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CONTRIBUTIONS TO THE KNOWLEDGE OF *BOMBUS* AND *PSITHYRUS* GENERA (APOIDEA: APIDAE) IN ROMANIA

CRISTINA BAN-CALEFARIU, MIKLÓS SÁROSPATAKI

Abstract. A synthesis on the Apidae distribution in the Romanian fauna is presented, basing on the data from literature and on the material collected by the specialists of „Grigore Antipa” National Museum of Natural History. The list includes 40 species of *Bombus* and *Psithyrus*.

Résumé. On présente une synthèse de la répartition des apides dans la faune de la Roumanie, basée sur les données de la littérature et du matériel collecté par les spécialistes du Muséum National d'Histoire Naturelle «Grigore Antipa». La liste comprend 40 espèces des genres *Bombus* et *Psithyrus*.

Key words: *Bombus*, *Psithyrus*, distribution, Romania.

INTRODUCTION

Bumble-bees are spread all around the world, excepting the Ethiopian region, southwards Sahara Desert, Madagascar and Australia. The first factor responsible for their distribution is humidity, the species frequently occur in cold regions (it prefers mountain areas) and are rarer in warm and dry habitats (Knechtel, 1954).

In Romania, 40 Bombinae species are reported in comparison with the 63 species reported from Europe (Tomozei, 2000 a), and 118 species reported from the Palaearctic Region.

During the period 1871 – 1984 numerous papers which deal with the bumble-bee species of our country were published, but the information is reduced only to the distribution data, a few of them being completed with phenological and ecological data (Frivaldszky, 1871; Henrich, 1880, 1882, 1883; Mocsáry, 1897; Szilády, 1914; Zilahi – Kiss, 1915; Iuga, 1944; Móczár, 1953, 1959; Berbec, 1961; Knechtel & Paraschivescu, 1962; Fesci, 1972, 1973, 1979, 1984 a, b; Constantinescu, 1976; Paraschivescu & Raicev Arcaşu, 1977; Aftene, 1979; Pascu, 1979). Important studies were made by Knechtel (1954, 1955, 1962, 1963), who published the fascicle with the subfamily Apinae of Romanian Fauna, in 1955, where he presented 38 species (30 species of *Bombus* and 8 of *Psithyrus*). Recent information on the presence of Apidae in Romania are given by Paraschivescu & Goagă, 1994; Goagă, Chimişliu & Tomozei, 1999; Tomozei, 2000 a, b, 2003, 2005, 2006; Ban, 2005, 2006 a, b, Ban & Tomozei, 2006.

MATERIAL AND METHOD

This synthesis was made basing on literature and on the material collected by the specialists of “Grigore Antipa” Museum of Natural History (Bucharest), from different areas of the country (Fig. 1):

- Material originating in Maramureş, collecting being made within 1995 – 1998 and 2003–2004;
- Material originating in Piatra Craiului Massif, collecting being made within 2000–2004;

English translation by Mihaela Barcan Achim.



Fig. 1 – Apids distribution in Romania's counties.

- Material originating in the area of Făgăraș Mountains, collecting being made within 2004 – 2005;
- Material collected from Dobrogea in 2005;
- Material collected from Bucharest and its outskirts in 2006.

Nomenclature was established according to Gogala (1999), Pawlikowski (2001) and Polaszek (2005).

The identification at the species level was made according to the external morphology and to genitalia, using the papers signed by Knechtel (1955) and Móczár (1957).

Abbreviations: alt. – altitude; Mt. - Mountain; Mts - Mountains; counties: AB – Alba Iulia, AG – Argeș, AR – Arad, BC – Bacău, BH – Bihor, BN – Bistrița Năsăud, BV – Brașov, B – Bucharest, CS – Caraș Severin, CJ – Cluj, CT – Constanța, DJ – Dolj, GL – Galați, GJ – Gorj, GR – Giurgiu, HR – Harghita, HD – Hunedoara, IF – Ilfov, IL – Ialomița, MM – Maramureș, MH – Mehedinți, MS – Mureș, NT – Neamț, PH – Prahova, SM – Satu Mare, SJ – Sălaj, SB – Sibiu, SV - Suceava, TL – Tulcea, VL – Vâlcea, VN – Vrancea.

Collectors' names: A.P. – Angela Petrescu, A.S. – Aurora Stănescu, A.V. – Adriana Văraru, C. P. – Corneliu Pârvu, C.H. – Cristina Hoinic, C.B. – Cristina Ban, D.C. – Dan Calefariu, E.P. – Elena Pisciă, E.R. – Elena Rusu, G.C. – Gabriel Chișamera, I.M. – Ioana Matache, M.S. – Melanya Stan, Mi.S. – Mihai Stănescu, R.S. – Rodica Serafim.

RESULTS

The list includes 30 species of *Bombus* and 10 species of *Psithyrus* reported from Romania as yet.

Family Apidae

Bombus Latreille, 1802

Bombus argillaceus Scopoli, 1763

Material: 19 ♀ ♀, Sărata (SB), 2, 3, 6.V.2005, C.B., 2 ♀ ♀, Bucharest (B), 18.III.2005, 5.IV.2005, C.B.

Faunal data from literature: Sibiu (SB) (Henrich, 1883; Pascu, 1979); Aiud (AB), Ocna Mureş (AB), Lopodea Veche (AB), Câmpeni (AB), Izvoarele Maramureşului (MM) (Szilády, 1914); Ilişua (BN), Beclean (BN), Spermezeu (BN), Țibleş Mts (Eastern Carpathians), Tuşnad (HR), Zalău (SJ), Târnăveni (MS), Cristuru Secuiesc (HR), Aiud (AB), Iernut (MS), Sighișoara (MS), Șomoștelnic (MS), Turda (CJ), Vița (BN), Orșova (MH) (Móczár, 1953); Letea Forest (TL), Cernica (IF), Brănești (IF), Comana (GR), Cluj (CJ) (Knechtel, 1955; Móczár, 1953); Hagieni Forest (CT), Oltina (CT) (Knechtel, 1962); Sângeorz – Băi (BN) (Knechtel & Paraschivescu, 1962; Paraschivescu & Raicev Arcașu, 1977); The Danube Delta (TL), Periprava (TL), Caraorman (TL), C. A. Rosetti (TL) (Fesci, 1972); Cocoș Monastery (TL) (Constantinescu, 1976); Saschiz (MS), Luduș (MS) (Pascu, 1979). It occurs frequently in deciduous forests, but it was not reported in the upper areas of the coniferous forests.

Bombus bureschi Pittioni, 1939

Faunal data from literature: Suzana Monastery (PH), Cheia (PH), Valea Cheiței (PH) (Knechtel, 1955). The species is known only from south-eastern Romania (Fig. 2).

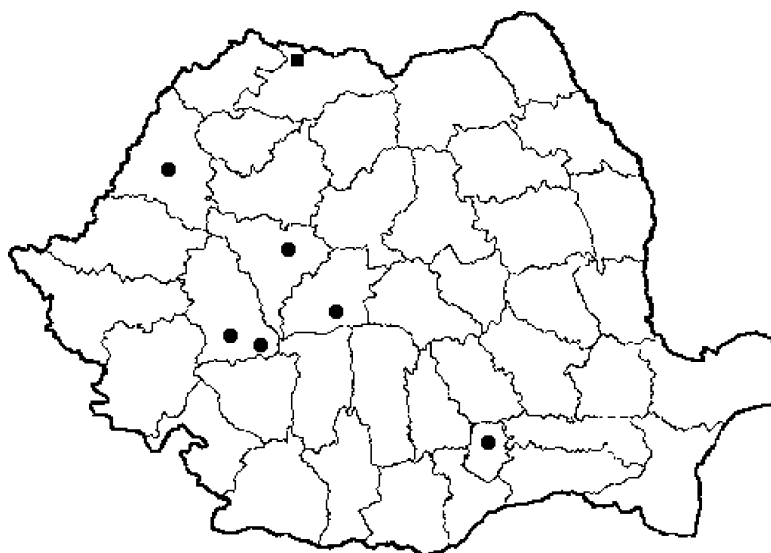


Fig. 2 – Distribution of *Bombus bureschi* in Romania after literature (●).

Bombus confusus Schenck, 1859

Material: 1 ♀, Crasna Vișeuului (MM), 23 – 28.VIII.1997, C.P., 1 ♀, Mara (MM) – 2 km upstream, right bank, 18.VII.1998, A.V.

Faunal data from literature: Sibiu (SB) (Mocsáry, 1897; Pascu, 1979); Aiud (AB), Turda (CJ) (Szilády, 1914); Saschiz (MS), Hodod (BN), Zău de Câmpie (MS), Sfântu Gheorghe (HR) (Móczár, 1953); Ghimbav (BV), Văratec (NT) (Knechtel, 1955); Măgura Cisnădiei (SB), Beclean (BN), Sighișoara (MS) (Pascu, 1979).

Bombus cullumanus (Kirby, 1802)Synonymies: *Bombus silantjewi* Morawitz, 1891*Faunal data from literature:* Văratec Monastery (NT) (Tomozei, 2005). In Romania it is spread probably in the conifer and beech areas (Knechtel, 1955).*Bombus distinguendus* Morawitz, 1869Synonymies: *Bombus mesomelas* Gerstäcker, 1869*Bombus elegans* Seidl, 1837*Faunal data from literature:* Sibiu (SB) (Henrich, 1883); Oravița (CS) (Mocsáry, 1897); Mehădia (CS), Bucegi Mts (Southern Carpathians) (Knechtel, 1955; Fesci, 1973); Sângeorz – Băi (BN) (Knechtel & Paraschivescu, 1962; Paraschivescu & Raicev Arcașu, 1977); Gilău – Muntele Mare (Western Carpathians) (Fesci, 1973); Ceahlău Mts (Eastern Carpathians) (Pascu, 1979); Helegiu (BC) (Paraschivescu & Goagă, 1994).*Bombus fragrans* (Pallas, 1771)*Faunal data from literature:* The Danube Delta (TL), Fetești (CT), Tecuci (GL) (Knechtel, 1955; Fesci, 1972); Cocoș Monastery (TL) (Constantinescu, 1976); Techirghiol (CT), Sulina (TL) (Pascu, 1979). Species known only from south-eastern Romania.*Bombus gerstaeckeri* Morawitz, 1882Synonymies: *Bombus consobrinus gerstaeckeri* Morawitz*Material:* 1 ♂, Săpânța (MM) – Brustani Clearing, 10.VII.1996, A.S.*Faunal data from literature:* Retezat Mts (Southern Carpathians), Galbena Mt. (Western Carpathians) (Mocsáry, 1897; Móczár, 1953); Lotrioara (SB), Giulești (IF), Poiana Aiudului (AB), Vulcan (HD) (Móczár, 1953) (Fig. 3).Fig. 3 – Distribution of *Bombus gerstaeckeri* in Romania after literature (●) and studied material (■).

Bombus haematurus Kriechbaumer, 1870

Faunal data from literature: Băile Herculane (CS) (Móczár, 1953); Comana (GR) (Knechtel, 1955); Babadag (TL), Niculițel (TL) (Knechtel, 1962); Cocos Monastery (TL) (Constantinescu, 1976). The species is known only from south-eastern Romania.

Bombus hortorum (Linnaeus, 1761)

Material: 1 ♀, Dâmbovicioara Gorges (AG), 10.VIII.2004, A.P., 1 ♀, Sătic (AG) - confluence Valea Dragoslăvenilor – Valea Dâmboviței, 25.VIII.2003, C.P., 1 ♂, Vidraru Lake (AG) - Valea lui Stan, 7.VIII.2004, R.S., Pietrosul Rodnei (MM), 1500 – 2060 m alt., 12.VII.1995, Bârsana (MM), 5.VII.1995, 1 ♀, Izvorul Izei (MM), 6.VII.1995, I.M., 1 ♀, Călinești (MM) - “Săcătura” Forest Range, 7.VII.1995, I.M., 1 ♀, Bârsana (MM), 5.VII.1995, 1 ♀, Repedea (MM) – Cărligătura, 27.VI.1997, A.S., 1 ♀, Smereceni Clearing, 22.VI.1997, I.M., 3 ♀ ♀, Forest Range, 26.VI.1997, 1 ♂, Borșa (MM) - 4 km upstream, 21.VIII.1997, E.R., 1 ♀, Berbești (MM), 24.VII.1998, C.P., 1 ♀, Crasna Vișeuului (MM) - Hututeanca River Valley, 17.VI.2003, R.S., 1 ♀, Dragomirești (MM) - Lunca lui Cosiță, 22.VI.2003, R.S., 1 ♀, Vaser Valley (MM) - Transect Bardău – Cozia, 22.VII.2004, G.C., 8 ♀ ♀, Sărata (SB), 2, 3, 6.V.2005, C.B., 8 ♂ ♂, 5 ♀ ♀, Luncavița (TL) - Valea Fagilor, 24.V.2005, C.B., I.M., Comana (GR) – Comana Forest, Izvorul cu Nucii, 10.IV.2005, C.B., Brănești (IF) – Pasărea Forest, 2.V.2006, C.B.

Faunal data from literature: Sibiu (SB) (Henrich, 1880; Aftene, 1979; Pascu, 1979; Mocsáry, 1897); Câmpia Transilvaniei, Cluj (CJ), Turda (CJ), Orșova (MH) (Mocsáry, 1897; Móczár, 1953); Aiud (AB), Ighiel (AB), Ocolișul Mare (HD), Câmpeni (AB), Rodnei Mts, 1300 m alt. (Eastern Carpathians) (Szilády, 1914; Móczár, 1953; Fesci, 1973; Pascu, 1979); Beclean (BN), Ciucului Mts (Eastern Carpathians), Cugir Mts (Southern Carpathians), Vârfu Leului (CS), Nădrag (TM), Oravița (CS), Bocșa (Bocșa Vasiovei, CS), Hodod (BN), Șuncuiuș (BH), Vadu Crișului (BH), Băile Herculane (CS) (Móczár, 1953); Lacul Roșu (HR) (Berbece, 1961); Babadag (TL), Basarabi (CT) (Knechtel, 1962); riparian lawn of Pețea Lake (BH) (Knechtel, 1963); Oradea (BH), Sângeorz – Băi (BN) (Knechtel & Paraschivescu, 1962; Paraschivescu & Raicev Arcașu, 1977); Periprava (TL) (Fesci, 1972); Gurghiului Mts, Harghitei Mts, Vrancei Mts (Eastern Carpathians), Iezer Mts, Făgăraș Mts, Cindrel Mts, Sebeș Mts, Retezat Mts, Cernei Mts (Southern Carpathians) (Móczár, 1953; Fesci, 1973); Cocos Monastery (TL) (Constantinescu, 1976); Slimnic (AB), Brașov (BV), Tâmpa (BV), Sighișoara (MS), Luduș (MS), Măgura Cisnădiei (SB), Valea Sadului (SB) (Móczár, 1953; Pascu, 1979); Sohodol Gorges (GJ) (Goagă, Chimișliu & Tomozei, 1999); Izvorul Muntelui (NT), Jgheabul cu Hotar (NT), Durău (NT), Stâncă Dochiei (NT) (Tomozei, 2003); Nemțișor (NT) (Tomozei, 2005); Valea Bârsei, Marele Grohotiș, Hunting Chalet, Ascuțit Peak (Piatra Craiului Massif) (Tomozei, 2006). In Romania, the species occurs all around the country from the steppe area with forests to the conifer area.

Bombus humilis Illiger, 1806

Material: 1 ♂, Peștera (BV), 26.VIII.2003, C.P., 1 ♂, 1 ♀, Sărata (SB), 6.V.2005, D.C.

Faunal data from literature: Bucharest (B), Brănești (IF), Toplița (HR), Câmpina (PH), Comarnic (PH), Secăria (PH), Voinești (PH), Stănița (NT), Văratec (NT), Vânători (NT), Dumbrăveni (MS), Sighișoara (MS), Râșnov (BV), Cluj (CJ) (Knechtel, 1955); riparian lawn of Pețea Lake (BH) (Knechtel, 1963); Oradea (BH),

Sângeorz – Băi (BN) (Knechtel & Paraschivescu, 1962; Paraschivescu & Raicev Arcașu, 1977); Sibiu (SB), Valea Sadului (SB), Ocna Sibiului (SB), Cislăchioara (SB), Păltiniș (SB), Ineu (AR), Reghin (MS), Zău de Câmpie (MS), Racoș (BV), Sândominic (HR), Retezat Mts (Southern Carpathians), Ilișua (SJ) (Pascu, 1979).

Bombus hypnorum (Linnaeus, 1758)

Material: 1 ♂, Mara (MM) – Tătarul dam, 16.VII.1998, I.M., 1 ♂, Tătar Gorges, 19.VII.1998, I.M., 1 ♀, Repedea (MM) – Forest House, 26.VI.1997, I.M.

Faunal data from literature: Sibiu (SB) (Henrich, 1882; Mocsáry, 1897; Pascu, 1979); Văliug (CS), Cugir Mts (Southern Carpathians), Bocșa (Bocșa Vasiovei, CS) (Móczár, 1953); Carei (SM), Brașov (BV), Tușnad (HR) (Mocsáry, 1897); Sinaia (PH), Timișul de Sus (BV), Panaci (SV), Retezat Mts (Southern Carpathians) (Knechtel, 1955); Bucegi Mts, Făgăraș Mts, Cindrel Mts, Sebeș Mts, Retezat Mts (Southern Carpathians) (Fesci, 1973); Măgura Cislăchioarei (SB) (Pascu, 1979); Dochia (NT) (Tomozei, 2003); surroundings of Daniil Sihuștru Convent (NT), Pahonia (NT) (Tomozei, 2005); Near the Ascuțit Peak, 1948 m alt. (Piatra Craiului Massif) (Tomozei, 2006). In Romania, it is a rarer species, preferring the coniferous forests.

Bombus jonellus (Kirby, 1802)

Faunal data from literature: Parâng Mts, Retezat Mts (Southern Carpathians) (Fesci, 1973).

Bombus jonellus K. f. *flavicolor* Friese

Material: 1 ♀, Repedea (MM), 26.VI.1997, C.P.

Faunal data from literature: Cheile Homorod (HD), Retezat Mts (Southern Carpathians) (Móczár, 1953) (Fig. 4).



Fig. 4 – Distribution of *Bombus jonellus* f. *flavicolor* in Romania after literature (●) and studied material (■).

Bombus laesus Morawitz, 1875

Faunal data from literature: Oradea (BH) (Mocsáry, 1897); Letea Forest (TL), Sulina (TL) (Knechtel, 1955); The Danube Delta (TL) (Fesci, 1972); Semenic Mts (Western Carpathians), Tuşnad (HR), Sfânta Ana Lake (HR), Sibiu (SB) – Dumbrava Sibiului (Pascu, 1979).

Bombus lapidarius (Linnaeus, 1758)

Material: 1 ♂, 1 ♀, Podul Dâmboviţei (AG), 22.VIII.2003, C.P., 1 ♂, Peştera (BV), 26.VIII.2003, C.P., 1 ♀, Valea Bârsei (BV), 2 km downstream Plaiul Foi, 24.V.2004, C.B., 6 ♀ ♀, Dâmbovicioara Gorges (AG), 10.VIII.2004, R.S., 1 ♀, Bârsana (MM), 5.VII.1995, I.M., 3 ♀ ♀, Ieud (MM), 8.IX.1995, C.P., 1 ♂, Strâmtura (MM) - Slătioara River: Berşotă Stream, 7.IX.1995, C.P., 7 ♀ ♀, Săpânţa (MM) - Brustani Clearing, 6, 13.VII.1996, A.S., C.P., 1 ♂, Colibi, 12.VII.1996, I.M., 2 ♀ ♀, Crasna Vişeuului (MM), 23 – 28.VIII.1997, C.P., 1 ♀, Vişeu de Jos, 22.VIII.1997, E.R., 3 ♀ ♀, Mara (MM) - 2 km upstream, left bank, 17.VII.1998, C.P., A.V., I.M., 1 ♀, Bistra (MM), 21.VII.1998, C.P., 6 ♀ ♀, Poienile de sub Munte (MM) - Coşnea Chalet, 19.VII.2004, 25.VII.2004, C.B., G.C., 3 ♂ ♂, 23 ♀ ♀, Sărata (SB), 23.VI.2004, 16.VIII.2004, 2, 4, 6.V.2005, C.B.

Faunal data from literature: Sibiu (SB) (Henrich, 1880; Aftene, 1979; Pascu, 1979); Aiud (AB), Câmpina (AB), Poiana Aiudului (AB), Teiuş (AB), Detunata (NT), Turda (CJ), Runcul Salvei (BN), Lacul Roşu (HR) (Szilády, 1914; Móczár, 1953); Deva (HD), Cheile Homorod (HD), Cugir Mts (Southern Carpathians), Hodod (BN), Vadu Crişului (BH), Nuşeni (BN), Ocna Dejului (CJ), Târnăveni (MS), Zău de Câmpie (MS), Şieu (BN), Cristuru Secuiesc (HR) (Móczár, 1953); Cheile Turzii (CJ), Lacul Roşu (HR) (Berbece, 1961); Oradea (BH), Sângeorz – Băi (BN) (Knechtel & Paraschivescu, 1962; Paraschivescu & Raicev Arcaşu, 1977); Giupalău – Rarău Mts, Ceahlău Mts (Eastern Carpathians), Bucegi Mts, Cindrel Mts, Cernei Mts (Southern Carpathians) (Fesci, 1973); Păltiniş (SB), Baia de Criş (BH), Colibiţa (BN), Retezat Mts (Southern Carpathians), Borsec (HR), Bicaz (NT), Ineu (AR) (Pascu, 1979); Pietrele Albe (GJ), Braşov (BV), Cluj (CJ) (Móczár, 1953; Goagă, Chimişliu & Tomozei, 1999); Durău (NT), Poiana Stănilie (NT) (Tomozei, 2003); Nemţişor (NT), surroundings of Daniil Sihastru Convent (NT) (Tomozei, 2005); Valea Bârsei (Piatra Craiului Massif) (Tomozei, 2006). In Romania it is a common species and widely spread.

Bombus lucorum (Linnaeus, 1761)

Faunal data from literature: Mădăraş (HR), Ciucsângiorgiu (HR), Văliug (CS), Cugir Mts (Southern Carpathians), Cheile Homorod (HD) (Móczár, 1953); Lacul Roşu (HR) (Berbece, 1961); Sângeorz – Băi (BN) (Knechtel & Paraschivescu, 1962) (Paraschivescu & Raicev Arcaşu, 1977); The Danube Delta (TL) (Fesci, 1972); Ţibleş Mts, Rodna Mts, Giupalău – Rarău Mts, Ceahlău Mts, Harghitei Mts, Vrancei Mts (Eastern Carpathians), Postăvarul Mts, Bucegi Mts, Iezer Mts, Cindrel Mts, Sebeş Mts, Parâng Mts, Retezat Mts (Southern Carpathians) (Móczár, 1953; Fesci, 1973); Păltiniş (SB), Borsec (HR), Făgăraş Mts (Southern Carpathians), Cozia (VL), Călimăneşti (VL) (Pascu, 1979); Izvorul Muntelui (NT), Durău (NT), Jgheabul cu Hotar (NT) (Tomozei, 2003); surroundings of Daniil Sihastru Convent (NT), Văratec Monastery (NT) (Tomozei, 2005); Marele Grohotiş, Curmătura pasture, Ascuţit Peak (Piatra Craiului Massif) (Tomozei, 2006). In comparison with *B. terrestris*, the species prefers colder areas. In Romania it occurs rarely in the oak area and more frequently in the beech, coniferous and alpine areas.

Bombus mastrucatus Gerstäcker, 1869

Faunal data from literature: Sibiu (SB) (Henrich, 1883; Mocsáry, 1897; Aftene, 1979); Măgura (CJ), Mehadia (CS) (Mocsáry, 1897); Mădăraş (HR), Vârful Leului (CS), Cugir Mts (Southern Carpathians) (Móczár, 1953); Ciocăneşti (IF), Rarău Mts (Eastern Carpathians), Vatra Dornei (SV), Depresiunea Sibiului (SB), Depresiunea Bârsei (BV) (Knechtel, 1955; Fesci, 1973); Cheile Turzii (CJ), Lacul Roşu (HR) (Berbece, 1961); Sângeorz – Băi (BN) (Knechtel & Paraschivescu, 1962; Paraschivescu & Raicev Arcaşu, 1977; Paraschivescu & Goagă, 1994); Rodna Mts, Ceahlău Mts, Harghitei Mts, Hăghimaş Mts, Vrancei Mts (Eastern Carpathians), Postăvarul Mts, Bucegi Mts, Făgăraş Mts, Cindrel Mts, Sebeş Mts, (Southern Carpathians), Gilău – Muntele Mare (Western Carpathians) (Fesci, 1973; Pascu, 1979); Păltiniş (SB), Hăşmaşu Mare Mts (Eastern Carpathians), Turnu Roşu (SB), Măgura Cisnădiei (SB), Borsec (HR) Valea Bistriţei (SV) (Pascu, 1979); Racova (BC), Bâlca (BC), Brusturet (AG), Brusturoasa (BC), Helegiu (BC), Hemeiuşi (BC) Dospineşti (BC) (Paraschivescu & Goagă, 1994); Izvorul Muntelui (NT), Durău (NT), Fântânele (NT), Vârful Toaca (NT), Dochia (NT) (Tomozei, 2003); Ascuţit Peak (Piatra Craiului Massif) (Tomozei, 2006).

Bombus mucidus Gerstaecker, 1869

Faunal data from literature: Sibiu (SB) (Mocsáry, 1897; Pascu, 1979); Braşov (BV), Harghita (HR), Covasna (CV) (Knechtel, 1955); Şura Mică (SB), Cehu Silvaniei (SJ) (Pascu, 1979).

Bombus muscorum (Linnaeus, 1758)

Synonymies: *Bombus variabilis* Schmiedeknecht, 1878

Faunal data from literature: Aiud (AB), Ocolişul Mare (HD), Ocna Sibiului (SB) (Szilády, 1914); Bocşa (Bocşa Vasiovei, CS), Cluj (CJ), Turda (CJ), Haţeg Mts (Southern Carpathians) (Móczár, 1953); The Danube Delta (TL), Mehadia (CS) (Knechtel, 1955; Fesci, 1972); Caraorman (TL), Periprava (TL), C. A. Rosetti (TL), Chilia Veche (TL), Crişan (TL) (Fesci, 1972); Cocos Monastery (TL) (Constantinescu, 1976); Sibiu (SB) (Aftene, 1979); Techirghiol (CT) (Pascu, 1979); Desa (DJ) (Goagă, Chimişliu & Tomozei, 1999).

Bombus pascuorum (Scopoli, 1763)

Synonymies: *Bombus cognatus* Stephens, 1846

Bombus agrorum (Fabricius, 1787)

Material: 2 ♂♂, Podul Dâmboviţei (AG) - 10 km upstream Valea Rudăriţa, 22.VIII.2003, Dragoslavele (AG) - Cheile Ghimbavului, 24.VIII.2003, C.P., 4 ♀♀, Prăpăstiile Zărneştilor (BV) - downstream Valea Vlăduşca, 22.V.2004, C.B., C.P., R.S., 3 ♀♀, Sătic (AG) - Valea Dragoslăvenilor, 8.VII.2000, A.V., C.P., 3 ♀♀, confluence Valea Dragoslăvenilor – Valea Dâmboviţei, 25.VIII.2003, C.P., 8.VII.2000, A.S., 2 ♀♀, Valea Scorobia, 7.VII.2000, C.P., 1 ♀, Dâmbovicioara Gorges, (AG), 10.VIII.2004, R.S., 1 ♀, Valea Curmătura (AG), 8.VIII.2004, R.S., 1 ♀, Pietrosul Rodnei (MM) - Laboratory House, 1380 m alt., 10.VII.1995, A.S., 1 ♀, Izvorul Izei (MM), 6.VII.1995, I.M., 1 ♀, Săpânţa Valley, 18.V.1995, Mi.S., 1 ♀, Moisei (MM) – Izvorul lui Dragoş, Forest Range, 13.VII.1995, C.P., 3 ♂♂, 2 ♀♀, Strâmtura (MM) - Slătioara River: Berşotă Stream, 7.IX.1995, C.P., 3 ♀♀, Săpânţa (MM) - Colibi, 12 - 15.VII.1996, I.M., 1 ♀, Săpânţioara Valley, 20.V.1996, D.R., 1 ♀, Bistra (MM) – Bistrei Valley, 28.VI.1997, I.M., 2 ♀♀, Repedea (MM) - Forest

Range, 26.VI.1997, 2.VII.1997, I.M., 1 ♀, Smereceni Clearing, 22, 27.VI.1997, R.S., 5 ♀ ♀, Mara (MM), 17, 18.VII.1998, 21.VII.1998, C.P., 3 ♀ ♀, Rona de Sus (MM) - Forest Range, 20.VII.1998, I.M., 1 ♀, Dragomirești (MM), 22.VI.2003, 1 ♀, Lunca lui Cosiță, 22.VI.2003, R.S., 2 ♀ ♀, Poienile de sub Munte (MM) - Coșnea Chalet, 16.VI.2003, C.P., 15.VII.2004, C.B., G.C., 1 ♀, Rica River Valley, 2 km upstream Coșnea Chalet, 25.VII.2004, R.S., 8 ♀ ♀, Vaser Valley (MM) - Făina, 21.VII.2004, Transect Bardău - Cozia, 22.VII.2004, C.B., G.C., 1 ♂, 2 ♀ ♀, Vișeu Valley, 4 km upstream, 24.VII.2004, C.B., 2 ♀ ♀, Crasna Vișeului (MM) – Pop Ivan Stream Valley, 17.VI.2003, C.P., R.S., 11 ♀ ♀, Luncavița (TL) - Valea Fagilor, 24.V.2005, C.B., I.M., Cerna (TL), 26.V.2005, R.S., Celic Dere (TL), 27.V.2005, R.S., Niculițel (TL) - 6 km towards Valea Teilor, 7.IX.2005, C.B., 2 ♀ ♀, Căldărușani (IL), 18.IV.2004, C.B., 1 ♀, Bucharest (B), 5.IV.2005, C.B., 2 ♀ ♀, Comana (GR) – Comana Forest, 10.IV.2005, 4.V.2006, C.B., 1 ♀, Manafu Forest (GR), 22.VI.2006, C.B., 1 ♀, Izvorani (IF), 11.IV.2006, C.B.

Faunal data from literature: Sibiu (SB) (Henrich, 1880; Aftene, 1979; Pascu, 1979); Mehadia (CS), Turda (CJ) (Mocsáry, 1897); Aiud (AB), Ighiel (AB), Nima (CJ), Parâng Mts, 1000 m alt. (GJ) (Szilády, 1914; Pascu, 1979); Sinaia (PH), Bucharest (B), Mogoșoia (IF), Brănești (IF), Comana (GR) (Knechtel, 1955); Lacul Roșu (HR) (Móczár, 1953; Berbec, 1961); Babadag (TL) (Knechtel, 1962); riparian lawn of Pețea Lake (BH) (Knechtel, 1963); Oradea (BH), Sângeorz – Băi (BN) (Knechtel & Paraschivescu, 1962; Paraschivescu & Raicev Arcașu, 1977); The Danube Delta (TL), Caraorman (TL) (Fesci, 1972); Țibleș Mts, Harghitei Mts, Hăghimaș Mts, Vrancei Mts (Eastern Carpathians), Postăvarul Mts, Bucegi Mts, Făgăraș Mts, Cindrel Mts, Sebeș Mts, Retezat Mts (Southern Carpathians) (Fesci, 1973; Pascu, 1979); Cocoș Monastery (TL), Celic Dere (TL), Greci (TL) (Constantinescu, 1976); Păltiniș (SB), Măgura Cislădiei (SB), Cislădioara (SB), Șelimbăr (SB), Pădurea Șopa (SB), Daia (SB), Valea Sadului (SB), Tălmăciu (SB), Suru Peak (SB), Colibița (BN), Hășmașu Mare Mts (Eastern Carpathians), Tușnad (HR), Cehu Silvaniei (SJ), Saschiz (MS), Băile Herculane (CS) (Móczár, 1953; Pascu, 1979); Racova (BC), Bâlca (BC), Brusturet (AG), Lacul Roșu (HR), Brusturoasa (BC), Băile Herculane (CS), Roman (NT) (Paraschivescu & Goagă, 1994); Bucovăț (DJ), Cheile Sohodol (GJ), Săcele (GJ), Pădurea Băniei (DJ), Poiana Mare (DJ), Dăbuleni (DJ) (Goagă, Chimișliu & Tomozei, 1999); Jgheabul cu Hotar (NT), Durău (NT), Dochia (NT) (Tomozei, 2003); Nemțișor (NT), Văratec Monastery (NT), lawn near Agapia Monastery (NT), surroundings of Daniil Sihuștru Convent (NT) (Tomozei, 2005); Valea Bârsei, Marele Grohotiș, Hunting Chalet, Diana refuges (Piatra Craiului Massif) (Tomozei, 2006). In Romania, it is one of the most common species.

Bombus pomorum (Panzer, 1805)

Material: 1 ♂, Strâmtura (MM) - Slătioara River: Berșotă Stream, 7.IX.1995, C.P., 1 ♀, Pasul Prislop (MM) – Vișeuț, 20.VIII.1997, C.P., 2 ♀ ♀, Dragomirești (MM) – Forest Range, 21, 22.VI.2003, R.S.

Faunal data from literature: Sibiu (SB) (Henrich, 1882; Mocsáry, 1897); Saschiz (MS), Ocna Sibiului (SB) (Móczár, 1953); Măgura (CJ), Turda (CJ), Suceagu (CJ), Sfântu Gheorghe (CV), Câmpia Transilvaniei (Mocsáry, 1897; Móczár, 1953); Lopodea Veche (AB) (Szilády, 1914); Albești (IL), Bucharest (B), Islaz (IF), Sighișoara (MS), Cluj (CJ) (Knechtel, 1955); Cheile Turzii (CJ), Lacul Roșu (HR) (Berbec, 1961); Țibleș Mts, Rodna Mts, Harghitei Mts, (Eastern

Carpathians), Sebeş Mts, Parâng Mts (Southern Carpathians) (Fesci, 1973); Cocos Monastery (TL) (Constantinescu, 1976); Gorgan Mt. (Eastern Carpathians), Cheile Bicazului (NT), Reghin (MS), Zău de Câmpie (MS) (Pascu, 1979); Racova (BC), Hemeiuși (BC), Plopana (BC), Roman (NT) (Paraschivescu & Goagă, 1994).

Bombus pratorum (Linnaeus, 1761)

Material: 4 ♂♂, 1 ♀, Valea Scorobia (AG), 7.VII.2000, C.P., 1 ♀, Dâmbovicioara Gorges (AG), 10.VIII.2004, R.S., 1 ♀, Valea lui Ivan (AG), 27.VI.2003, C.P., 1 ♀, Podul Dâmboviței (AG) - 4km upstream Valea Cheii, 22.VIII.2003, C.P., 2 ♂♂, Vidraru Lake (AG) - Valea Râului Otic, 8.VIII.2004, Cabana Cumpăna, 3.VIII.2004, R.S., 4 ♀♀, Valea cu Pești, 6.VIII.2004, Valea Curmătura, 8.VIII.2004, Valea lui Stan, 7.VIII.2004, R.S., 1 ♀, Pietrosul Rodnei (MM) - 1500 - 2060 m alt., 12.VII.1995, I.M., 1 ♀, Izvorul Izei (MM), 6.VII.1995, C.P., 8 ♂♂, Săpânța (MM) - Colibi, 5 - 13.VII.1996, C.P., I.M., 8 ♂♂, 1 ♀, Mara (MM) - Tătarul dam, 16.VII.1998, 2 km upstream, straight bank, 17, 18, 19.VII.1998, I.M., A.V., 1 ♂, 1 ♀, Pleșca Chalet (MM) - Pârâul Roșu, 22.VII.1998, I.M., C.P., 5 ♀♀, Repedea (MM) - Smereceni Clearing, 22.VI.1997, I.M., 1 ♀, Elmo Clearing, 24.VI.1997, I.M., 1 ♀, Forest Range, 26.VI.1997, I.M., 1 ♀, Pasul Prislop (MM) - Vișeuț, 20.VIII.1997, C.P., 1 ♀, Izvoarele Maramureș (MM) - 1 km downstream, 23.VII.1998, I.M., 1 ♀, Bistra (MM) - Bistra Valley, 28.VI.1997, I.M., 1 ♂, Leordina (MM), 22.VII.1997, C.P.

Faunal data from literature: Sibiu (SB) (Henrich, 1880; Pascu, 1979); Mădăraș (HR), Tușnad (HR), Cugir Mts (Southern Carpathians), Bocșa (Bocșa Vasiovei, CS), Cristuru Secuiesc (HR) (Móczár, 1953); Sinaia (PH), Bucegi Mts, 1100 - 2000 m alt. (Southern Carpathians), Poiana Țapulului (PH), Slănic (PH), Brădet (PH), Predeal (BV), Râmnicul Vâlcea (VL), Rarău Convent (SV), Gura Humorului (SV), Ciocânești (IF), Cluj (CJ) (Knechtel, 1955; Fesci, 1973); Giuralău - Rarău Mts, Ceahlău Mts, Harghitei Mts, Vrancei Mts (Eastern Carpathians) Făgăraș Mts, Cindrel Mts, Retezat Mts (Southern Carpathians) (Móczár, 1953; Fesci, 1973; Pascu, 1979); Păltiniș (SB) (Aftene, 1979; Pascu, 1979); Măgura Cisnădiei (SB), Borsec (HR), Colibița (BN), Zănoaga (PH) (Pascu, 1979); Craiova (DJ) - parc (Goagă, Chimișliu & Tomozei, 1999); Durău (NT), Jgheabul cu Hotar (NT), Izvorul Muntelui (NT), Poiana Stănilă (NT), Poiana Maicilor (NT) (Tomozei, 2003); Văratec Monastery (NT), surroundings of Daniil Sihastru Convent (NT) (Tomozei, 2005); Valea Bârsei, Marele Grohotiș, Curmătura pasture, near the Ascuțit Peak, 1948 m alt., Hunting Chalet, Diana refuges, (Piatra Craiului Massif) (Tomozei, 2006).

Bombus pyrenaicus Pérez, 1879

Faunal data from literature: Țibleș Mts (Eastern Carpathians) (Zilahi - Kiss, 1915; Fesci, 1973); Cugir Mts (Southern Carpathians), Măgura (CJ) (Móczár, 1953); Bucegi Mts, Retezat Mts (Southern Carpathians), Ciocânești (IF) (Móczár, 1953; Knechtel, 1955; Fesci, 1973); Ceahlău Mts, Gurghiu Mts (Eastern Carpathians), Făgăraș Mts, Cindrel Mts, Sebeș Mts (Southern Carpathians) (Móczár, 1953; Fesci, 1973); Racova (BC), Bâlca (BC), Covasna (CV), Brusturet (AG), Lacul Roșu (HR), Băile Herculane (CS) (Paraschivescu & Goagă, 1994); Fântânele (NT), Dochia (NT) (Tomozei, 2003); Marele Grohotiș, Curmătura pasture, Ascuțit Peak (Piatra Craiului Massif) (Tomozei, 2006).

Bombus ruderarius (Müller, 1776)Synonymies: *Bombus rajellus* (Kirby, 1802)*Bombus derhamellus* (Kirby, 1802)

Material: 1 ♂, 2 ♀ ♀, Oncești, 10.VII.1995, I.M., 6 ♀ ♀, Săpânța (MM) - Brustani Clearing, 10, 13.VII.1996, Nireș (MM) 10, 11.VII.1996, A.S., I.M., 2 ♀ ♀, Repedea (MM) - Forest Range, 21.VI. 1996, Smereceni Clearing, 22.VI.1997, I.M., 1 ♂, 1 ♀, Crasna Vișeului (MM), 23 - 29.VIII.1997, C.P., 11 ♀ ♀, Mara (MM) - 2 km upstream, left bank, right bank, 17.VII.1996, 18.VII.1998, A.V., C.P., I.M., 1 ♀, Poienile de sub Munte (MM), 30.VI.1997, I.M., 1 ♀, Izvoarele Resort (MM) - 23.VII.1998, I.M., 1 ♀, Poienile de sub Munte (MM) - Coșnea Chalet, 19.VII.2004, G.C.

Faunal data from literature: Sibiu (SB) (Henrich, 1880); Alba (AB), Bălan (SJ), Parâng Mts, 1000 – 1900 m alt. (GJ) (Szilády, 1914); Ciucului Mts (Eastern Carpathians), Miercurea Ciuc (HR), Băile Harghita (HR), Spermezeu (BN), Cârțișoara (SB), Cugir Mts (Southern Carpathians), Ciucea (CJ), Hodod (BN), Cluj (CJ), Iernut (MS) (Móczár, 1953); Brănești (IF), Islaz (IF), Ciocănești (IF), Chitila (B), Pasărea (IF), Sinaia (PH), Azuga (PH), Predeal (BV), Râșnov (BV), Daneș (MS), Panaci (SV) (Knechtel, 1955); riparian lawn of Pețea Lake (BH) (Knechtel, 1963); Oradea (BH) (Paraschivescu & Raicev Arcașu, 1977); Bucegi Mts, Parâng Mts (Southern Carpathians) (Fesci, 1973); Cocos Monastery (TL), Celic Dere (TL) (Constantinescu, 1976); Racova (BC), Hemeiuși (BC) (Paraschivescu & Goagă, 1994); Segarcea (DJ), Bucovăț (DJ) (Goagă, Chimișliu & Tomozei, 1999); Nemțisor (NT), surroundings of Daniil Sihuștru Convent (NT) (Tomozei, 2005); Valea Bârsei (Piatra Craiului Massif) (Tomozei, 2006).

Bombus ruderatus Fabricius, 1775

Material: 1 ♂, Crasna Vișeului (MM) - 12 km upstream pe Valea Pârâului Pop Ivan, 18.VII.2004, R.S., 1 ♂, Alba (TL), 7.09.2005, C.B.

Faunal data from literature: Turda (CJ) (Móczár, 1953); Cheile Turzii (CJ) (Berbece, 1961); Basarabi (CT), Valu lui Traian (CT), Babadag (TL), Greci (TL), Niculițel (TL) (Knechtel, 1962); Sângeorz – Băi (BN) (Knechtel & Paraschivescu, 1962); riparian lawn of Pețea Lake (BH) (Knechtel, 1963); Oradea (BH) (Knechtel & Paraschivescu, 1962; Paraschivescu & Raicev Arcașu, 1977); Caraorman (TL) (Fesci, 1972); Durău (NT) (Tomozei, 2003); It occurs all over Romania.

Bombus soroensis Fabricius, 1776

Faunal data from literature: Mehadia (CS) (Mocsáry, 1897); Cugir Mts (Southern Carpathians), (Móczár, 1953); Cluj (CJ), Turda (CJ), Sinaia (PH), Bârnova (VN), Ciocănești (IF), Panaci (SV), Rarău Convent (SV) (Knechtel, 1955); Rodna Mts, Giurnalău – Rarău Mts, Gurghiului Mts (Eastern Carpathians), Făgăraș Mts, Sebeș Mts, Retezat Mts, Cindrel Mts, Cernei Mts (Southern Carpathians) (Fesci, 1973; Pascu, 1979); Păltiniș (SB), Sibiu (SB), Ocna Sibiului (SB), Măgura Cîsnădiei (SB), Ileanda (SJ), Cristeu de Mureș (MS), Bucegi Mts (Southern Carpathians), Sighișoara (MS), Borsec (HR), Bicaz (NT) (Pascu, 1979); Durău (NT), Dochia (NT) (Tomozei, 2003). Frequent species in the oak area.

Bombus sylvarum (Linnaeus, 1761)

Material: 1 ♀, Peștera (BV), 26.VIII.2003, C.P., 1 ♀, Izvorul Izei (MM), 6.VII.1995, I.M., 2 ♀ ♀, Vișeu Valley (MM) - confluence Vișeu - Tisa, 24.VII.2004,

C.B., G.C., 27 ♀ ♀, Sărata (SB), 22, 23, 25.VI.2004, 16.VIII.2004, 6.V.2005, C.B., D.C., 1 ♀, Alba (TL), 7.IX.2005, C.B., 2 ♂ ♂, Bucharest (B) - Podul Ciurel, Lacul Morii, 25.VIII.2005, C.B.

Faunal data from literature: Sibiu (SB) (Henrich, 1880; Aftene, 1979); Aiud (AB), Turda (CJ) (Szilády, 1914); Cheile Turzii (CJ) (Berbece, 1961); riparian lawn of Pețea Lake (BH) (Knechtel, 1963); Sângerz – Băi (BN), Oradea (BH) (Knechtel & Paraschivescu, 1962; Paraschivescu & Raicev Arcașu, 1977); Izvorul Muntelui (NT) (Tomozei, 2003); Valea Bârsei (Piatra Craiului Massif) (Tomozei, 2006). Common species in Romania.

Bombus sylvarum ssp. distinctus

Material: 1 ♀, Crasna Vișeuului (MM), 23 – 29.VIII.1997, C.P.

Faunal data from literature: Cheile Homorod (HD), Cugir Mts (Southern Carpathians), Bocșa (Bocșa Vasiovei, CS), Hodod (SM), Cluj (CJ), Tușnad (HR), Șuncuiuș (BH), Ocna Dejului (CJ), Cristuru Secuiesc (HR), Beclean (BN), Țibleș Mts (Eastern Carpathians), Sibiu (SB), Saschiz (MS), Sub Pădure (MS), Zău de Câmpie (MS), Aiud (AB), Turda (CJ), Ilișua (BN), Chiuești (CJ) (Móczár, 1953) (Fig. 5).

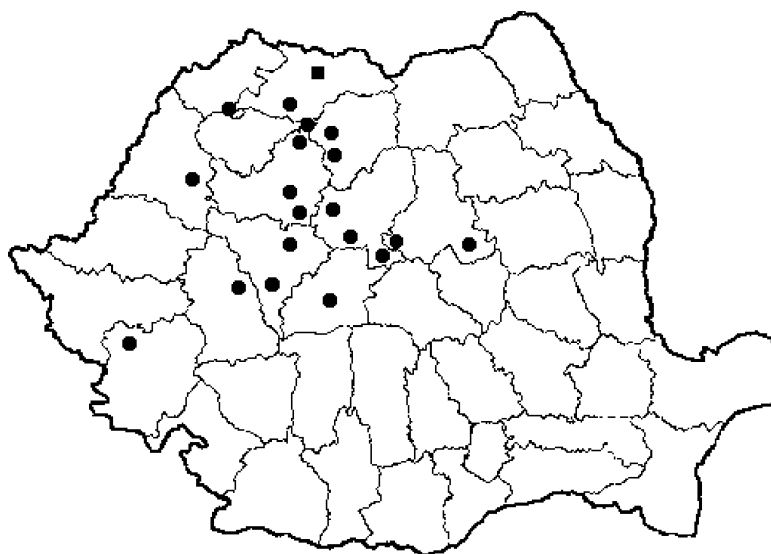


Fig. 5 – Distribution of *Bombus sylvarum ssp. distinctus* in Romania after literature (●) and studied material (■).

Bombus subterraneus (Linnaeus, 1758)

Synonymies: *Bombus latreilleus* (Kirby, 1802)

Faunal data from literature: Sibiu (SB) (Henrich, 1880, 1883; Mocsáry, 1897; Pascu, 1979); Tușnad (HR), Cojocna (CJ) – Măgura, Mehadia (CS) (Mocsáry, 1897; Móczár, 1953); Țibleș Mts (Eastern Carpathians) (Zilahi – Kiss, 1915; Fesci, 1973; Móczár, 1953); Sinaia (PH), Bucegi Mts (Southern Carpathians), Secăria (PH), Văratec Monastery (NT), Agapia Monastery (NT), Răcea (AG), Gura Humorului (SV), Rarău Convent (SV), Hălchiu (BV), Codlea (BV), Ghimbav (BV),

Râşnov (BV), Albeşti (IL) (Knechtel, 1955); Cheile Turzii (CJ) (Berbece, 1961); Giupalău – Rarău Mts, Harghita Mts (Eastern Carpathians), Făgăraş Mts, Cindrel Mts (Southern Carpathians), Gilău – Muntele Mare (Western Carpathians) (Fesci, 1973; Pascu, 1979); Măgura Cisnădiei (SB), Păltiniş (SB), Valea Sadului (SB), Răşinari (SB), Turnu Roşu (SB), Cozia (VL), Călimăneşti (VL), Retezat Mts (Southern Carpathians) (Pascu, 1979); Negoii (DJ), Mischii (DJ), Rânca (GJ) (Goagă, Chimişliu & Tomozei, 1999); Văratec Monastery (NT), surroundings of Daniil Sihastru Convent (NT) (Tomozei, 2005). A more frequent species in the beech area.

Bombus terrestris (Linnaeus, 1758)

Material: 1 ♂, Valea Crăpătura (BV), 8.VI.2000, C.P., 1 ♂, Dragoslavele (AG) – Ghimbav Gorges, 24.VIII.2003, C.P., 1 ♀, Prăpăstiile Zărneştilor (BV) – downstream Valea Vlăduşca, 22.V.2004, C.B., 1 ♀, Valea lui Ivan (AG), 27.VI.2003, C.P., 2 ♀ ♀, Gura Bârsei (BV), 8.VI.2000, C.P., 1 ♀, Valea Bârsei (BV), 24.V.2004, C.B., 8 ♂ ♂, Vidraru Lake (AG) – Buda River Valley, 4.VIII.2004, A.P., R.S., Moviliş, 7.VIII.2004, M.S., R.S., Valea Râului Otic, 8.VIII.2004, R.S., 2 ♀ ♀, Izvorul Izei (MM), 6.VII.1995, I.M., C.P., 2 ♀ ♀, Pietrosul Rodnei (MM), 800 – 1000 m alt., 11.VII.1995, 2050 m alt., 12.VII.1995, I.M., R.S., 1 ♂, Ieud, 8.IX.1995, C.P., 1 ♂, 41 ♀ ♀, Săpânţa (MM) – Colibi, 880 m alt., 19.V.1996, 5, 6, 8 -15.VII.1996, C.H., C.P., I.M., Mi.S., 2 ♂ ♂, 23 ♀ ♀, Săpânţa (MM) – Brustani Clearing, 6-13.VII.1996, I.M., A.S., 10 ♀ ♀, Nireş, 10, 11.VII.1996, I.M., C.H., 1 ♀, Mlaştina Ilărescu, 10.VII.1996, Mi.S., 6 ♀ ♀, Săpânţa Valley, 12.VII.1996, A.S., C.H., 10 ♀ ♀, Repedea (MM) – Smereceni Clearing, 22-29.VI.1997, I.M., R.S., 2 ♀ ♀, Elmo Clearing, 24.VI.1997, 29.VI.1997, A.S., 7 ♀ ♀, Forest Range, 26.VI.1997, I.M., C.H., 1 ♀, Cărligătura Valley, 27.VI.1997, A.S., 1 ♀, Borşa-resort (MM) – 2 km downstream, 20.VIII.1997, C.P., 1 ♀, Prislop Strait (MM) – Vişeuţ, 20.VIII.1997, C.P., 8 ♂ ♂, 21 ♀ ♀, Mara (MM) – Tătarul dam, 16, 19.VII.1998, 2 km upstream, left bank, 17, 18.VII.1998, right bank, 18.VII.1998, 1 km upstream, 21, 22.VII.1998, A.V., C.P., I.M., 3 ♀ ♀, Pleşca Chalet (MM) – Pârâul Roşu, 22.VII.1998, I.M., 1 ♀, Bistra (MM), 21.VII.1998, C.P., 1 ♂, 1 ♀, Rona de Sus (MM) – Forest Range, 21.VII.1998, I.M., 1 ♀, Izvoarele Resort (MM) – 1 km downstream, 23.VII.1998, I.M., 1 ♂, 11 ♀, Poienile de sub Munte (MM) – Forest Range Coşnea, 16.VI.2003, 15, 19, 25.VII.2004, 2 km upstream Coşnea Chalet, 25.VII.2004, C.B., G.C., R.S., 1 ♀, Crasna Vişeuului (MM) – Pârâul Pop Ivan, 17.VI.2003, C.P., 6 ♀ ♀, confluence Hututeanca-Pop Ivan, 18.VII.2004, C.B., R.S., 1 ♂, Coşnea River Valley, 20.VII.2004, R.S., 11 ♀ ♀, Vaser Valley (MM) – Făina, 21.VII.2004, C.B., 1 ♀, Transect Făina-Bardău, 22.VII.2004, C.B., G.C., 1 ♂, 16 ♀ ♀, Transect Bardău-Cozia, 22.VII.2004, C.B., G.C., 8 ♀ ♀, Sărata (SB), 16.08.2004, 3, 4, 6.VI.2005, C.B., D.C., 1 ♂, Greci (TL), 6.IX.2005, C.B., 1 ♂, Niculiţel (TL) – 6 km towards Valea Teilor, 7.IX.2005, C.B., 2 ♀ ♀, Bucharest (B), 18.III.2005, 5.IV.2005, C.B., E.P., Comana (GR) – Comana Forest, 10.IV.2005, C.B.

Faunal data from literature: Sibiu (SB) (Henrich, 1880; Aftene, 1979); Aiud (AB), Ighiel (AB), Lopodea Veche (AB), Mirăslău (AB), Poiana Aiudului (AB), Runcul Salvei (BN) (Szilády, 1914); Ilişua (BN), Spermezeu (BN), Tuşnad (HR), Haţeg Mts, Cugir Mts (Southern Carpathians), Văliug (CS), Hodod (SM), Cluj (CJ), Ileanda (SJ), Chesler (SB), Topliţa (HD), Cristuru Secuiesc (HR), Băile Herculane (CS) (Móczár, 1953); The Danube Delta (TL) (Knechtel, 1955); Cheile Turzii (CJ), Lacul Roşu (HR) (Móczár, 1953; Berbece, 1961); Oltina (CT), Valu lui Traian (CT),

Greci (TL), Comana (GR), Cluj (CJ), Câmpina (PH), Pasărea (IF), Chitila (B) (Knechtel, 1962); riparian lawn of Peștea Lake (BH) (Knechtel, 1963); Oradea (BH), Sângeorz – Băi (BN) (Knechtel & Paraschivescu, 1962; Paraschivescu & Raicev Arcașu, 1977); The Danube Delta (TL), Caraorman (TL), Periprava (TL), C. A. Rosetti (TL), Letea Forest (TL) (Fesci, 1972); Țibleș Mts, Rodna Mts, Harghita Mts, Vrancei Mts (Eastern Carpathians), Bucegi Mts, Făgăraș Mts, Parâng Mts, Cernei Mts (Southern Carpathians) (Szilády, 1914; Móczár, 1953; Fesci, 1973); Cocos Monastery (TL) (Constantinescu, 1976); Păltiniș (SB), Valea Sâmbetei (BV), Șanta (SB), Sulina (TL), Hășmașu Mare Mts (Eastern Carpathians), Colibița (BN), Cristian (SB), Veștem (SB), Gușterița (SB), Ineu (AR), Saschiz (MS) (Pascu, 1979); Berești – Tazlău (BC), Bacău (BC), Buhuși (BC), Scutaru (BC), Slănic (BC), Onești (BC), Covasna (CV), Coțofănești (BC), Brusturoasa (BC), Băneasa (B), Brusturet (AG), Valea Seacă (BC), Hemeiuși (BC), Roman (NT) Răchitoasa (BC), Bâlca (BC), Racova (BC), Helegiu (BC), Oituz (BC) (Paraschivescu & Goagă, 1994); Rânca (GJ), Bucovăț (GJ) (Goagă, Chimișliu & Tomozei, 1999); surroundings of Daniil Sihastru Convent (NT), Pahonia (NT) (Tomozei, 2005); Durău (NT), Pârâul lui Martin (NT), Fântânele (NT) (Tomozei, 2003); Valea Bârsei (Piatra Craiului Massif) (Tomozei, 2006). In Romania, it is very common.

Bombus veteranus (Fabricius, 1793)

Synonymies: *Bombus arenicola* Thomson, 1872

Bombus equestris Fabricius, 1793

Faunal data from literature: Măgura (CJ), Tihuța (BN) (Mocsáry, 1897); Dealul Geoagiului (AB) (Szilády, 1914; Móczár, 1953); Zetea (HR) (Móczár, 1953); Sinaia (PH) – Piatra Arsă Mt., 1000 – 1500 m alt. (Knechtel, 1955); Gurghiului Mts (Eastern Carpathians), Bucegi Mts (Southern Carpathians) (Fesci, 1973); Slimnic (SB), Bocșa (Bocșa Vasiovei, CS), Făgăraș Mts (Southern Carpathians) (Pascu, 1979). Rare species in Romania.

Bombus zonatus Smith, 1854

Material: Cerna (TL), 26.V.2005, I.M.

Faunal data from literature: Mehădia (CS) (Mocsáry, 1979); Tulcea (TL) (Knechtel, 1955, 1962); Basarabi (CT), Valu lui Traian (CT), Oltina (CT) (Knechtel, 1962).

Psithyrus Lepeletier, 1832

Psithyrus barbutellus (Kirby, 1802)

Material: Borșa-resort (MM) - 2 km downstream, 20.VIII.1997, C.P.

Faunal data from literature: Sibiu (SB) (Henrich, 1882; Pascu, 1979); Turda (CJ), Rodna Mts, 1500 – 1900 m alt. (Eastern Carpathians) (Szilády, 1914; Móczár, 1959); Hodod (SM), Tihuța (BN), Cugir (AB), Bocșa (fosta Bocșa Vasiovei, CS), Mehădia (CS), Turda (CJ), Cristuru Secuiesc (HR), Făgăraș Mts (Southern Carpathians) (Móczár, 1959); Oradea (BH) (Paraschivescu & Raicev Arcașu, 1977); Păltiniș (SB), Rășinari (SB), Măgura Cisnădiei (SB) (Pascu, 1979); Izvorul Muntelui (NT), Duruitoarea (NT), Dochia (NT), Fântânele (NT) (Tomozei, 2003); Văratec Monastery (NT), Pahonia (NT) (Tomozei, 2005). It lives in the nest of *B. distinguendus*, *B. hortorum*. Rarer species in Romania.

Psithyrus bohemicus Seidl, 1838Synonymies: *Psithyrus distinctus* Pérez, 1884

Material: 1 ♂, Sătic (AG) - Chalet, left bank Dâmbovița, 5.VII.2000, A.S., 2 ♂ ♂, Valea Scorobia (AG), 7.VII.2000, C.P., 1 ♀, Prăpăstiile Zărneștilor (BV) - downstream Valea Vlădușca, 22.V.2004, C.B., 2 ♂ ♂, Vidraru Lake (AG) - Valea cu Pești, 6.VIII.2004, Valea lui Stan, 7.VIII.2004, R.S., 1 ♂, Clăbucet (AG), 6.VIII.2004, M.S., 5 ♂ ♂, 1 ♀, Săpânța (MM) - Brustani Clearing, 6 - 13.VII.1996, I.M., A.S., C.P., 5 ♀ ♀, Repedea (MM) - Forest Range, 26.VII.1997, I.M., Elmo Clearing, 24, 29.VI.1997, A.S., Smereceni Clearing, 22.VI.1997, I.M., 2 ♂ ♂, Rona de Sus (MM) - Forest Range, 20.VII.1998, I.M., 3 ♂ ♂, Mara (MM) - Pleșca Chalet: Pârâul Roșu, 22.VII.1998, 2 km upstream, 17.VII.1998, C.P., I.M., 2 ♂ ♂, Poienile de sub Munte (MM) - Rica River Valley, 2 km upstream Coșnea Chalet, 15.VII.2004, 25.VII.2004, G.C., R.S., 1 ♂, Vișeu Valley (MM) - confluence Vișeu-Tisa, 24.VII.2004, G.C.

Faunal data from literature: Caraiman Mt., Babele (Southern Carpathians) (Knechtel, 1955); Ilișua (BN), Valea Vinului (SM), Făgăraș Mts, Cugir Mts (Southern Carpathians), Măgura (BV), Brașov (BV), Sighișoara (MS) (Móczár, 1959), Caraorman (TL) (Fesci, 1972); Retezat Mts (Southern Carpathians), Prejba (SB) (Pascu, 1979); Sohodol Gorges (GJ) (Goagă, Chimișliu & Tomozei, 1999); Durău (NT) (Tomozei, 2003); Văratec Monastery (NT), surroundings of Daniil Sihuștru Convent (NT), Pahonia (NT) (Tomozei, 2005). In Romania it occurs in the areas populated by *B. lucorum*.

Psithyrus campestris (Panzer, 1801)

Material: 1 ♀, Repedea (MM) - Forest Range, 26.VI.1997, I.M.

Faunal data from literature: Sibiu (SB) (Henrich, 1882; Mocsáry, 1897; Pascu, 1979); Oradea (BH), Cluj (CJ), Măgura (CJ) (Mocsáry, 1897); Băile Homorod (HR), Cristuru Secuiesc (HR), Făgăraș Mts, Cugir Mts (Southern Carpathians), Sibiu (SB), Turda (CJ), Mehadia (CS), Saschiz (SJ) (Móczár, 1959); Sângeorz-Băi (BN) (Knechtel & Paraschivescu, 1962; Paraschivescu & Raicev Arcașu, 1977); Cocos Monastery (TL) (Constantinescu, 1976); Păltiniș (SB), Gușterița (SB), Șelimbăr (SB), Bicaz (NT), Bucegi Mts (Southern Carpathians) (Pascu, 1979); Răcari (DJ), Simnic (DJ), Craiova (DJ) (Goagă & Chimișliu & Tomozei, 1999); Durău (NT), Dochia (NT), Pârâul lui Martin (NT), Jgheabul cu Hotar (NT) (Tomozei, 2003); Văratec Monastery (NT) (Tomozei, 2005). It lives in the nest of *B. humilis*, *B. jonellus*, *B. muscorum*, *B. pascuorum* and *B. pratorum*.

Psithyrus flavidus Eversmann, 1852Synonymies: *Psithyrus lissomurus* Thomson, 1872

Faunal data from literature: Făgăraș Mts, Retezat Mts, Cugir Mts (Southern Carpathians) (Móczár, 1959) (Fig. 6).

Psithyrus maxillosus Klug, 1817

Faunal data from literature: Mehadia (CS) (Mocsáry, 1897; Móczár, 1959); Tulcea (TL) (Knechtel, 1955). It lives in the nest of *B. argillaceus*.

Psithyrus norvegicus (Sparre-Schneider, 1918)

Material: 1 ♀, Prăpăstiile Zărneștilor (BV) - downstream Valea Vlădușca, 22.V.2004, C.P., 1 ♂, Sătic (AG) - Valea Scorobia, 6.VII.2000, C.P., 1 ♂, Vidraru Lake (AG) - Valea Râului Buda, 4.VIII.2004, R.S.



Fig. 6 – Distribution of *Psithyrus flavidus* in Romania after literature (●).

Faunal data from literature: Sinaia (PH), 1500 m alt. (Knechtel, 1955). It lives in the nest of *B. hypnorum*.

Psithyrus quadricolor (Lepeletier, 1832)

Faunal data from literature: Măgura (CJ) (Mocsáry, 1897); Cugir Mts (Southern Carpathians) (Móczár, 1959) (Fig. 7).



Fig. 7 – Distribution of *Psithyrus quadricolor* in Romania after literature (●).

Psithyrus rupestris (Fabricius, 1793)

Material: 2 ♂♂, Dragoslavele (AG) - Ghimbavului Gorges, 24.VIII.2003, C.P., 1 ♀, Dâmbovicioara Gorges (AG), 9.VIII.2004, M.S.

Faunal data from literature: Caraiman Mt. (Southern Carpathians) (Knechtel, 1955); Făgăraș Mts (Southern Carpathians), Băile Homorod (HR), Cristuru Secuiesc (HR), Sibiu (SB), Cluj (CJ), Măgura (CJ), Arpașteu – Braniștea (BN) (Móczár, 1959; Aftene, 1979); Cheile Turzii (CJ) (Berbece, 1961); Măgura Cisnădiei (SB), Păltiniș (SB), Gușterița (SB) (Pascu, 1979); Duruitoarea (NT), Dochia (NT) (Tomozei, 2003); Văratec Monastery (NT), surroundings of Daniil Sihastru Convent (NT), Pahonia (NT) (Tomozei, 2005). It lives in the nest of *B. lapidarius*.

Psithyrus sylvestris (Lepeletier, 1832)

Faunal data from literature: Mehadia (CS) (Móczár, 1979); Ceahlău Mts eastern slope, 1000 m alt. (Eastern Carpathians) (Tomozei, 2003).

Psithyrus vestalis (Geoffroy in Fourcroy, 1785)

Material: 1 ♂, Vidraru Lake (AG) - Valea Curmătura, 8.VIII.2004, R.S., 1 ♂, Izvoarele Maramureș (MM), 1 km downstream, 23.VII.1998, C.P., 2 ♂♂, Săpânța (MM), 12.VII.1996, A.S.

Faunal data from literature: Făina (MM) (Frivaldszky, 1871), Sibiu (SB) (Henrich, 1880; Mocsáry, 1897; Aftene, 1979); Măgura (CJ), Brașov (BV) (Mocsáry, 1897); Parâng Mts (Southern Carpathians), Câmpeni (AB), Tușnad (HR) (Szilády, 1914; Móczár, 1959); Oradea (BH), Cugir Mts (Southern Carpathians), Sibiu (SB), Hodod (SM), Brașov (BV), Vița (BN), Saschiz (SJ) (Móczár, 1959); Sângerorț – Băi (BH) (Paraschivescu & Raicev Arcașu, 1977); Periprava (TL) (Fesci, 1972); Cocoș Monastery (TL) (Constantinescu, 1976); Păltiniș (SB), Măgura Cisnădiei (SB), Ocna Sibiului (SB), Ineu (AR), Valea Sadului (SB) (Pascu, 1979); Oltețului Gorges (GJ) (Goagă, Chimișliu & Tomozei, 1999). In Romania it occurs in the areas populated by *B. terrestris*.

DISCUSSIONS

Basing on the material collected by the specialists of “Grigore Antipa” National Museum of Natural History, new data on the range of 15 species of *Bombus* were brought (*B. argillaceus*, *B. confusus*, *B. gerstaeckeri*, *B. hortorum*, *B. hypnorum*, *B. humilis*, *B. lapidarius*, *B. pascuorum*, *B. pomorum*, *B. pratorum*, *B. ruderarius*, *B. ruderatus*, *B. sylvarum*, *B. terrestris*, *B. zonatus*) and 6 species of *Psithyrus* (*P. barbutellus*, *P. bohemicus*, *P. campestris*, *P. norvegicus*, *P. rupestris*, *P. vestalis*).

To the 148 collecting sites, known from literature, 64 new sites are added: 34 new sites for Maramureș, 15 sites for Piatra Craiului Massif, 9 sites for the area of the Făgăraș Mountains, 4 sites for Dobrogea and 2 sites for Bucharest and its surroundings.

Because the references on some species stopped at the level of the years 1959 - 1979 (*Bombus fragrans*, *B. haematurus*, *B. jonellus*, *B. laesus*, *B. mucidus*, *B. veteranus*, *Psithyrus maxillosus*, *P. quadricolor*) and some of the species are mentioned for the first time in literature (*Bombus bureschi*, *Psithyrus flavidus*) it is necessary to resume the study of the respective areas. It is possible that these species to be extinct in the Romanian fauna.

Bombus veteranus, *B. hypnorum* and *Psithyrus barbutellus* are rare species in Romania.

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CONTRIBUȚII LA CUNOAȘTEREA GENURILOR *BOMBUS* ȘI *PSITHYRUS*
(APOIDEA: APIDAE) ÎN ROMÂNIA

REZUMAT

Se prezintă o sinteză a apidelor semnalate până în prezent în România, realizată pe baza literaturii și a materialului colectat de specialiștii Muzeului Național de Istorie Naturală “Grigore Antipa” (București) din Maramureș, Masivul Piatra Craiului, zona Munților Făgăraș, Dobrogea și București și zonele limitrofe. Lista cuprinde 40 specii din genurile *Bombus* și *Psithyrus*. Au fost aduse noi date privind arealul a 15 specii de *Bombus* și a 6 specii de *Psithyrus*.

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Cristina Ban - Calefariu

Muzeul Național de Istorie Naturală "Grigore Antipa"

Șos. Kiseleff nr. 1, 011341 București 2, România

e-mail: cristban@antipa.ro

Miklós Sárospataki

Dept. of Zoology and Ecology, Szent István University

Páter k. u. 1, Gödöllő H – 2100, Hungary

e-mail: sarospataki.miklos@mkk.szie.hu