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## **New data on the distribution of some Megachilinae (Hymenoptera: Apoidea: Megachilidae) in Romania**

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**A b s t r a c t :** The present work provides data on the distribution of 46 Megachilinae species in Romania. The previous reports are summarized for each species, together with newly studied material and accompanied with distribution map by provinces in Romania. The species *Osmia mustelina* GERSTAECKER 1869 and *Chalicodoma parietina* (GEOFFROY 1785) are mentioned for the second time in the Romanian fauna, being reported only the southern and south-western part of the country.

**K e y w o r d s :** Hymenoptera, Megachilidae, Romania, distribution.

### **Introduction**

The Osmiini and Megachilini are widely distributed around the world, except South America and Australia where Osmiini are not found (MICHENER 2000). In Romania, 52 species of the Osmiini tribe and 39 species of the Megachilini tribe are reported up to now (BAN-CALEFARIU 2009 in press).

The first reports on the wild bees of Romania date since the half of the 19<sup>th</sup> century by the systematic lists on the fauna of Transylvania. The credit for this goes to the Transylvanian School of Natural Sciences which guided the first hymenopterological studies of our country. Data on megachilids were published by HENRICH (1880-1883), MOCSÁRY (1874, 1897), MÓCZÁR & PALL (1907), SZILÁDY (1914), ZILÁHI-KISS (1915), IUGA & SCOBIOLA-PALADE (1959), CONSTANTINESCU (1976), ZANDEN & MATACHE (1986), AFTENE & GOAGĂ (1993), GOAGĂ et al. (1999), PASCU (2003), MATACHE & BAN (2006) and TOMOZEI (2006). Significant contributions to the knowledge of Megachilidae had AFTENE, within the period 1972-1995 (AFTENE, 1972, 1973, 1976, 1979, 1995); she recorded 123 species and 5 forms of 20 genera, out of which 22 species were reported for the first time in the Romanian fauna.

### **Material and methods**

Bee material used for this paper comes from the specialists' collecting of "Grigore Antipa" National Museum of Natural History (Bucharest) conducted during the periods 1995-1998 and 2003-2008 in the frames of some research projects regarding biodiversity of different areas in Romania; in addition, the scientific collections of "Grigore Antipa"

Museum (Bucharest) and Brukenthal National Museum (Sibiu) were studied. For the identification of the Megachilidae species the first author used the papers of OSYCHNYUK et al. (1978) and BANASZAK & ROMASENKO (2001). The nomenclature is according to UNGRICH et al. (2008) for Osmini tribe and to BANASZAK & ROMASENKO (2001) for Megachilini tribe (only *Chalicodoma*, *Megachile* and *Coelioxys* genera).

The material originates from 94 localities and collecting sites, presented for each county, (Table 1 and Fig. 1):

Distributional maps include the literature data and on the field collecting for each species; new reports are marked with ■, and those from literature are marked with ●.

## Results

Subfamily Megachilinae includes 46 species from 2 tribes and 7 genera accounted in the following list. For each species are given: previous reports, studied material (regarding specimens number, sex, collecting site, and gathering data), and the distribution map in Romania.

### Subfamily M e g a c h i l i n a e

#### Tribe O s m i n i

##### Genus *Chelostoma* LATREILLE

##### *Chelostoma campanularum* (KIRBY 1802)

Previous records: Mehadia, Oradea, Românești, Sibiu, Sisești (HENRICH 1881, MOCSÁRY 1897, ZANDEN & MATACHE 1986), Ineu, Măgura Cisnădiei, Retezat Mountains (AFTENE 1995).

New material studied: 1♂, Slătioara River, 9.VII.1995; 1♂, Pietrosul Rodnei, 10.VII.1995; 1♂, Izvorul lui Dragoș, 13.VII.1995; 2♂♂, Colibi, 9.VII.1996; 4♂♂, Văleni, 7.VII.1995; 1♂, Crasna Vișeu, 19.VII.2004; 1♂, Făina, 21.VII.2004; 1♂, Poienile de sub Munte, 25.VII.2004; 1♂, Dragomirești, 22.VI.2003; 1♂, Bratcu Valley, 6.VII.2004; 1♂, 1♀, Gura Bârsei Chalet, 4.VII.2004; 1♂, Valea cu Pești, 6.VIII.2004 (Fig. 2).

##### *Chelostoma distinctum* STOECKHERT 1929

Previous records: Bacău, Plopeni, Sibiu, Tatlageac (AFTENE 1995).

New material studied: 1♂, "Podul Slătioarei" Forest Range, 6.VII.1995; 1♂, Hututeanca Stream Valley, 17.VI.2003; 1♂, Idișor Stream, 23.VI.2003; 1♂, Sărata, 25.VI.2004 (Fig. 3).

##### *Chelostoma florissomne* (LINNAEUS 1758)

Previous records: Ișelnița, Lelești, Ocna Sibiului, Sibiu (AFTENE 1979, ZANDEN & MATACHE 1986), Covasna, Racova (AFTENE & GOAGĂ 1993), Dumbrava Sibiului, Ineu, Lelești, Lerești, Poenarii Rali, Sadu River, Retezat Mountains-Zlata Chalet, Târgu Jiu, Șura Mică, Șteziei Valley (AFTENE 1995), Bârsa Valley (TOMOZEI 2006).

**New material studied:** 2♂♂, 2♀♀, Dumbrava Sibiului, 25.V.1996; 2♂♂, Săpânciora Valley, 20.V.1996; 2♂♂, Repedea-Smereceni Clearing, 22.VI.1997, Elmo Clearing, 24.VI.1997; 2♂♂, Pietroșani, 28.IV.2004; 1♂, Copănița, 17.V.2004; 1♀, Lainici Monastery, 7.VII.2004; 2♂♂, Sărata, 4.V.2005, 2♂♂, 28.IV.2008; 2♀♀, Scorei, 21.VIII.2004; 1♂, Valea lui Ivan, 27.VI.2003; 4♂♂, 2♀♀, Valea Fagilor, 24.V.2005; 2♂♂, Comana, 4.V.2006 (Fig. 4).

***Chelostoma rapunculi* (LEPELETIER De SAINT-FARGEAU 1841)**

**Previous records:** Cocoș Monastery (CONSTANTINESCU 1976); Borsec, Brașov, Sibiu, Oradea, Mehadia (HENRICH 1880, MOCSÁRY 1897), Bașta, Lespezi, Ocna Sibiului, Petroșani, Sibiu, Sisești, Techirghiol, Târgu Jiu (ZANDEN & MATACHE 1986), Izvoarele, Piliș, Retezat Mountains, Saschiz, Tatlageac, Sadu Valley (AFTENE 1995), Bârsa Valley (TOMOZEI 2006).

**New material studied:** 2♂♂, Sibiu, 26.VI.1930; 1♀, Cehu Silvaniei, 14.VII.1929; 1♂, Valea cu Pești, 6.VIII.2004; 3♂♂, Sărata, 21, 23, 26.VI.2004; 1♂, Bârsana, 5.VII.1995; 2♂♂, Izvorul lui Dragoș, 13.VII.1995; 1♂, Săpânța-Brustani Clearing, 13.VII.1996; 1♂, Slava Rusă, 19.VII.2006; 1♂, Săldăbagiu Mic, 13.VII.2008 (Fig. 5).

**Genus *Heriades* SPINOLA**

***Heriades crenulatus* NYLANDER 1856**

**Previous records:** Aiud, Oradea, Orșova, Tășnad, Tihuța (MOCSÁRY 1897), Ocolişul Mare, Runcul Salvei (SZILÁDY 1914), Sagna (IUGA & SCOBIOLA-PALADE 1959), Istria (AFTENE & GOAGA 1993), Ocna Sibiului, Sibiu (PASCU 2003), Balta Verde, Beciu, Caraorman, C. A. Rosetti, Cluj, Crișan, Gura Motrului, Plăețu, Sadu River, Sulina, Târnava Mare, Vameș, Văleni, Venchi, Voinești (AFTENE 1973, ZANDEN & MATACHE 1986), Bucov, Ineu (AFTENE 1995).

**New material studied:** 1♀, Ișelnița, 21.VI.1970; 1♀, Repedea-Smereceni Clearing, 22.VIII.1997; 1♀, Vaser Valley, transect Bardău-Cozia, 22.VII.2004; 1♀, Valea cu Pești, 6.VIII.2004 (Fig. 6).

***Heriades truncorum* (LINNAEUS 1758)**

**Previous records:** Aiud, Ighiel, Mirăslău (SZILÁDY 1914), Cluj, Ocna Sibiului, Oradea, Sibiu, Șura Mică, Tușnad (MOCSÁRY 1897, PASCU 2003), Bacău, Bicăz, Ineu, Istria, Murighiol, Păușești, Retezat, Schitu Golești, Târnava (AFTENE & GOAGA 1993, AFTENE 1995), Arad, Beciu, C. A. Rosetti, Cluj, Lespezi, Măglași, Mera, Rășinari, Sadu River, Sinaia, Târgu Jiu (ZANDEN & MATACHE 1986).

**New material studied:** 1♀, Caraorman, 12.VIII.1967; 1♀, Ieud, 4.VII.1995; 1♀, Poienile de sub Munte, 30.VI.1997; 1♀, Reșița, 10.VIII.2001; 1♂, 1♀, Chitu Valley, 9.VII.2004; 1♀, Alba, 7.IX.2005; 1♀, Scorei, 21.VIII.2004; 1♀, Cernica, 29.IV.2007 (Fig. 7).

**Genus *Hoplitis* KLUG**

***Hoplitis anthocopoides* (SCHENCK 1853)**

**Previous records:** Cheia, Gheorghieni, Plăețu, Tâmpa (ZANDEN & MATACHE 1986).

**Material:** 2♂♂, Polatiște, 7.VII.2004 (Fig. 8).

***Hoplitis claviventris* (THOMSON 1872)**

**Previous records:** Ileana (ZILAH-KISS 1915), Cristuru Secuiesc (AFTENE 1972), Bacău, Brătești, Izvoarele (ZANDEN & MATACHE 1986).

New material studied: 1♂, Leordina, 22.VIII.1997; 1♂, Sărata, 23.VI.2004; 1♂, Bratcu Valley, 6.VII.2004 (Fig. 9).

***Hoplitis manicata* MORICE 1901**

Previous records: Arad, Ocna Sibiului, Comarova, Rusu, Sibiu, Slobozia (ZANDEN & MATACHE 1986).

New material studied: 2♂♂, Gușterița, VII.1919; 3♂♂, Bistra Valley, 28.VI.1997; 2♂♂, Tarnița-Schitul Locurele, 8.VII.2004; 1♂, Crasna Vișeuului, the confluence Hututeanca-Pop Ivan, 18.VII.2004 (Fig. 10).

***Hoplitis papaveris* (LATREILLE 1799)**

Previous records: reported as *Anthocopa papaveris* from Sibiu (HENRICH 1881), Sărata, Valu lui Traian (ZANDEN & MATACHE 1986), Gherăești (AFTENE & GOAGĂ 1993), Ocna Sibiului (AFTENE 1995).

New material studied: 1♂, Techirghiol, VI.1932 (Fig. 11).

***Hoplitis praestans* (F. MORAWITZ 1894)**

Previous records: 1♂, Suluc Valley, 27.V.2005 (MATACHE & BAN 2006) (Fig. 12).

***Hoplitis ravouxi* (PÉREZ 1902)**

Previous records: Cristian (ZANDEN & MATACHE 1986).

New material studied: 3♀♀, Bistra, 28.VI.1997, 24.VII.2004; 2♀♀, Mara, 17.VII.1998; 2♀♀, Polatiște, 7.VII.2004 (Fig. 13).

**Genus *Osmia* PANZER**

***Osmia bicolor* (SCHRANK 1781)**

Previous records: Mehadia (AFTENE 1972), Aiud (SZILÁDY 1914), Românești (AFTENE 1976), Căldărușani, Comana (ZANDEN & MATACHE 1986), Leamna, Păulești, (AFTENE 1995), Ocna Sibiului (PASCU 2003).

New material studied: 1♂, Periș, 8.IV.1953; 1♂, Ștefăneștii de Jos, 24.IV.1953; 4♀♀, Cernica, 29.V.1956, 9.VI.1956; 3♀♀, Țigănești, 5.VI.1957, 26.IV.1966; 1♀, Băneasa, 23.IV.1958; 2♀♀, Căldărușani, 31.V.1957, 29.V.1965; 1♀, Comana, 29.V.1965; 1♀, Pietroșani, 28.IV.2004 (Fig. 14).

***Osmia bicornis* (LINNAEUS 1758)**

Previous records: reported as *Osmia rufa* in Transylvania (MOCSÁRY 1897), Abrud, Aiud, Mirăslău (SZILÁDY 1914), București, Căldărușani, Cernica, Cisnădie, Comana, Feleacu, Giurgiu, Islaz, Izvoare, Mera, Pasărea, Periș, Ploiești, Snagov, Sibiu, Șura Mică, Tâlmaci, Țigănești (HENRICH 1880, AFTENE 1973, 1976, ZANDEN & MATACHE 1986, PASCU 2003), Cocos Monastery (CONSTANTINESCU 1976), Plopana, Racova (AFTENE & GOAGĂ 1993), Târgu Mureș, Blejoi, Craiova, Dobrogea, Ineu, Plopeni, Românești, Saschiz (AFTENE 1995).

New material studied: 1♂, Sibiu, 7.III.1976; 3♂♂, București, 15.IV.1943, 2♂♂, 4.IV.1953, 1♂, 23.VI.1953, 1♂, 26.II.1958; 1♂, 7♀♀, Pasărea Forest, 7.IV.1946, 24.IV.1952, 13.VI.1999, 2.V.2006; 1♂, Cernica, 30.III.1947; 2♀♀, Periș, 4.V.1953; 4♀♀, Comana, 31.V.1956; 2♀♀, Izvorul cu Nuci, 7.VI.2006; 1♂, Căldărușani, 23.III.1957; 2♂♂, Snagov, 4,

25.IV.1957; 2 ♀ ♀, Țigănești Monastery, 4.V.1957, 24.IV.1966; 2 ♂ ♂, Mogoșoaia, 15.IV.1954, 1 ♀, Luncavița, 24.V.2005; 7 ♂ ♂, 21 ♀ ♀, Sărata, 2, 4, 6.V.2005; 1 ♂, Izvorani, 11.IV.2006; 2 ♀ ♀, București-Park of "Grigore Antipa" Museum, 5.IV.2005, 17.IV.2006, 1 ♀, Village Museum, 4.IV.2006; 2 ♂ ♂, 1 ♀, Dragomirești, 14.IV.2006; 1 ♀, Padina Tătarului, 4.V.2006 (Fig. 15).

### ***Osmia brevicornis* (FABRICIUS 1798)**

**Previous records:** Cislădie, Mehădia, Ocna Sibiului, Oradea, Oravița, Sibiu (HENRICH 1882, MOCSÁRY 1897, PASCU 2003), Aiud (SZILÁDY 1914); București, Budești, C. A. Rosetti, Ciolpani, Luncavița, Periprava (ZANDEN & MATACHE 1986), Ineu, Eforie, Uzlina (AFTENE 1995).

**New material studied:** 1 ♂, 2 ♀ ♀, Greci, 25.V.2005; 1 ♂, Cerna, 26.V.2005; 1 ♂, Suluc Valley, 27.V.2005 (Fig. 16).

### ***Osmia caerulea* (LINNAEUS 1758)**

**Previous records:** Aiud (SZILÁDY 1914), Cristuru Secuiesc (AFTENE 1972), Măneciu Ungureni (AFTENE 1973), Pucheni (AFTENE 1976), Mănăstirea Cocoș (CONSTATINESCU 1976), Apahida, Bașta, Berghiu, Budieni, Caraorman, C. A. Rosetti, Crișan, Flămânda, Itești, Ocna Sibiului, Odaia, Odăile, Pucheni, Șegarcea, Sfântu Gheorghe, Sibiu, Stănița, Șura Mică, Turnu Măgurele, Voinești (AFTENE 1979, ZANDEN & MATACHE 1986, PASCU 2003), Murighiol (AFTENE & GOAGĂ 1993), Arad, Budești, Măgurele, Uzlina (AFTENE 1995).

**New material studied:** 1 ♂, 1 ♀, București, 21.VI.1950, 8.V.1953; 1 ♀, Periș, 4.V.1953; 1 ♀, Copăceni, 28.VI.1953; 1 ♀, Săbăreni, 3.VI.1955; 1 ♂, 2 ♀ ♀, Comana, 31.V.1956; 1 ♂, Ciolpani, 4.VI.1957; 1 ♀, Cernica, 12.V.1963; 2 ♀ ♀, Pietroșani, 28.IV.2004; 2 ♂ ♂, Valea Fagilor, 24.V.2005; 1 ♀, Scorobia Valley, 7.VII.2000; 1 ♂, 1 ♀, Sărata, 3, 6.V.2005 (Fig. 17).

### ***Osmia cerinthidis* MORAWITZ 1876**

**Previous records:** Cristuru Secuiesc (AFTENE 1972), București, Feleacu, Horia, Ocna Sibiului, Ploiești, Sibiu, Sinaia, Țigănești (ZANDEN & MATACHE 1986), Cheia (AFTENE 1995).

**New material studied:** 4 ♂ ♂, București-Park of "Grigore Antipa" Museum, 5.IV.2005; 1 ♂, Comana Forest, 7.VI.2006; 1 ♂, Pasărea Forest, 13.VI.1999 (Fig. 18).

### ***Osmia cornuta* (LATREILLE 1805)**

**Previous records:** Izvoare (AFTENE 1973), Cocoș Monastery (CONSTATINESCU 1976), Sibiu, Sadu Valley, Veștem (AFTENE 1979, PASCU 2003), București, Budești, Chilia Veche, Dunărea Veche, Giarmata, Izvoarele, Mogoșoaia, Nucet, Periș, Podu Lacului, Runcu, Sfântu Gheorghe, Snagov, Turnu Măgurele (ZANDEN & MATACHE 1986), Bucov, Craiova, Iași, Ineu, Ploiești (AFTENE 1995).

**New material studied:** 1 ♀, Cernica Forest, 12.V.1963; 1 ♀, Pasărea Forest, 24.IV.1964; 1 ♀, Sărata, 2.V.2005, 3 ♂ ♂, 28.IV.2008; 15 ♂ ♂, 4 ♀ ♀, Comana, 10.IV.2005; 4 ♂ ♂, 1 ♀, București-Park of "Grigore Antipa" Museum, 9.III.2005, 5.IV.2005, 10 ♂ ♂, 14 ♀ ♀, Village Museum, 4.IV.2006; 1 ♀, Izvorani, 11.IV.2006 (Fig. 19).

### ***Osmia leaiana* (KIRBY 1802)**

**Previous records:** Mehădia, Tușnad, Vâlcele (AFTENE 1972), Măneciu Ungureni (AFTENE 1973), Chiciureni, Cluj, Eforie Sud, Gheorghieni, Comarova Forest, Someșeni, Straja, Vânători, Voinești (ZANDEN & MATACHE 1986), Amara, Crișan, Mărgineni, Nicolae Bălcescu (AFTENE & GOAGĂ 1993), Sibiu, Sadu Valley (PASCU 2003), Murighiol, Uzlina (AFTENE 1995).

**New material studied:** 1 ♀, București, 8.VI.1943; 1 ♂, Periș, 18.VI.1959; 1 ♀, Cernica Forest, 26.VIII.2005 (Fig. 20).

***Osmia mustelina* GERSTAECKER 1869**

Previous records: reported by MOCSÁRY (1897) and AFTENE (1972) from Orșova, as *Osmia emarginata*.

New material studied: 1♂, Balta Ialomitei, 21.VIII.2006 (Fig. 21).

**Tribe Megachilini**

**Genus *Chalicodoma* LEPELETIER**

***Chalicodoma parietina* (GEOFFROY 1785)**

Previous records: Mehadia (MÓCZÁR, PALL 1907 cited by AFTENE 1972).

New material studied: 1♀, Topolnița Monastery, 19.IV.2007 (Fig. 22).

**Genus *Megachile* LATREILLE**

***Megachile alpicola* ALFKEN 1924**

Previous records: Dumbrava, Ocna Sibiului, Românești, Sibiu, Sighișoara (ZANDEN & MATACHE 1986), Slănic (AFTENE & GOAGĂ 1993).

Material: 1♀, Giurgiu, 20.VI.1938; 1♀, Gușterița, 31.VIII.1938; 1♂, Sighișoara, 19.VII.1950; 2♀♀, Mara, 17, 18.VII.1998 (Fig. 23).

***Megachile centuncularis* (LINNAEUS 1758)**

Previous records: Bacău, Bistreț, Brănești, Brătești, Broșteni, Caraorman, C. A. Rosetti, Gura Motrului, Hațeg, Histria, Ocna Sibiului, Oradea, Periprava, Periș, Preajba, Sfântu Gheorghe, Sibiu, Snagov, Sulina, Turnișor (HENRICH 1880, MOCSÁRY 1897, AFTENE 1979, ZANDEN & MATACHE 1986, PASCU 2003), Ocolișul Mare, Poiana Aiudului (SZILÁDY, 1914), Cristuru Secuiesc (AFTENE, 1972), Cocoș, Celic Dere and Niculițel Monasteries (CONSTANTINESCU 1976), Bijghir (AFTENE & GOAGĂ 1993), București, Ineu, Islaz, Ițcani, Păulești, Plopeni, Podu Iloaiei, Reghin, Retezat Mountains, Sfătești, Sighișoara, Simnic, Șura Mică, Videle (AFTENE 1995).

New material studied: 1♀, Agigea, 18.VII.2003; 1♀, Mangalia Nord, 19.VII.2003; 2♀♀, Alba, 7.IX.2005; 1♀, Babadag, 19.VII.2006 (Fig. 24).

***Megachile lagopoda* (LINNAEUS 1761)**

Previous records: Bârsești, Caraorman, Călimănești, Măgura Cislădiei, Pitulușa, Stănița, Sibiu (HENRICH 1880, AFTENE 1979, 1995, ZANDEN & MATACHE 1986, PASCU 2003), Sohodol Gorges (GOAGĂ et al. 1999); Mehadia (AFTENE 1972), Cocoș and Celic Dere Monasteries (CONSTANTINESCU 1976), Craiova, Islaz (AFTENE 1995).

New material studied: 1♂, Săpânța-Brustani Clearing, 10.VII.1996; 1♀, Peștera, 26.VIII.2003 (Fig. 25).

***Megachile lapponica* THOMSON 1872**

Previous records: Tihuța, Tușnad (MOCSÁRY 1897), Halânga (ZANDEN & MATACHE 1986), Cordun, Tiha (AFTENE 1995).

New material studied: 1♀, Poienile de sub Munte, 19.VII.2004 (Fig. 26).

***Megachile leucomalla* GERSTAECKER 1869**

**Previous records:** Brătești, Broșteni, Mera, Traian (AFTENE 1979, ZANDEN & MATACHE 1986), Băile Herculane, Ciupelnița, Craiova, Simnic (AFTENE 1995).

**New material studied:** 1♀, Ocna Sibiului, 13.VII.1973; 1♀, București-Podul Ciurel, 25.VIII.2005; 1♀, Brănești, 27.VI.2007 (Fig. 27).

***Megachile ligniseca* (KIRBY 1802)**

**Previous records:** Oravița, Tușnad (MOCSÁRY 1897), Ciuguzel, Ighiel, Ineu (ZILAH-KISS 1915), C. A. Rosetti, Eforie Sud, Gușterița, Odaia (ZANDEN & MATACHE 1986), Plenița, Podu Iloaiei (AFTENE 1995).

**New material studied:** 1♀, Bei Valley, 21.IX.2000; 1♂, Bratcu Valley, 6.VII.2004; 1♂, Rica River Valley, 25.VII.2004; 1♂, Pasărea Forest, 5.VI.2005; 1♂, București-Village Museum, 4.IV.2006; 1♂, Comana, 4.V.2006 (Fig. 28).

***Megachile melanopyga* EVERS-MANN 1852**

**Previous records:** Revetiș (AFTENE 1972), Aiud (SZILÁDY 1914), Cocoș Monastery (CONSTANTINESCU 1976), Băile Herculane, Babadag, Brătești, Caraorman, C. A. Rosetti, Ocna Sibiului, Periprava, Sibiu, Techirghiol, Valu lui Traian (ZANDEN & MATACHE 1986, AFTENE 1995, PASCU 2003), Gura Văii (AFTENE & GOAGĂ).

**New material studied:** 1♂, Cosiștei Valley, 23.VII.2007 (Fig. 29).

***Megachile nigriventris* SCHENCK 1867**

**Previous records:** Chiochiș (ZILAH-KISS 1915), Tiha (MOCSÁRY 1874, 1897), Podu Iloaiei, Târgu Jiu (AFTENE 1995).

**New material studied:** 1♂, Gușterița, 26.IV.1930; 1♂, Moara Domnească, 12.VI.2008 (Fig. 30).

***Megachile octosignata* NYLANDER 1852**

**Previous records:** Poiana Aiudului (SZILÁDY 1914), Braniște, Brătești, Broșteni, Cordon, Florești, Lița, Mehadia, Odaia, Odobești, Oradea, Posada, Sibiu, Sighișoara, Turnu Măgurele, Vărsătura, Viile (MOCSÁRY 1874, 1897, HENRICH 1880, AFTENE 1979, ZANDEN & MATACHE 1986), Histria, Nicolae Bălcescu (AFTENE & GOAGĂ 1993), Bistra-Deda, Filiași, Murighiol, Podu Iloaiei, Reghin, Suceava (AFTENE 1995).

**New material studied:** 1♀, Șeica Mare, 28.VI.1979; 1♀, Vlașin, 6.IX.2006 (Fig. 31).

***Megachile pilicrus* F. MORAWITZ 1878**

**Previous records:** Ighiel (SZILÁDY 1914), Tășnad, Mehadia, Revetiș (MOCSÁRY 1897), Arad, C. A. Rosetti, Caraorman, Islaz, Păușești, Periprava, Sibiu (ZANDEN & MATACHE 1986, AFTENE 1995).

**New material studied:** 1♂, Mangalia Nord, 19.VII.2003; 1♂, Alba, 20.VII.2006; 1♀, Suluc Valley, 18.VII.2006; 1♀, Slava Rusă, 19.VII.2006; 1♂, Brănești, 27.VI.2007 (Fig. 32).

***Megachile pilidens* ALFKEN 1924**

**Previous records:** Cocoș Monastery (CONSTANTINESCU 1976), Amărăști, Caraorman, C. A. Rosetti, Cristian, Flămânda, Izvoare, Odobești, Techirghiol, Turnu Măgurele, Valu lui Traian

(AFTENE 1979, 1995, ZANDEN & MATAACHE 1986), Ocna Sibiului, Podu Iloaiei, Sibiu (AFTENE 1995).

New material studied: 1♂, Ocna Sibiului, 2.VI.1947; 1♂, Babadag Lake, 19.VII.2006 (Fig. 33).

#### ***Megachile rotundata* (FABRICIUS 1787)**

Previous records: Bacău, Hemeiuși, Histria (AFTENE & GOAGĂ 1993), C. A. Rosetti, Histria, Tatlageac (AFTENE 1995), Sagna, Tușnad (IUGA & SCOBIOLA-PALADE 1959, AFTENE 1972), Arad, Cârcea, Cristian, Florești, Hetiur, Ocna Sibiului, Odaia, Flămânda, Turnu Măgurele, Șura Mică, Vameș, Viile (AFTENE, 1979; PASCU, 2003; ZANDEN & MATAACHE 1986), Craiova, Păulești, Podu Iloaiei, Posada, Reghin, Simnic, Suceava (AFTENE 1995).

New material studied: 1♂, Dumbrava Sibiului, 2.VII.1953, 1♀, Ocna Sibiului, 7.VII.1954, 1♀, 13.VII.1973; 2♂♂, Agigea, 18.VII.2003; 1♀, Brănești, 27.VII.2006; 1♀, Moara Domnească, 12.VI.2008 (Fig. 34).

#### ***Megachile versicolor* F. SMITH 1844**

Previous records: Oradea, Mehadia, Sighișoara, Văliug (AFTENE 1972, MOCSÁRY 1874, 1897), Aiud (SZILÁDY 1914), Arad, Băile Herculane, C. A. Rosetti, Eforie Sud, Ghighiu, Horia, Lița, Sibiu, Turnu Măgurele, Șeica-Hamba (AFTENE 1979, ZANDEN & MATAACHE 1986, PASCU 2003), Poenarii Burchi (AFTENE 1995).

New material studied: 1♂, C. A. Rosetti, 28.IX.1980; 1♀, Crasna Vișeuului, 23.VIII.1997; 1♀, Gârliștei Gorges, 8.VIII.2001; 1♂, Bratcu Valley, 6.VII.2004 (Fig. 35).

#### ***Megachile willughbiella* (KIRBY 1802)**

Previous records: Baziaș, Cordon, Mehadia, Sfântu Gheorghe, Sibiu, Tiha, Văliug (MOCSÁRY 1874, 1897, AFTENE 1979), Criț (SZILÁDY 1914), Arad, Braniște, Ocna Sibiului, Pielești, (ZANDEN & MATAACHE 1986), Gura Văii (AFTENE & GOAGĂ 1993), Brănești, București, Budieni, Dobârca, Plopeni, Stănița (AFTENE 1995).

New material studied: 1♂, Ieud, 4.VII.1995; 1♂, Agigea, 18.VII.2003; 1♂, Făina, 21.VII.2004; 1♂, Țigănești Monastery, 16.VI.2005; 1♂, Brănești, 27.VII.2006; 1♂, 1♀, Moara Domnească, 12.VI.2008 (Fig. 36).

### **Genus *Coelioxys* LATREILLE**

#### ***Coelioxys afra* LEPELETIER De SAINT-FARGEAU 1841**

Previous records: Arad, Gușterița, Sărvăzel, Turda, Tășnad (MOCSÁRY 1897, ZANDEN & MATAACHE 1986), Filiași (IUGA & SCOBIOLA-PALADE 1959), Albești, Craiova, Sibiu (AFTENE 1995).

New material studied: 1♂, Cehu Silvaniei, 20.VII.1929; 1♂, Ocna Sibiului, VII.1946; 1♂, Budești, 13.VIII.1948; 1♀, Băile Victoria, 16.VII.1963; 1♂, Tuzla, 21.VII.2003 (Fig. 37).

#### ***Coelioxys aurolimbata* A. FÖRSTER 1853**

Previous records: Amara, Revetiș, Sibiu, Simișna, Târgu Mureș, Zalău (HENRICH 1880, 1883, MOCSÁRY 1897, ZANDEN & MATAACHE 1986), Aiud, Trascău (SZILÁDY 1914), Bocșa (ZILAHÍ-KISS 1915).

New material studied: 1♂, Sibiu, VII.1896; 1♂, Bârsana, 5.VII.1995; 1♀, Frățești, 16.V.2002; 1♂, Manafu Forest, 22.VI.2006 (Fig. 38).

***Coelioxys caudata* SPINOLA 1838**

Previous records: Arad, Caraorman, C. A. Rosetti (ZANDEN & MATACHE 1986).

New material studied: 1♂, Valu lui Traian, 24.VI.1964; 1♂, Agigea, 23.VII.1964; 1♂, Brănești, 27.VI.2007 (Fig. 39).

***Coelioxys elongata* LEPELETIER DE SAINT-FARGEAU 1841**

Previous records: Ișelnița, Sfântu Gheorghe, Sibiu, Tiha (MOCSÁRY 1897, AFTENE 1972, ZANDEN & MATACHE 1986, PASCU 2003), Secui (AFTENE 1995).

New material studied: 1♂, Sibiu, 1♂, 26.VI.1930, 1♂, 1♀, VI, VII.1946; 1♀, Agigea, 18.VII.2003; 1♀, Celic Dere Monastery, 8.IX.2005 (Fig. 40).

***Coelioxys haemorrhoea* A. FÖRSTER 1853**

Previous records: Filiași (IUGA & SCOBIOALA-PALADE 1959).

New material studied: 1♂, Frățești, 30.VII.1948 (Fig. 41).

***Coelioxys inermis* (KIRBY 1802)**

Previous records: Sibiu, Tușnad (HENRICH 1880, AFTENE 1972, PASCU 2003), C.A. Rosetti (ZANDEN & MATACHE 1986).

New material studied: 1♀, Sibiu, 4.VII.1948 (Fig. 42).

***Coelioxys mandibularis* NYLANDER 1848**

Previous records: Tășnad (MOCSÁRY 1897), Cheia (AFTENE 1995).

New material studied: 1♂, Pasărea Forest, 13.VI.1999 (Fig. 43).

***Coelioxys polycentris* A. FÖRSTER 1853**

Previous records: Sibiu (SZILÁDY 1914, AFTENE 1979, PASCU 2003).

New material studied: 3♀♀, Ocna Sibiului, 9.IX.1940; 1♂, Sibiu, 14.VIII.1952 (Fig. 44).

***Coelioxys quadridentata* (LINNAEUS 1758)**

Previous records: Sibiu (MOCSÁRY 1897), Murighiol (AFTENE 1995).

New material studied: 1♀, Băile Herculane, 11.VII.1963 (Fig. 45).

***Coelioxys rufescens* LEPELETIER De SAINT-FARGEAU et AUDINET-SERVILLE 1825**

Previous records: Bocșa (ZILAHÍ-KISS 1915), Aiud, Băile Herculane, Ocna Sibiului, Sân Martin, Sibiu (SZILÁDY 1914, AFTENE 1972, ZANDEN & MATACHE 1986, PASCU 2003); Prunet, Secui (AFTENE 1995).

New material studied: 1♀, Sibiu, VI.1946; 1♂, Crasna Vișeuului, 23.VIII.1997 (Fig. 46).

***Coelioxys rufocaudata* F. SMITH 1854**

Previous records: Sibiu (HENRICH 1883), Sagna (IUGA & SCOBIOALA-PALADE 1959), Arad (ZANDEN & MATACHE 1986); Tatlageac (AFTENE 1995).

New material studied: 1♀, Gușterița, without other data; 1♂, Odaia, 12.VI.1949; 1♀, C. A. Rosetti, 20.VII.1966 (Fig. 47).

### Discussion

The 46 identified species represent about 37 % of the total of the megachilid species known in Romania at present; most of them originate in Transylvania (centre of the country), Muntenia (Wallachia, south) and Dobrogea (Dobroudja, south-east), regions which offer comfortable niches for these thermophilous and heliophilous species by their geographical position, climate and vegetation.

*Chalicodoma parietina*, reported 100 years before from Caraș-Severin (Banat region, south-western of the country) was considered extinct from Romania, not being mentioned in other faunistic lists. In 2007, a female specimen was collected from Mehedinți (Oltenia region, south-west), the species being reported from the first time in this region and for the second time in Romania. *Osmia mustelina* is distributed in South and Central Europe, North Africa; in Romania it was reported from Mehedinți in literature, and now we report it from Muntenia (south of the country).

### Zusammenfassung

Vorliegende Arbeit behandelt die Verbreitung von 46 Megachilinae-Arten (Hymenoptera, Apoidea) Rumäniens. Bisher bekannte publizierte Daten wurden gemeinsam mit selbst erfassten Daten dargestellt und wurden auch mittels Verbreitungskarten den Provinzen Rumäniens zugeordnet. *Osmia mustelina* GERSTAECKER 1869 und *Chalicodoma parietina* (GEOFFROY 1785) stellen Zweitnachweise des Untersuchungsgebietes dar, welche bisher nur aus dem südlichen und südwestlichen Teil des Landes bekannt wurden.

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**Table 1:** List of the material collecting localities and collecting sites.

County	Locality	Collecting site
Argeş	Pietroşani	Pietroşani
Argeş	Sătic	Scorobia Valley
Argeş	Sătic	Valea cu Peşti
Argeş	Sătic	Valea lui Ivan
Bihor	Săldăbagiu Mic	Săldăbagiu Mic
Braşov	Băile Victoria	Băile Victoria
Braşov	Zărneşti	Gura Bârsei Chalet
Braşov	Peştera	Peştera
Bucureşti	Bucureşti	Băneasa
Bucureşti	Bucureşti	Village Museum
Bucureşti	Bucureşti	Park of "Grigore Antipa" Museum
Bucureşti	Bucureşti	Podul Ciurel-Lacul Morii
Caraş Severin	Băile Herculane	Băile Herculane
Caraş Severin	Caraşova-Gârliştei Gorges	Caraşova-Gârliştei Gorges
Caraş Severin	Reşiţa	Reşiţa
Caraş Severin	Bei Valley	Bei Valley
Călăraşi	Budeşti	Budeşti
Constanţa	Agigea	Agigea
Constanţa	Olimp-Mangalia Nord	Olimp-Mangalia Nord
Constanţa	Techirghiol	Techirghiol
Constanţa	Tuzla	Tuzla
Constanţa	Valu lui Traian	Valu lui Traian
Giurgiu	Balta Bila-Manafu Forest	Balta Bila-Manafu Forest
Giurgiu	Comana	Comana
Giurgiu	Copăceni	Copăceni
Giurgiu	Copăniţa	Copăniţa

County	Locality	Collecting site
Giurgiu	Frățești	Frățești
Giurgiu	Giurgiu	Giurgiu
Giurgiu	Padina Tătarului	Padina Tătarului
Giurgiu	Comana	Comana Forest-Izvorul cu Nuci
Giurgiu	Săbăreni	Săbăreni
Giurgiu	Vlașin-Ogarca Forest	Vlașin-Ogarca Forest
Gorj	Jiu Valley-Lainici Monastery	Jiu Valley-Lainici Monastery
Gorj	Polatiște	Polatiște
Gorj	Tarnița	Schitul Locurele
Gorj	Bratcu Valley	Bratcu Valley
Gorj	Chitu Valley	Chitu Valley
Ialomița	Bordușani	Balta Ialomiței
Ilfov	Brănești	Pasărea Forest
Ilfov	Căldărușani	Căldărușani
Ilfov	Cernica	Cernica
Ilfov	Ciolpani	Țigănești Monastery
Ilfov	Dragomirești	Dragomirești
Ilfov	Izvorani	Izvorani
Ilfov	Mogoșoaia	Mogoșoaia
Ilfov	Moara Domnească	Moara Domnească
Ilfov	Periș	Periș
Ilfov	Snagov	Snagov
Ilfov	Ștefăneștii de Jos	Ștefăneștii de Jos
Maramureș	Bârsana	Bârsana
Maramureș	Bistra	Bistra
Maramureș	Călinești-Văleni	"Săcătura" Forest Range
Maramureș	Crasna Vișeu	the confluence Hututeanca-Pop Ivan
Maramureș	Crasna Vișeu	Hututeanca Stream Valley
Maramureș	Dragomirești	Baicu Forest Range
Maramureș	Ieud	Ieud
Maramureș	Leordina	Leordina
Maramureș	Mara	Mara
Maramureș	Moisei-Izvorul lui Dragoș	Moisei-Izvorul lui Dragoș
Maramureș	Pietrosul Rodnei	Pietrosul Rodnei
Maramureș	Poienile de sub Munte	Coșnea Chalet
Maramureș	Poienile de sub Munte	Rica River Valley
Maramureș	Repedea	Smereceni Clearing
Maramureș	Repedea	Elmo Clearing
Maramureș	Sălișteța-Idișor Stream	Sălișteța-Idișor Stream
Maramureș	Săpânța	Brustani Clearing
Maramureș	Săpânța	Colibi
Maramureș	Săpânța	Săpânciora Valley
Maramureș	Strâmtura	Slătioara River-Berșota Stream

County	Locality	Collecting site
Maramureş	Strâmtura	Podul Slătioarei Forest Range
Maramureş	Vaser Valley	Făina
Maramureş	Vaser Valley	transect Bardău-Cozia
Mehedinţi	Isverna-Cosiştei Valley	Isverna-Cosiştei Valley
Mehedinţi	Işelniţa	Işelniţa
Mehedinţi	Topolniţa Monastery	Topolniţa Monastery
Mureş	Sighișoara	Sighișoara
Sălaj	Cehu Silvaniei	Cehu Silvaniei
Sibiu	Sibiu	Dumbrava Sibiului
Sibiu	Sibiu	Guşteriţa
Sibiu	Ocna Sibiului	Ocna Sibiului
Sibiu	Sărata	Sărata
Sibiu	Scorei	Scorei
Sibiu	Sibiu	Sibiu
Sibiu	Şeica Mare	Şeica Mare
Teleorman	Odaia	Odaia
Tulcea	Alba	Alba
Tulcea	Babadag	Babadag Forest-Slava Rusă
Tulcea	Babadag	Babadag Lake
Tulcea	C.A. Rosetti	C.A. Rosetti
Tulcea	Caraorman	Caraorman
Tulcea	Cerna	Cerna
Tulcea	Greci	Greci
Tulcea	Luncaviţa-Valea Fagilor	Luncaviţa-Valea Fagilor
Tulcea	Celic Dere	Celic Dere Monastery
Tulcea	Suluc Valley	Suluc Valley

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