 spms. Novgorod Prov.: Starobarskoe, V.1922 (P.K. Kozlov), 2 spms.; Buravichi, 1 spm.; Mstinskii Most Stn., 29.VI.1988 (B.A. Korotyaev), 2 spms. Yaroslavl vicinity, 13–29.V.1893–24.V.1894, 18.V.1897, 22.V. 1898–10.VI.1900 (A. Yakovlev), 37 spms. Nizhnii Novgorod, 25.V–8.VI.1904–1905 (I. Ozerov, N. Pokrovskii), 3 spms. Smolensk: 31.V.1996, 1 spm. Smolensk Prov.: "Smolenskoe Poozer'e" National Park, 4.VI.1992 (V.V. Zlobin), 1 spm.; Dukhovetskii Uyezd (A. Mess), 1 spm. Bryansk: 10.V.1927 (V.N. Stark), 1 spm.; pine and spruce forest, 10.VI.1985 (B.A. Korotyaev), 2 spms. Bryansk Prov.: Bryansk Experiment Forestry, 4–21.V.1907 (Vinogradov-Nikitin), 8 spms. Moscow Prov.: Chashnikovo Agrobiological Station, 5.VI.1969 (V.G. Kovalev), 1 spm.; 12.VI.1971 (B.A. Korotyaev), 5 spms.; Zvenigorod, 13.VI.1971 (V.P. Shelepov), 1 spm.; Boblovo, 7.V–29.VI.1904–1906 (D. Smirnov), 20 spms.; Vyazemskii Distr., Grigorievskoe, 3.VI.1900 (Gudim), 4 spms. Kaluga Prov.: Malyi Yaroslavets (G. Suvorov), 2 spms.; Karachevo, 25.VI.1904 (Poretskii), 1 spm. Ivanovo Prov.: Kokhma City, 22.V.1986 (V. Kozlov), 1 spm.; Volchikha, Gorbatov Uyezd, 17.V–14.VI.1894 (G.Ya. Jacobson), 3 spms. Vyatka (= Kirov): Nolinsk, 25.V–18.VI.1899 (Poretskii), 9 spms.; 29.V–19.VI.1901 (D. Smirnov), 2 spms.; Urzhum, 1–10.VI.1905 (S. Kulikov), 3 spms.; farm, 6.VII.1920 (Krotovskii), 1 spm.; 14–23.VI.1931 (Syrtsov, K. Ivanov), 2 spms. Tula Prov.: Aleksin, 16.VII.1899 (V. Bedval'), 1 spm. Ryazan (A. Yakovlev coll.), 17 spms. Ryazan Prov.: Ryazan Distr., Almazovka, 7.VI.1899 (P.P. Semenov), 10 spms.; Gremyachka, Dankov Uyezd, 2.VI.1882, 6.VI.1899, 27–29.V. and 2.VI.1908, 2.VI.1911 (A.P. Semenov), 12 spms.; Gremyachevo, Zarechensk Uyezd, 6.V–7.VI.1913 (L. Bianchi), 4 spms. Orel Guberniya, 16.VI.1910, 1 spm.; Sakhanka, 25.V.1911 (L. Belyaev), 3 spms. Tambov (A. Yakovlev coll.), 2 spms. Tambov Prov.: "Voronezh-gran.[?itsa, = province border]", 19–22.V.1864 (Czekanowski), 1 spm. Penza, 27.V–8.VI.1900 (D. Smirnov), 8 spms. Kursk Prov.: Novyi Oskol, 1 spm. Voronezh: 14.V.1916 (A. Reichardt), 2 spms.; (Shubert), 21 spms. Mari El, Yoshkar-Ola, margin of oak forest in Malaya Kokshaga River flood land, 19.VII.2006 E.G. Sergeeva), 2 spms. Chuvashia: Tsivil'sk, 18.VII.1875 (Ksenzhopolskii), 1 spm.; Kozlovka, 23.VI.1926, 15 spms. Rostov Prov., Tarasovskii Distr., 15.V.1989 (V. Bartashev), 1 spm. Ulyanovsk Prov.: Melekes Distr., forest at Chernaya Rechka River, 26.VI.1960, 1 spm. Saratov Prov.: Balashovskii Distr., Saval'skoe Forestry, 10–24.VI. 1954 (V.N. Stark, Speranskaya), 10 spms.; Khvalynka (N. Sokolov), 1 spm.; Saratov vicinity, Kologrivovo, 3.VI.1913 (V. Belyaev), 1 spm. Perm Prov.: Severnaya Yurla, 15.VI.1911, 1 spm.; Srednyaya Us'va, Khariuznyi, 12–27.VII.1946 (Soldatkin), 5 spms. Bashkiria: Irgizla, Belaya River bank, Uzunui Cave, 11–25.VI.1899 (G.Ya. Jacobson, Schmidt), 9 spms.; Belebei Distr., Usen'-Ivanovsk, 9.VII.1904 (Simon), 1 spm.; Belebei, 6–19.VI.1907 (A. Grigoriev), 3 spms.; Birsk, 1918 (Kossakovskii), 1 spm.; east of Beloretsk, 6.VIII.1920 (F.K. Lukjanovitsh), 1 spm. Chelyabinsk Prov.: eastern slope of South Urals, "Il'menskii" Nature Reserve, 16.VI.1976 (L.A. Zhiltzova), 2 spms.; Katav-Ivanovskii Distr.: Dvoinishki, 23.VI–1.VII.1926 (Vakulenko), 143 spms.; Sim Vill., meadow trerrace, 2.VII.1985, 2 spms.; Zlatoust, 13–21.VI.1892, VI.1919 (Kalachev, Kossakovskii), 2 spms. Ekaterinburg: Uktus Massif, forest opening, 23.VI.1985 (V. Kozlov), 4 spms.; VI.1962 (V. Olshvang), 2 spms.; 12.VI.1910 (G.Ya. Jacobson), 7 spms. Tyumen': 10–24.VII.1926 (Samko), 28 spms.; Uspenka, 1.VII.1959 (L.N. Medvedev), 1 spm. Tyumen' Prov.: Ratta, Taz River, 7.VII.1992 (D.R. Kasparyan), 1 spm.; 70–90 km upstream Ratta, 4.VIII.1992 (D.R. Kasparyan), 1 spm.; Yarkovskii Distr., Mazurovo Vill., on *Rumex canina*, 20.VI.1986 (P.S. Sytnikov), 1 spm. Novosibirsk Prov.: Uchebnyi Vill., 15.VI.1974 (B. Mamot), 1 spm. Tomsk: VI–VII.1912 (Agentova), 1 spm.; Botanical Garden, on *Urtica*



Figs. 12–20. *Phyllobius* Germ., penis (12–14, 17–19), apex of penis (15, 16), and apical part of male hind tibia (20): (12) *Ph. pomaceus fessus* Boh. (Taz River), dorsally; (13) same, ventrally; (14) same, laterally; (15, 16) *Ph. pomaceus pomaceus* Gyll., Transcarpathians (15) and Urals (16); (17) *Ph. maculatus* Tourn. (Onega Distr.), dorsally; (18) same, ventrally; (19) same, laterally; (20) *Ph. pilicornis* Desbr. (Transcarpathians, Dragove Vill.).

dioica, 10–30.VI.1980 (S.A. Krivets), 12 spms. Tomsk Prov.: Semiluzhnoe, 20.V–29.VI.1908, 6.IV.1909 (I.V. Emelyanov), 17 spms. **Kazakhstan**. Akmola area, Borovskii Forest, 28.VI–17.VII.1932 (V. Popov), 3 spms.; 19.VI.1898 (A. Yakovlev), 3 spms.

Phyllobius* (*Metaphyllobius*) *pomaceus fessus
Boheman, 1843, stat. n.
(Figs. 1, 12–14, 24*b*)

Ph. tournieri Smirnov, 1913.

Ph. pomaceus fessus is associated mostly with arboreal and shrubby vegetation. B.A. Korotyaev collected this form in Tuva on birches (in particular, on *Betula microphylla*) and willows. In West Siberia, beetles of this subspecies feed on *Urtica dioica*, *Potentilla arenaria*, *Malus* sp., *Fragaria* sp., *Ribes rubrum*, *Grossularia* sp. etc. (Krivets, 1980, 1981; Krivets, Kuznetsova, 1984). Wanat (2005) records *Ph. pomaceus fessus* as a distinct species from Poland, Lithuania, Belarus, and North of European Russia apparently misidentifying red-legged females of *Ph. pomaceus pomaceus*. He also records *Ph. pomaceus fessus* from the Caucasus most likely as a result of misidentification of the Caucasian *Ph. derjugini* Smirn.

Russia. Tyumen' Prov.: Yamalo-Nenets Autonomous District: Yamal Peninsula: southern tundra, flood land of Tyuui-Kharvotayakha and Khadytayakha rivers, *Salix* and *Alnus* thickets, 15–17.VIII.1986 (N.G. Erokhin), 47 spms. Tyumen' Prov.: Taz River, 70–80 km upstream mouth, sandy spit with willows, 30–31.VII.1992 (D.R. Kasparyan), 4 spms.; 100 km SSW of Ratty, upper reaches of Taz River, 22.VII.1992 (D.R. Kasparyan), 6 spms.; 50 km SW of Ratty, Taz River, flood-land birch forest, 2.VIII.1992

(D.R. Kasparyan), 1 spm.; Krasnosel'kup Vill. and 2 km upstream of it on Taz River, birch forest, 12–16.VIII.1992 (D.R. Kasparyan), 3 spms.; Novyi Urengoi City, 15.VII.1999 (A. Sizov), 8 spms. Tomsk Prov.: Bol'shoi Ansas and Bol'shoi Kysas rivers, 21.VI–6.VII.1895 (G.Ya. Jacobson), 2 spms.; Semiluzhnoe Vill., 6.IV–4.VII.1908 (I.V. Emelyanov), 6 spms. Altai Terr.: Lake Teletskoe: Kursai, 2–20.VII.1909 (V.I. Vereshchagin), 19 spms.; Atybash River branch, 16.VI.1908 (V.I. Vereshchagin), 2 spms.; [?upstream or above] Karatash, 18.VI.1908 (V.I. Vereshchagin), 1 spm.; Dusoilu and Belhe localities, 14.VI–6.VII.1901 (V.I. Vereshchagin), 3 spms.; Kopsha River valley, 3.VI.1901 (V.I. Vereshchagin), 1 spm.; Chilishch and Chirya rivers, 24–30.VI.1909 (I.V. Emelyanov), 5 spms.; Chulyshman River: mouth, 22.VI.1908 (V.I. Vereshchagin), 1 spm.; Kumurtuk, 9.VII.1909 (I.V. Emelyanov), 1 spm.; Biisk Distr., in river valley, 22.VI.1912 (K.V. Yurganova), 2 spms.; Biisk, 8.VI.1909 (I.V. Emelyanov), 1 spm.; Monastery vicinity, Mon-Kumurt, Kursai, Kumurt-Chel'cha, Sibiryachikha, 17.VI–20.VIII.1905 (V.I. Vereshchagin), 80 spms.; Yazua, 12.VI.1905 (V.I. Vereshchagin), 8 spms.; Zmeinogorsk Distr., Sinyukha Mount foothill, 24 and 25.VI.1910 (Tomin), 1 spm.; upper reaches of Lebed' River (a Biya tributary), 23.VI.1912 (Sushkin, Redikortsev), 1 spm.; Southeastern Altai: Chuiskii Highway, 5.VI.1911 (K.V. Yurganova), 1 spm.; Seminskii Pass, 5.VI.1911 (K.V. Yurganova), 2 spms.; Shebalino, 3.VI.1911 (K.V. Yurganova), 2 spms.; Tyudrala, 5.VI.1906 (V.I. Vereshchagin), 9 spms.; Ardybash, 14.VI.1905 (V.I. Vereshchagin), 1 spm.; Chuiskaya Steppe, Kosh-Agach, 20.VI.1907 (E.G. Rodd), 3 spms.; 40 km E of Kosh-Agach, Buguzun River flood land, poplar stand, 2200 m, 7.VII.1997 (A.L. Lvovsky), 2 spms.; Kurai, 1.VIII.1964 (I.M. Kerzhner), 1 spm. Krasnoyarsk: 2.VII.1898, VII.1919 (Kibort, Kossakovskii), 3 spms. Krasnoyarsk Terr., Krasnoyarsk vicinity, Vyyezzhii Log, 28.VI–6.VII.1912 (Tugarinova), 6 spms.; 45 km SE of Krasnoyarsk, Svishchevo Vill., 14.VI.1903 (Sahlström), 2 spms.; 50 km SW of Krasnoyarsk, Biryusa Vill., 15.VII.1903 (Sahlström), 1 spm.; Minussinsk Distr.: Kuraginskoe Vill., 29.V.1901 (Kibort), 4 spms.; Ermakovskoe Vill., V.1903 (V.N. Stark), 1 spm. Khakasia: Kuznetskii Alatau, Shira Distr., Chernyi Iyus River basin, Izekiyuyla—Usinskaya Sobaka watershed, 1300 m, subalpine meadow, 13–19.VII.1990 (Minaeva), 6 spms.; Lake Shira, 2 spms.; Kansk Uyezd, Bunbui, 18.VI.1915, 7.VI–25.VII.1916 (Varaksina), 27 spms.; middle section of Tunguska River, 30.VII.1921 (Tugarinov), 1 spm.; Elovaya Vill., 10.IX.1898 (Kibort), 1 spm.; Storozhilovo, 17.VI.1897 (Ju. Wagner), 1 spm.; Baigazan, 18.VI.1909 (I.V. Emelyanov), 1 spm.; Dzhezana, 7 and 8.VII.1897 (Ju. Wagner), 4 spms.; Bezymianka, 21.VI.1897 (Ju. Wagner), 2 spms.; Chmek, 15.V.1897 (Ju. Wagner), 1 spm.; Ada-Mazura, 15.VII.1897 (Ju. Wagner), 1 spm.; Algasik, 18–19.VII.1897 (Ostrovskii), 1 spm.; Kaizas River, 3.VI.1897 (Ju. Wagner), 1 spm.; Berezovyi Spring, Abakan tributary, 12.VI.1912 (Sushkin, Redikortsev), 5 spms.; Rybinskoe, 17.VI.1912 (Vilemchik), 1 spm. Kemerovo Prov.: Kuznetskii Alatau, Stanovoi Mt. Range, pebble shore of a lake, 29.VII.1994 (N.V. Demidenko), 1 spm.; Chemodan Mount, alpine meadow, 24.VII.1991 (N.V. Demidenko), 1 spm. Tuva: Kyzyl, Dzhili, 7.VII.1897 (Silantiev), 1 spm.; 80 km N of Teli Vill., 24.VI.1972 (B.A. Korotyaev), 3 spms.; Chadan City, 13.VII.1971, 2.VII.1979 (B.A. Korotyaev), 10 spms.; Yrban, Khamsara River ferry, 9–10.VIII.1973 (B.A. Korotyaev), 1 spm.; Urguzun, mixed forest, 19.VII.1947 (Fedorova), 2 spms.; Khendergei, 6.VII.1963 (Isaev), 1 spm.; Ka-Khem and Bii-Khem rivers, 4–8.VI.1914 (N.G. Tomashinskii), 3 spms.; middle section of Systyg-Khem, 21 and 22.VII.1897 (Ostrovskikh), 2 spms.; Tes-Khem River upstream Teri-Khem River mouth, 6 and 7.VIII.1897 (Ostrovskikh), 2 spms.; Lake Todzha, 6–10.VII.1972 (B.A. Korotyaev), 5 spms.; Bii-Khem, Ust'-Uyuk, 20–31.VII.1974 (Yu. Korotkov), 1 spm.; Mugur-Aksy Vill., 5.VII.1970, 12.VIII.1974 (B.A. Korotyaev, A.S. Chabovskii), 9 spms.; Erzin, 5.VII.1973 (B.A. Korotyaev), 1 spm. Irkutsk: (V.E. Yakovlev), 14 spms.; Siding I, Transbaikal railroad, VII.1912 (Zankevich), 1 spm.; 1–2.VII.1912 (Kryukova), 1 spm.; 6.VI.1968 (V.G. Shilenkov), 1 spm.; 10 and 11.VII.1912, 1 and 2.VII.1914, 6.VI.1917 (S. Rodionov), 35 spms.; Kotcher City, 9.VI.1912, 4 spms. Irkutsk Prov.: Bodaibo on Vitim River, 26.V.1927 (L. Bianchi), 3 spms.; Kuyada on Lake Baikal, 50 km from Irkutsk, 6.VII.1911 (Kurnakova), 1 spm.; Okunaika River, 13–22.VII.1914 (V. Drobov), 1 spm.; Listvennichnoe Vill., Lake Baikal, 14.VIII.1960, 1 spm.; 18 km from Listvennichnoe Vill., Lake Baikal, 25.VI–17.VII.1912 (Gridzkaya, Kuligin, Kryukova), 5 spms.; Verkholenskie Mts., 21.VII.1917 (S. Rodionov), 1 spm.; Ilimsk, VIII.1902 (Uhlrich), 3 spms.; East Sayans, Mina Vill., 9.VII.1959 (K.Ya. Grunin), 1 spm.; Tibelti, 12.VII.1912, 19.VI.1916 (Yakovitskaya, S. Rodionov), 2 spms.; Chernaya Vill., 1.VII.1963, 1 spm.; Bol'shaya Kodil'naya, 7.VII.1963, 1 spm.; western shore of Lake Baikal,

Bol'shie Koty Vill., 26.VI.1924, 23.VI.1959, 17.VII.1964, on *Alnus* (S. Vinogradov, Tomilova), 4 spms.; Khara-Murin River valley, 10.VII.1984 (V.V. Zlobin), 6 spms.; Cherskogo Peak, 14.VII.1984 (V.V. Zlobin); Khamar-Daba, Malaya Bystraya River, middle section, 27.VI–17.VII.1954, 2–15.VII.1955 (A.S. Rozhkov), 7 spms.; Angara River sources, 13.VII.1930 (Rezvoi), 1 spm.; NW Baikal, Kotelyaninskii lighthouse, 17.VII.1930 (Rezvoi), 2 spms.; Ushakovka, 28.VI.1912; Kultuk, 4–6.VI.1914; Slyudyanka, 10.VII.1914; Gudzhiry, 29.VI.1915 (S. Rodionov), 10 spms.; Arshan, 8–12.VII.1911; Michino, 25.VI.1911; Asherabad, 5.VIII.1912; Usolie, Sachkaly, 16.VI.1912; between Baikal and Khvoinaya, 12.VII.1912; Lonka, 23.VI.1912 (O. Ahnger), 10 spms.; Usolie, 21.VI.1910 (Startseva), 1 spm.; Sinyushkina Hill, 1.VIII.1912 (Lukashov, Merkalev), 1 spm.; Mel'nikovo, 1.VII.1912 (Lukashov, Merkalev), 1 spm.; between Mel'nikovo and Markovo villages, 2.VII.1910 (Prorokov), 1 spm.; Nizhneudinsk, 16.VI.1912 (Matusevich), 1 spm. Buryatia: middle section of Dzhida River, Armak, 3.VII.1928 (P.S. Mikhno), 1 spm.; Ulan-Ude, 1962 (Kolmanova), 1 spm.; Khamar-Daban Mt. Range, upper reaches of Osinovka River, 1800 m, 16.VII.1986 (Yu. Chekanov), 1 spm.; Khamnei, left bank of Dzhida River, birch forest with larch, 27.VI.1971 (D.R. Kasparyan), 7 spms.; Zun-Murino Vill., 24.VII.1974 (V.G. Shilenkov), 1 spm. Chita: 9.VII.1912, 1 spm.; 7.VIII.1921 (Sazhin), 2 spms.; 12.VI.1912 (Gemel'man), 1 spm.; 28.VII.1920 (Redikortsev), 2 spms. Chita Prov.: Tyrgushii S of Chita, 15–30.VI.1914 (Gavrilyuk), 1 spm.; Lake Ivan, 45 km NW of Chita, end of VII.1925 (Vinogradov), 1 spm.; Kaidalovka River, 4–7.VII.1912 (Valueva), 20 spms.; Berezovka near Chita, 20.VI.1915 (A.A. Ogloblin), 1 spm.; Yamarovka, 20–22.VI.1905 (P.S. Mikhno), 1 spm.; Burguntui River, 280 km S of Troitskosavsk, 18–30.VI.1907 (Kozhevnikov), 2 spms.; Lake Gusinoe, 29.VII–2.VIII.1927 (P.S. Mikhno), 4 spms.; Bukuke Vill., larch forest, 15.VII.1971 (D.R. Kasparyan), 1 spm. Yakutia: Lenskii Distr., Tolon Vill., 16.VII.1987 (V.V. Zlobin), 2 spms. Khabarovsk: (Speshilova-Petelina), 1 spm.

Mongolia. Bulgan Aimak: Ipenii-Daba Pass, 33 km S of Selenge, 27.VII.1975 (E.L. Gurjeva), 1 spm.; Orkhon River, in larch canopies, 15–28.VII.1956 (V. Grechkin), 8 spms. Uvs Aimak: 10 km N of Khan-Khukhei-Ula peak, 6 and 7.VII.1968 (A.F. Emeljanov), 3 spms. Hövsgöl Aimak: Delger-Muren River near Buren-Khan, 28 and 29.VI.1968 (M.A. Kozlov), 1 spm. Arhangay Aimak: 25 km WSW of Ikh-Tamir, 30.VIII.1967 (A.F. Emeljanov), 1 spm.; 40 km SSW of Tevshrulekh, hill top, boundary between steppe slope and larch forest, 18–19.VI.1975 (E.L. Gurjeva), 1 spm.; 48 km S of Tevshrulekh, 2 and 3.VII.1975 (E.L. Gurjeva), 1 spm. Töv Aimak: Zaisan locality, S slope of Bogdo-Ula Mountain, 4.VII.1967 (V.F. Zaitzev, I.M. Kerzhner, A.F. Emeljanov), 12 spms.; N slope of Bogdo-Ula Mountain, near Ulan-Bator, 22.VI.1967 (V.F. Zaitzev, I.M. Kerzhner), 2 spms.; Zaisan locality, 10.VI.1971 (Zs. Peregi), 6 spms.; 14 km E of Ulan-Bator, 20.VI.1967 (A.F. Emeljanov), 2 spms.; Songino Vill., 7.VII.1970 (I.M. Kerzhner), 1 spm.; Sudzukte locality, SW Hentiy Mts., NW of Ulan-Bator (= Urga), 22.VI.1924, 5.VI–5.VII.1925 (P.K. Kozlov), 16 spms.; Tola River valley, Khalkha, Sugnugur-Gol (= Sugu-Nur), upper reaches of Khara-Gol River, 21.VI–14.VII.1924, 21–30.VI.1925 (P.K. Kozlov), 23 spms.; Baidzun River, a Khara-Gol River tributary, 16–27.VI.1907 (Kozhevnikov), 2 spms.; 30 km E of Nalaikha, 8.VII.1967 (I.M. Kerzhner), 1 spm. Hentiy Aimak: 15 km S of Tsenkher-Mandal, 4 and 5.IX.1975 (E.P. Nartshuk), 2 spms. Selenge Aimak: 30 km ENE of Dzun-Khara, 6.VIII.1975 (E.L. Gurjeva), 2 spms.

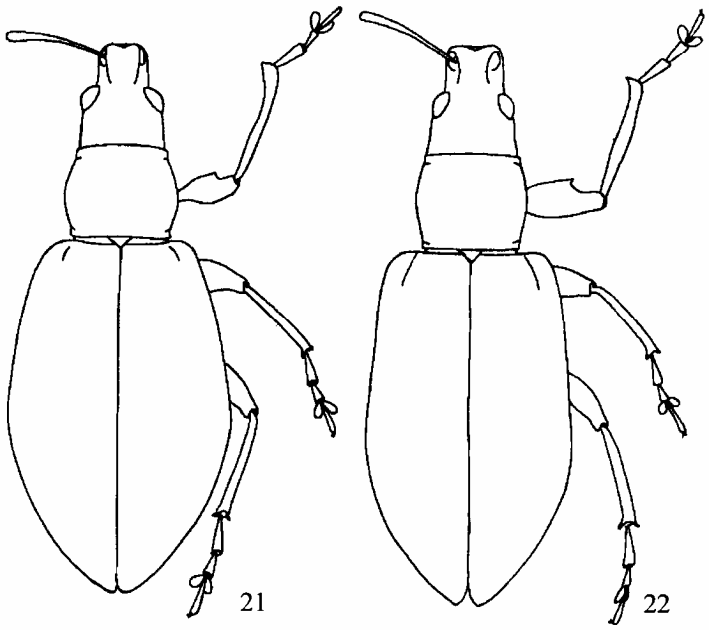
Phyllobius* (*Metaphyllobius*) *pilicornis
Desbrochers, 1873 (Fig. 20)

A Central European woodland species; in Eastern Europe, known from a few findings in Moldova and in Ukrainian Carpathians. *Ph. pilicornis* differs from other species of the subgenus *Metaphyllobius* mainly in the secondary sex characters of males. Little is known on the trophic associations; adults are collected from *Quercus robur*, *Corylus avellana* and *Juglans regia*.

Auatria. "Austria", 1 spm. **Bosnia and Herzegovina**. "Golesnica pl., Jezero", 1 spm. **Moldova**. Dualeshty, forest margin, on lime, 24.V.1988 (A.A. Poiras), 2 spms.; Orgeevskii Forestry, Ivancha Vill., forest, on oak, 22.V, 10 and 25.VI.1959 (S. Plugar'), 4 spms. **Ukraine**. Zakarpatskaya Prov., Khust Distr., Dragove Vill. (T.A. Tveritina), 1 spm.

Phyllobius* (*Phyllobius*) *transsylvanicus
Stierlin, 1873

Occurs in the mountain-forest zone of the Carpathians. Feeds on various deciduous trees and bushes—*Duschekia alnobetula*, *Sorbus*, *Alnus*. In the Ukrainian



Figs. 21, 22. *Phyllobius* Germ., body outline: (21) *Ph. obovatus* Gebl. (Tomsk Prov.), (22) *Ph. dahli* Kor. (Yanvartsevo Vill.).

Carpathians is found mostly at timber line co-occurring and frequently being confused with *Ph.* (*Phyllobius*) *arborator* Hbst. *Ph. transsylvanicus* differs from the latter *prima facies* in the spotted coloration of the elytra and more robust body. *Ph. arborator* sharply differs from all species of *Metaphyllobius* in the absence of the membranous areas in the preapical part of aedeagus.

Romania. "Transsylvania" (Reitter), 1 spm.; "Transsylvania" (Strobl), 1 spm.; Schuler Gebirge, 1895 (Ganglbauer), 8 spms.; as above, 1895 (Deubel), 1 spm. **Ukraine**. Zakarpatskaya Prov.: Marmarosh, N slope of the Kholovachiu Mt. Range, Nenyaska Mountain, 1400 m, 5–10 km SSE of Bogdan Vill., Shchaul River valley, 14.VII.2000 (N.N. Yunakov), 7 spms.; Chernogora Mt. Range, Tovstyi Grun' locality, 950 m, 17.VII.2000 (N.N. Yunakov), 5 spms.

Fig. 23. Range of *Phyllobius maculatus* Tourn.

A KEY TO SPECIES OF THE SUBGENUS *METAPHYLLOBIUS* OF THE FAUNA OF EASTERN EUROPE AND SIBERIA

(with similar species of *Phyllobius* s. str. included.—Ed.)

1(4). Body length 5–6.5 mm. Wings reduced or fully developed, humeral prominences more or less distinctly beveled. Elytra rounded at sides, more strongly so in females, widening apically, widest behind middle. Erect pubescence absent.—Femora finely toothed.

2(3). Wings strongly reduced, elytra raised along suture and rounded at sides, with reduced humeral prominences, more strongly so in females. Vestiture composed mostly of oblong-oval gray, grayish green, or gray with weak coppery shimmer scales usually forming no spotted pattern. Rostral dorsum usually weakly narrowed basally, at base noticeably narrower than frons ..... . *Ph.* (*Metaphyllobius*) *obovatus* Gebl. (Fig. 21).

3(2). Wings fully developed, elytra weakly convex along suture and at sides, humeral prominences distinct and not smoothened in males and weakly

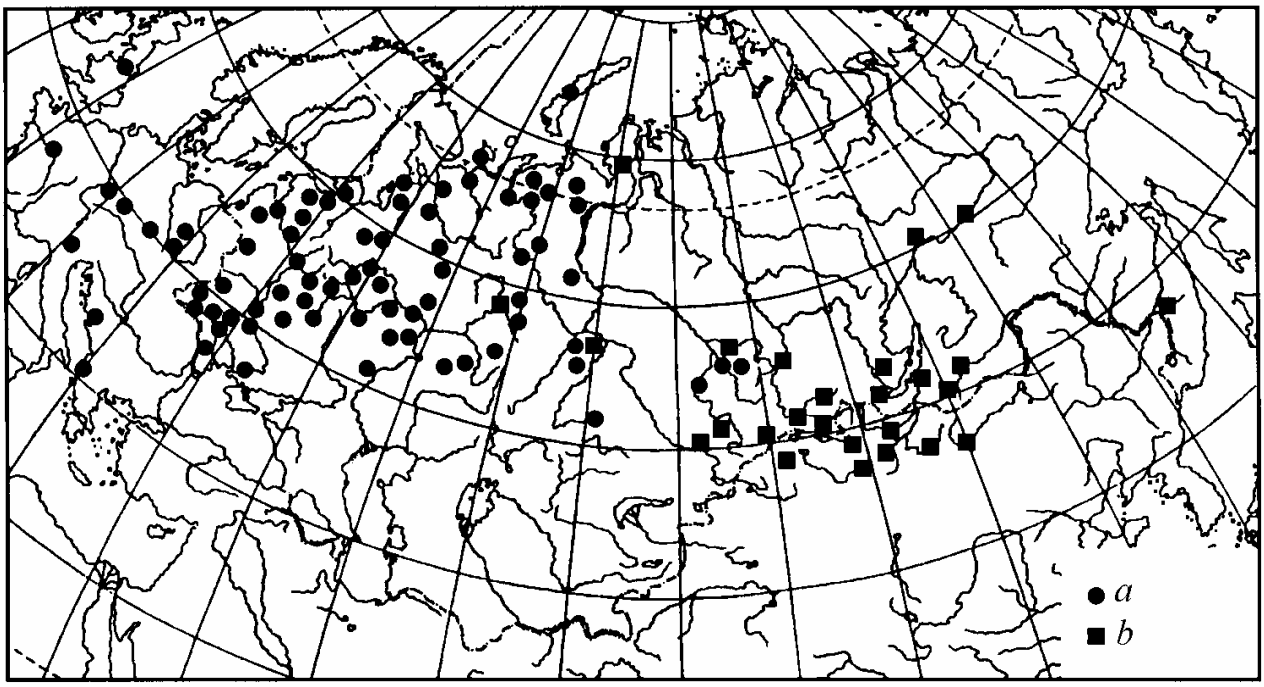


Fig. 24. Distribution of *Phyllobius pomaceus pomaceus* Gyll. (*a*) and *Ph. pomaceus fessus* Boh. (*b*).

smoothened in females. Vestiture composed of narrow-lanceolate and hair-like golden-yellow, or pale brown with coppery shimmer scales, with diffuse spots of darker scales. Rostral dorsum parallel-sided, about as wide as frons ..... *Ph.* (*Metaphyllobius*) *dahli* Korotyaev (Fig. 22).

4(1). Body length 6–9 mm. Wings well developed, humeral prominences angular, not rounded. Elytra with sides straight, not widening apically.

5(8). Rostral dorsum wide, as wide as frons.

6(7). Rostrum short, as long as, or slightly longer than wide, not curved in lateral view. Rostral dorsum flat, not raised, levelling with frons, with convex lateral margins. Eyes hemispherically convex. Prothorax of male strongly convex dorsally and laterally, subspherical. Body densely covered with narrow-lanceolate scales with metallic-green or copper-yellow shimmer; in addition, with short erect dark hairs visible in lateral view in apical half of elytra. In some females shining scales form mottled pattern. Femora with relatively small tooth. In males, fore femur rather strongly thickened, fore tibia in apical third incurved, with long light hairs along inner margin; tibia of female almost straight, with considerably shorter erect hairs. Antennae and legs red. 6–9 mm .... *Ph.* (*Metaphyllobius*) *maculatus* Tourn.

7(6). Rostrum long, noticeably longer than wide, noticeably curved in apical half. Rostral dorsum parallel-sided or noticeably narrowed from base to apex, with smoothened lateral margins. Eyes hemispherically convex. Body densely covered with narrow-lanceolate scales with metallic-green, blue, or copper-yellow shimmer; no erect pubescence present, or short semi-erect dark hairs available. Femora with very large tooth, thickened in males; tibiae in both sexes straight, without long hairs on inner margin. Antennae and legs dark brown or black, legs occasionally red or reddish brown. 7–9 mm .... *Ph.* (*Metaphyllobius*) *pomaceus* Gyll.

7a. Legs black (in Baltic region, legs of females occasionally red), elytra with metallic-shining scales, usually without dark erect hairs. Europe, West Siberia (Fig. 24*a*) .... *Ph. pomaceus pomaceus* Gyll.

7b. Legs red to dark brown, elytra with metallic-shining scales and usually with dark erect hairs (indistinct in specimens from western part of the range). Siberia (Fig. 24*b*) .... *Ph. pomaceus fessus* Boh.

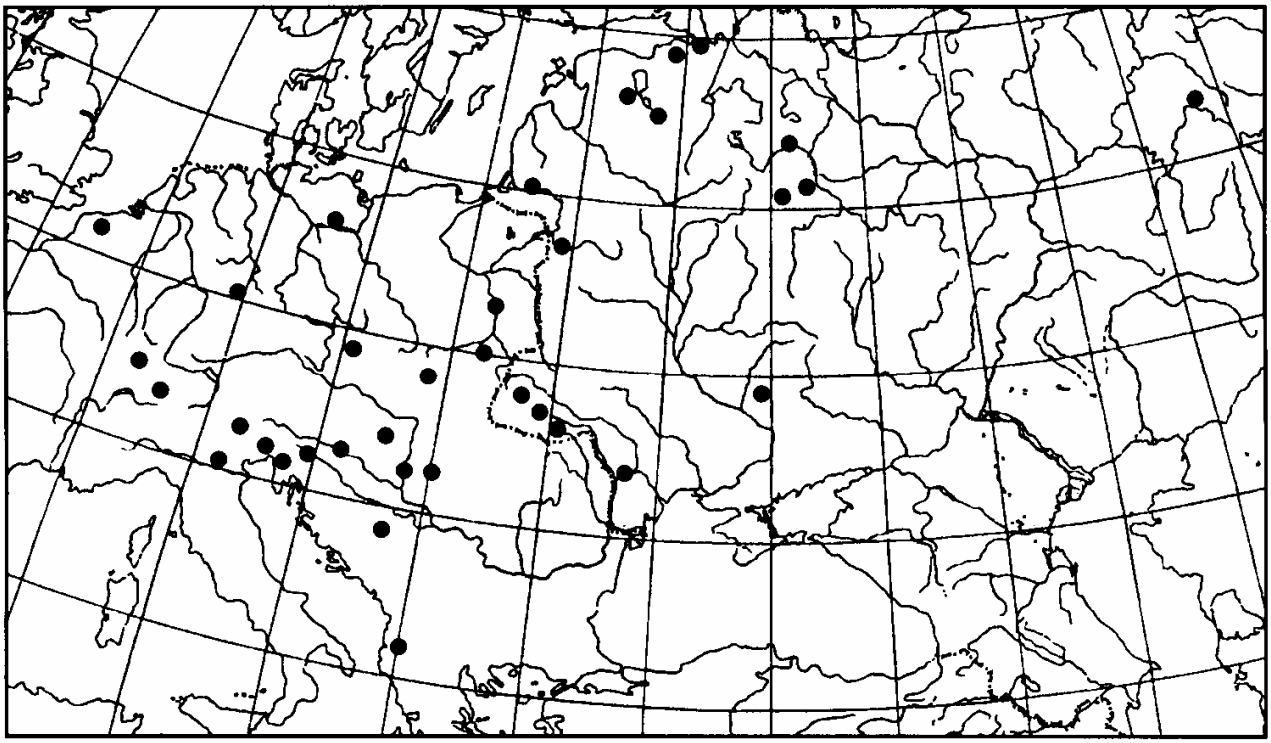


Fig. 25. Distribution of *Phyllobius calcaratus* (F.).

8(5). Rostral dorsum at base noticeably narrower than frons.

9(12). Body covered with oval or lanceolate green scales.

10(11). Elytra narrower and more elongate. Scaling dense and uniform. Rostrum with poorly developed, small pterygia. Rostral dorsum noticeably raised. Frons depressed. Eyes large, hemispherically convex. Head not constricted behind eyes, or with obsolete constriction at sides. Femora with large spiniform tooth, densely covered with oval green scales, in males strongly swollen. Tibiae of male with granulate inner margin, with fine erect light hairs; tibiae of female simple. Prothorax of male strongly convex dorsally and laterally, subspherical. 6–8 mm. Aedeagus as in *Metaphyllobius*, endophallus with large, strongly attenuate falciform sclerite .... *Ph.* (*Phyllobius*) *arborator* Hbst.

11(10). Elytra wide. Body covered with oval metallic-shining green scales forming mottled pattern. In addition to long erect hairs, dense short, semi-erect dark hairs well visible against background of bare spots between scales on elytra. Rostrum as long as, or longer than wide. Rostral dorsum parallel-sided, not or slightly narrower than frons, levelling with latter, with lateral margins not raised, smoothened. Frons flat or slightly depressed. Eyes large, strongly, but not hemispherically convex. Femora and tibiae as in the preceding species. 6–8.5 mm .... *Ph.* (*Phyllobius*) *transsylvanicus* Strl.

12(5). Body covered with narrow-lanceolate or hair-like scales.

13(14). Inner face of hind tibia in both sexes not emarginate. Erect pubescence absent or poorly developed and visible only in lateral view. Body of males usually with dense vestiture of fine hair-like green scales with weak metallic shimmer; females with vestiture as in males or with mottled pattern formed by narrow-lanceolate copper or golden scales. Inner face of femora and tibiae in both sexes with short hairs. Femora of male red. 1st segment of antennal funicle shorter than 2nd, 6th and 7th segments as long as wide. Femoral tooth large. Eyes large, hemispherically convex. Rostral dorsum widened from base to apex, sulcate medially. Prothorax of male strongly convex dorsally and laterally. 7–9 mm. Europe (Fig. 25) .... *Ph.* (*Metaphyllobius*) *calcaratus* F.

14(13). Inner face of male hind tibia clearly excised near apex, proximal margin of excision with brush of very dense light hairs; apex of hind tibia with inner margin strongly attenuate, lobe-shaped widened and flattened. Body with long erect dark hairs, lanceolate and very fine hair-like scales with silvery-white, copper, or green shimmer; vestiture forming mottled pattern and not concealing integument. Antennae slender and long, 1st and 2nd segments of antennal funicle strongly elongate, of equal lengths; 3rd–7th segments longer than wide. Rostrum parallel-sided, with dorsum narrow, also parallel-sided. Eyes large, hemispherically convex. Femora dark, with large tooth. 7–9 mm .... *Ph.* (*Metaphyllobius*) *pilicornis* Desbr.

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