NEW EVIDENCE ON THE DISTRIBUTION OF *OXYTHYREA CINCTELLA* (SCHAUM, 1841) IN THE CRIMEA, UKRAINE (COLEOPTERA: SCARABAEDAE: CETONIINAE)

Igor V. Kizub*

* Department of Experimental Therapeutics, Institute of Pharmacology and Toxicology of National Academy of Medical Sciences of Ukraine, 03680, Kiev, UKRAINE. E-mail: buzzmann@ukr.net

[Kizub, I. V. 2013. New evidence on the distribution of *Oxythyrea cinctella* (Schaum, 1841) in the Crimea, Ukraine (Coleoptera: Scarabaedae: Cetoniinae). Munis Entomology & Zoology, 8 (2): 659-663**]**

ABSTRACT: The paper presents new faunistic information regarding *Oxythyrea cinctella* (Schaum, 1841) species (Coleoptera: Scarabaeidae: Cetoniinae) distribution in the Crimea, Ukraine. An updated map of *Oxythyrea cinctella* (Schaum, 1841) distribution in Palearctic region is given.

KEY WORDS: *Oxythyrea cinctella*, Coleoptera, Scarabaeidae, Cetoniinae, Crimea, Ukraine.

The genus *Oxythyrea* Mulsant, 1842 belongs to the subtribe Leucocelina of the tribe Cetoniini Leach, 1815 and comprises 10 species distributed in the Western Palearctic (Sabatinelli, 1981; Krikken, 1984; Smetana, 2006; Tauzin, 2012). Based on external morphology and structure of aedeagus three groups of species (Sabatinelli, 1981) are divided among the Mediterranean species of the *Oxythyrea* genus: *O. funesta*, *O. abigail*, and *O. cinctella* (Sabatinelli, 1981; Vasko & Gerasimov, 2005). Until recently only the species *Oxythyrea funesta* (Poda von Neuhaus, 1761) had been known from Ukraine, widely distributed over its territory (Medvedev, 1964; Vasko & Gerasimov, 2005). Recently, a new species for Ukraine, *Oxythyrea cinctella* (Schaum, 1841), has been reported by Vasko & Gerasimov (2005) recorded from the Crimean Peninsula (Karadag). Three males of this species were collected in the Kurortnoe village environs of Feodosia district by R. Gerasimov and D. Kurinnyi (Vasko & Gerasimov, 2005). We have obtained new evidence on the distribution of *Oxythyrea cinctella* in the Crimea based on our collected material and material collected by G. Shayakhmetova and O. Kharchenko at the same location: Novy Svet village, Sudak district.

MATERIALS AND METHODS

The insects were collected manually in the daytime in the Sudak district of the Crimean Peninsula, Ukraine. The material used for this study is deposited in the private collection of the author, Kiev, Ukraine. The following keys were used for the identification of the specimens: Medvedev (1964), Vasko & Gerasimov (2005), and Rittner & Sabatinelli (2010).

RESULTS AND DISCUSSION

Oxythyrea cinctella (Schaum, 1841)

Synonyms: *albella* Illiger, 1802 (*Cetonia*); *variegata* Pallas in Gory & Percheron, 1833 (*Cetonia*); *longula* Desbrochers des Loges, 1872 (*Cetonia*); *cinctelloides* Reitter, 1898 (*Leucocelis*); *natalia* Olsoufieff, 1916 (*Leucocelidia*); *cinctella* ab. *confluens* Petrovitz, 1970; *cinctella* ssp. *taftanensis* Montreuil & Legrand, 2008. All the synonyms are given according to Tauzin (2012).

Material examined: Ukraine, the Crimea, Sudak dist., Novy Svet vill., 22-29. 05. 2011, Kizub I.V. leg. et det., 2 males and 1 female; Ukraine, the Crimea, Sudak dist., Novy Svet vill., 11-16. 06. 2012, Shayakhmetova G.M. and Kharchenko O.I. leg., Kizub I.V. *det*., 1 female. The studied material is deposited in the private collection of the author, Kiev, Ukraine.

Chorotype: Turano-Mediterranean (Carpaneto et al., 2000).

Geographical distribution: *O. cinctella* is widely distributed in the Palearctic region. The species is reported from **Croatia** (Medvedev, 1964; Alonso-Zarazaga & Krell, 2004), **Montenegro** (Medvedev, 1964; Alonso-Zarazaga & Krell, 2004; Smetana, 2006; Tauzin, 2012), **Eastern Serbia** (Medvedev, 1964; Alonso-Zarazaga & Krell, 2004; Smetana, 2006; Gavrilović & Ćurčić, 2010), **Macedonia** (Medvedev, 1964; Alonso-Zarazaga & Krell, 2004; Smetana, 2006; Rozner & Rozne, 2009a; Tauzin, 2012), **Albania** (Medvedev, 1964; Alonso-Zarazaga & Krell, 2004; Smetana, 2006; Tauzin, 2012), South **Romania** (Medvedev, 1964; Alonso-Zarazaga & Krell, 2004), **Bulgaria** (Medvedev, 1964; Bunalski, 2000; Alonso-Zarazaga & Krell, 2004; Smetana, 2006; Tauzin, 2012), **Greece** including Andikithira, Evvia, Samothraki, Thasos, Northern Sporades, North Aegean, Ionian, and the Dodecanese Islands (Medvedev, 1964; Alonso-Zarazaga & Krell, 2004; Smetana, 2006; Tauzin, 2012), **Crete** (Medvedev, 1964; Alonso-Zarazaga & Krell, 2004; Tauzin, 2012), **Cyprus** (Medvedev, 1964; Tauzin et al., 2008), European and Asian parts of **Turkey** (Medvedev, 1964; Carpaneto et al., 2000; Alonso-Zarazaga & Krell, 2004; Smetana, 2006; Tauzin et al., 2008; Şenyüz and Şahin, 2009; Rozner & Rozne, 2009b; Anlaş et al., 2011; Demirözer et al., 2011; Tauzin, 2012), **Syria** (Medvedev, 1964; Smetana 2006; Tauzin et al., 2008; Tauzin, 2012), **Lebanon** (Medvedev, 1964; Chikatunov & Pavliček, 1997; Smetana, 2006; Tauzin et al., 2008; Tauzin, 2012), **Israel** (Medvedev, 1964; Chikatunov & Pavliček, 1997; Smetana, 2006; Tauzin et al., 2008; Rittner & Sabatinelli, 2010; Tauzin, 2012), **Jordan** (Medvedev, 1964; Chikatunov & Pavliček, 1997; Smetana, 2006; Tauzin et al., 2008; Tauzin, 2012), the Sinai part of **Egypt** (Tauzin, 2012), **Ukraine** (Vasko & Gerasimov, 2005; Martynov, 2010), **Russian Caucasus** (Medvedev, 1964; Smetana, 2006; Tauzin, 2012), **Georgia** (Medvedev, 1964; Smetana, 2006; Tauzin, 2012), **Azerbaijan** (Medvedev, 1964; Smetana, 2006; Tauzin, 2012), **Armenia** (Medvedev, 1964; Iablokoff-Khnzorian, 1967; Smetana, 2006; Tauzin, 2012), **Iran** (Medvedev, 1964; Modarres Awal, 2006; Smetana, 2006; Montreuil & Legrand, 2008; Tauzin, 2012), **Iraq** (Smetana, 2006; Tauzin, 2012), **Kazakhstan** (Medvedev, 1964; Nikolaev, 1987; Smetana, 2006; Tauzin, 2012), **Uzbekistan** (Medvedev, 1964; Nikolaev, 1987; Smetana, 2006; Tauzin, 2012), **Kyrgyzstan** (Medvedev, 1964; Protsenko, 1968; Nikolaev, 1987; Smetana, 2006; Tauzin, 2012), **Tajikistan** (Medvedev, 1964; Nikolaev, 1987; Smetana, 2006), **Turkmenistan** (Medvedev, 1964; Nikolaev, 1987; Smetana, 2006; Tauzin, 2012), **Afghanistan** (Medvedev, 1964; Smetana, 2006; Tauzin, 2012), **Pakistan** (Smetana, 2006; Tauzin, 2012), and **China** (Xinjiang province) (Medvedev, 1964; Nikolaev, 1987; Smetana, 2006; Tauzin, 2012).

The occurrence of *O. cinctella* in Portugal, Spain, and South Italy, including Sicily, previously reported by Medvedev (1964) was not confirmed by recent data (Blanco Villero, 1985; Mozos-Pascual & Martin-Cano, 1988, 1992; San Martin et al., 2001; Smetana, 2006; Tauzin, 2012).

In Ukraine *O. cinctella* is known to be an extremely rare species and so far it has only been reported from Karadag (Vasko & Gerasimov, 2005) and Novy Svet in the Crimea. Figure 1 shows *O. cinctella* records from the Crimean Peninsula. Based on the above-mentioned references and our findings from Ukraine, an updated map of *O. cinctella* distribution in the Palearctic region is presented in Figure 2. The present study reveals new evidence on the *O. cinctella* distribution in Ukraine and allows shifting the previously known northern border of the *O. cinctella* areal to the southern part of the Crimea (Fig. 2).

Comparative notes: *O. cinctella* can be easily distinguished from *O. funesta* (Poda von Neuhaus, 1761), the only other known Ukrainian species of *Oxythyrea*, which is widely distributed in the Western Palearctic, by hairless upper surface of the body, the presence of only two white spots near the base of the pronotum, the wide white border along the whole length of the pronotum sides, the white spots on the sides of the mesosternum, and by the absence of the longitudinal row of white spots in the middle of the 1st through 4th abdominal sternites (Medvedev, 1964; Vasko & Gerasimov, 2005).

From *O. noëmi* Reiche & Saulcy, 1856, which is closely related to *O. cinctella* and belongs together with this species to the «*cinctella*» species group (Sabatinelli, 1981; Vasko

& Gerasimov, 2005), *O. cinctella* can be distinguished by the presence of only two white spots on the pronotum (Medvedev, 1964; Sabatinelli, 1981; Rittner and Sabatinelli, 2010). The distribution of *O. noëmi* is limited to Cyprus, Lebanon, Syria, Israel, Jordan, Turkey and the Sinai part of Egypt (Smetana, 2006; Rittner & Sabatinelli, 2010; Tauzin, 2012).

A few aberrations of *O. cinctella* have been described (Tauzin, 2012), notably the white spots of the pronotum and the elytra can decrease or disappear (ab. *cinctelloides* Reitter, 1898), enlarge (ab. *natalia* Olsoufieff, 1916), or merge (ab. *confluens* Petrovitz, 1970).

Some authors (Tauzin, 2012) relate *O. cinctella* to the subgenus Leucocelidia designated by Olsoufieff (1916) but synonymised by Smetana (2006) with the genus *Oxythyrea* Mulsant, 1842.

ACKNOWLEDGEMENTS

The author is sincerely grateful to Ganna M. Shayakhmetova (Kiev, Ukraine) and Olga I. Kharchenko (Kiev, Ukraine) for collecting of the study material and Pierre-Hubert Tauzin (Vanves, France) for kind contribution to preparing of the paper.

LITERATURE CITED

Alonso-Zarazaga, M. A. & Krell, F.-T. 2004. Fauna Europaea: Coleoptera, Cetoniidae. Fauna Europaea version 1.1. Available from: http://www.faunaeur.org.

Anlaş, S., Keith, D. & Tezcan, S. 2011. Notes on the pitfall trap collected Scarabaeoidea (Coleoptera) species in Bozdağlar Mountain of Western Turkey. Anadolu Doğa Bilimleri Dergisi, 2: 1-5.

Blanco Villero, J. M. 1985. Sobre los escarabeidos (Col. Scarabaeoidea) de la provincia de Cádiz (España). Boletín de la Asociación Española de Entomología, 9: 341-347.

Bunalski, M. 2000. Contributions to the knowledge Scarabaeoidea (Coleoptera) of Bulgaria. Part I. Results of the expeditions 1996 and 1998. Wiadomosci Entomologiczne, 19: 85-92.

Carpaneto, G. M., Piattella, E. & Pittino, R. 2000. The scarab beetles of Turkey: an updated checklist and chorotype analysis (Coleoptera, Scarabaeoidea). Biogeographia, 21: 217-240.

Chikatunov, V. & Pavliček, T. 1997. Catalogue of the beetles (Coleoptera) in Israel and adjacent areas: 1. Scarabaeoidea. Klapalekiana, 33: 37-65.

Demirözer, O., Karaca, I. & Karsvavuran, Y. 2011. Population fluctuations of some important pests and natural enemies found in oil-bearing rose (Rosa damascena Miller) production areas in Isparta province (Turkey). Turkish Journal of Entomology, 35: 539-558.

Desbrochers des Loges, M. J. 1872. Description de Coleopteres nouveaux d`Europe et confins et remarques diverses. Mittleilungen der Schweizerischen Entomologischen Gesellschaft, 3 : 337-376.

Gavrilović, B. & Ćurčić, S. B. 2010. Diversity of species of the family Scarabaeidae (Coleoptera) in Serbia. Archives of Biological Sciences, 62: 755-765.

Gory, H. L. & Percheron, A. R. 1833. Monographic des Cetoines et genres vuisins, formant dans les familles naturelies de Latreilie la division des Scarabees Melitophiles. Bailliere, Paris, 403 pp.

Iablokoff-Khnzorian, S. M. 1967. Nasekomye zhestkokrylye. Fauna Armyanskoy SSR, Tom VI, Plastinchatousye (Scarabaeoidea). Akademia nauk Armyanskoy SSR, Erevan, Armyanskaya SSR, 225 pp.

Illiger, J. C. W. 1802. Olivier's entomologie oder naturgeschichte der insekten mit ihren gattungs-und art merkmalen, ihren beschreibung und synonymie. Kafer. Uebersetzi mit aninerkungen durchgangig begleitet. Zweiter Theil. Karl Reichard, Braunschweig, 266 pp.

Krikken, J. 1984. A new key to the suprageneric taxa in the beetle family Cetoniidae, with annotated lists of the known genera. Zoologische Verhandelingen, 210: 1-75.

Martynov, V. V. 2010. Corrections and additions for the faunal list of lamellicorn beetles (Coleoptera: Scarabaeoidea) of the Crimea. The Kharkov Entomological Society Gazette, 18: 95-105.

Medvedev, S. I. 1964. Plastinchatousye (Scarabaeidae). Podsemeistva Cetoniinae, Valginae. Fauna SSSR, zhestkokrylye, tom 10, vyp. 5. Nauka, Moskva, Leningrad, SSSR, 376 pp.

Modarres Awal, M. 2006. Preliminary studies on Scarabaeoidea (Coleoptera) fauna of Razavi Khorasan province of Iran. Turkish Journal of Entomology, 30: 163-172.

Montreuil, O. & Legrand, J. P. 2008. Nouvelles *Oxythyrea* Mulsant, 1842, *Netocia* Costa, 1852 et *Potosia* Mulsant & Rey, 1871, d'Iran. Cetoniimania, 3-4: 156-164.

Mozos-Pascual de los, M. & Martin-Cano, J. 1988. Data about flower-visiting scarabeids (Coleóptera, Scarabaeoidea) in the province of Madrid (Central Spain). Boletín de la Asociación Española de Entomología, 12: 131-136.

Mozos-Pascual de los, M. & Martin-Cano, J. 1992. Flower visiting cetonids in "Sierra de Gredos": Distribution, phenology and floral resources (Coleoptera, Cetoniidae). Boletín de la Asociación Española de Entomología, 16: 31-41.

Nikolaev, G. V. 1987. Plastinchatousye zhuki (Coleoptera: Scarabaeidae) Kazakhstana i Sredney Azii. Nauka, Alma-Ata, Kazakhskaya SSR, 232 pp.

Olsoufieff, G. V. 1916. Obzor bronzovok Kavkaza i sopredel'nikh stran. Izvestia Kavkazskogo Muzeya, 10: 155-180.

Petrovitz, R. 1970. Scarabaeidae aus Iran. Entomologie et Phytopathologie Appliquees, 29: 38-45.

Poda von Neuhaus, N. 1761. Insecta musei Graecensis, que in ordines, genera et species juxta systema naturae coroli Linnaei digessit. Widmanstad, Graecii, 12 + 127 + 18 pp.

Protsenko, A. I. 1968. Plastinchatousye zhuki Kirgisii (Coleoptera: Scarabaeidae). Opredelitel s rasprostraneniem i biologiey vidov. Ilim, Frunze, Kirgizskaya SSR, 311 pp.

Reiche, L. & Saulcy, F. 1858. Espèces nouvelles ou peu connues de Colèoptères, recueillies par M.F. de Saulcy, member de l'Institute, dans son voyage en Orient, et dècrites par M.M. L. Reiche et Fèlicien de Saulcy. Annales de la Société Entomologique de France, 3: 5-60.

Reitter, E. 1898. Neue Coleopteren aus Europa und den angrenzenden landern. Deutsche Entomologische Zeitschrift, 1898: 337-360.

Rittner, O. & Sabatinelli, G. 2010. The genus *Oxythyrea* Mulsant in Israel (Coleoptera: Scarabaeidae: Cetoniinae: Cetoniini). Israel Journal of Entomology, 40: 11-19.

Rozner, I. & Rozner, G. 2009a. Data to the Lamellicornia fauna of the Republic of Macedonia (Coleoptera: Lamellicornia). Natura Somogyiensis, 15: 57-68.

Rozner, I. & Rozner, G. 2009b. Additional data to the Lamellicornia fauna of Turkey (Coleoptera: Lamellicornia). Natura Somogyiensis, 15: 69-100.

Sabatinelli, G. 1981. Le *Oxythyrea* Muls. del Mediterraneo: studi morphologici sistematici (Coleoptera, Scarabaeoidea). Fragmenta Entomologica, 16: 45-60.

San Martin, A. F., Recalde, J. I. & Agoiz, J. L. 2001. Chorology of the Cetonid beetles of Navarra (Coleoptera: Cetoniidae). Zapateri Revista Aragonesa de Entomologia, 9: 65-74.

Schaum, H. R. 1841. Analecta entomologica. Symbolae ad monographiam Scydmaenorum inscetorum generis (dissertatio inauguralis). Halis Saxonum, Lipsiae, in commissione apud Voss, 49 pp.

Şenyüz, Y. & Şahin, Y. 2009. Faunistic studies on Cetoniinae, Dynastinae, Melolonthinae, Rutelinae (Coleoptera: Scarabaeidae), Geotrupinae (Geotrupidae) of Kutahya provance, Turkey. Munis Entomology & Zoology, 4: 536-541.

Smetana, A. 2006. Cetoniinae. Scarabaeoidea, Scirtoidea, Dascilloidea, Buprestoidea. In: Löbl, I., Smetana, A. (Eds), Catalogue of Palaearctic Coleoptera, Volume 3. Apollo Books, Stenstrup, Denmark, 283-313.

Tauzin, P.-H. 2012. *Oxythyrea (Leucocelidia) cinctella* Schaum, 1841 (Cetonia): compléments d'informations taxonomiques et chorologie de l'espèce (Coleoptera, Scarabaeidae, Cetoniinae, Leucocelini). Lambillionea, 112: 131-145.

Tauzin, P.-H., Sabatinelli, G. & Rittner, O. 2008. The Scarabs of the Levant: Syria, Lebanon, Jordan, Palestine, Israel, Sinai. Available from: http://www.glaphyridae.com/Cetoniinae/Ox_cinctella.html

Valcárcel, J. P. 2010. Coleoptera, family Cetoniidae Leach, 1815. Unpublished records of cetoniid beetles from Spain mainland, Canary Islands and Melilla. Arquivos Entomoloxicos, 3: 113-115.

Vasko, B. N. & Gerasimov, R. P. 2005. A new for the fauna of Ukraine species from the genus *Oxythyrea* Mulsant, 1842 (Coleoptera: Scarabaeoidea: Cetoniidae) from the Crimea. The Kharkov Entomological Society Gazette, 13: 27-30.

Figure 1. Map of *Oxythyrea cinctella* (Schaum, 1841) known localities in the Crimea, Ukraine: 1 - Novy Svet; 2 - Kurortnoe (Vasko and Gerasimov, 2005).

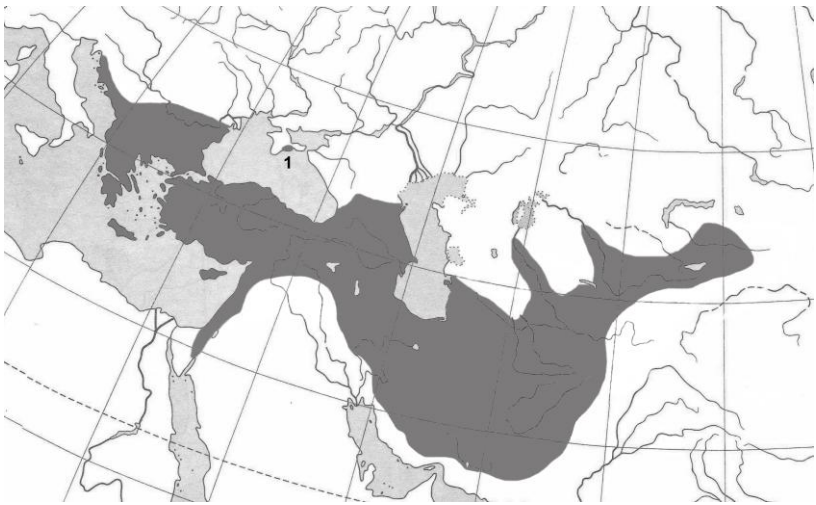

Figure 2. An updated map of *Oxythyrea cinctella* (Schaum, 1841) distribution: 1 – Locality in Ukraine.