UDC 595.768.23(477.46) DOI: 10.36016/KhESG-2023-31-2-1

© 2023 V. Yu. NAZARENKO

FIRST RECORD OF *POLYDRUSUS VIRIDICINCTUS* (GYLLENHAL, 1834) (COLEOPTERA: CURCULIONIDAE: ENTIMINAE) IN CHERKASY REGION (UKRAINE)

Назаренко, В. Ю. Перша знахідка жука-довгоносика *Polydrusus viridicinctus* (Gyllenhal, 1834) (Coleoptera: Curculionidae: Entiminae) в Черкаській області України. *Вісті Харківського ентомологічного товариства*. 2023. Т. XXXI, вип. 2. С. 5–9. DOI: 10.36016/KhESG-2023-31-2-1.
Наведено відомості про першу знахідку *Polydrusus viridicinctus* у Черкаській області України. Раніше цей вид був достеменно відомий лише з заходу України та Одеської області й помилково вказаний з Дніпропетровської області. 4 рис., 45 назв.
Ключові слова: Polydrusini, жуки, довгоносики, річка Рось, фауна, розповсюдження.

Nazarenko, V. Yu. First record of *Polydrusus viridicinctus* (Gyllenhal, 1834) (Coleoptera: Curculionidae: Entiminae) in Cherkasy Region (Ukraine). *The Kharkov Entomological Society Gazette*. 2023. Vol. XXXI, iss. 2. P. 5–9. DOI: 10.36016/KhESG-2023-31-2-1.
Information about the first record of *Polydrusus viridicinctus* in Cherkasy Region of Ukraine is provided. Previously, the species was known to exist in the western part of Ukraine and in Odesa Region, and erroneously recorded from Dnipropetrovsk Region. 4 figs, 45 refs.
Keywords: Polydrusini, beetles, weevils, the Ros River, fauna, distribution.

Назаренко, В. Ю. Первая находка *Polydrusus viridicinctus* (Gyllenhal, 1834) (Coleoptera: Curculionidae: Entiminae) в Черкасской области Украины. *Известия Харьковского энтомологического общества*. 2023. Т. XXXI, вып. 2. С. 5–9. DOI: 10.36016/KhESG-2023-31-2-1.
Приводится информация о первой находке *Polydrusus viridicinctus* в Черкасской области Украины. Ранее этот вид достоверно был известен только с запада Украины и Одесской области и ошибочно указан из Днепропетровской области. 4 рис., 45 назв.
Ключевые слова: Polydrusini, жуки, долгоносики, река Рось, фауна, распространение.

Introduction. The genus *Polydrusus* Germar, 1817 comprises 217 species, with 194 that are distributed in the Palaearctic Region. The Nearctic Region harbors 12 native species, while the Neotropcal Region includes 9 species. Two species are distributed in Namibia, South Africa, and Zimbabwe (Yunakov *et al*. 2023). Three Palaearctic species, *Polydrusus formosus* (Mayer, 1779), *P. impressifrons* Gyllenhal, 1834, and *P. cervinus* (Linnaeus, 1758), have been introduced to Canada and the United States (Bright, Bouchard, 2008). In Ukraine, 21 species are known (Yunakov *et al.*, 2018).

Polydrusus weevils are well-known and abundant in various habitats, including forests, shrublands, grasslands, parks, gardens, lawns, and ruderal vegetation. While some species are considered pests (Petrukha, Globova, Stovbchatyy, 1988; Velázquez-de-Castro, Gharali, Korotyaev, 2014; Rodstrom, Skoczylas, Waters, 2015; Mehrnejad, Meleshko, Korotyaev, 2017; BCMA, 2019; Fiala, Holusa, 2022; Kamusiime, Nantongo, Wacal, 2023), others have no economic impact, and there are even poorly known and rare taxa among them (Gurney, 2018; Yunakov *et al.*, 2018). One such species is *P.* (*Poecilodrusus*) *viridicinctus*, previously recorded in the western part of Ukraine, as well as in Dnipropetrovsk and Odesa regions (Sumarokov, Nazarenko, 2015; Yunakov *et al.*, 2018).

Materials and methods. Two female specimens of *P. viridicinctus* were collected in the Korsun-Shevchenkivskyi District near Stebliv in Cherkasy Region. They were captured by net-sweeping on deciduous trees such as *Quercus robur* and *Alnus glutinosa* near water reservoir of Stebliv.

Taxonomy follows Alonso-Zarazaga *et al.* (2023). Habitat image and GPS coordinates were obtained using ZTE Blade A7 smartphone with Geo-Tracker software v. 5.2.4.3219. Photographs of the specimen were taken using Leica Z16 APO stereo-microscope equipped with a Leica DFC 450 camera and processed with LAS v. 3.8 software. Image editing was done with GIMP v. 2.8.4 (https://download.gimp.org/gimp/v2.8) and Inkscape v. 0.48.4 r9939 (https://inkscape.org/release/inkscape-0.48.4).

Mapping was performed using a modified relief map of Ukraine (https://www.mapsland.com/europe/ukraine/large-relief-map-of-ukraine) and Google Maps (https://www.google.com.ua/maps). The general distribution mapping data were obtained from Medvedev, Shapiro (1957); Tóth (1968); Dieckmann (1980); Osella, Magnano (1986); Podlussány, Kocs (1997); Lachowska, Holecová, Rozek (1998); Pešić (1998, 2003),

Nazarenko V. Yu. I. I. Schmalhausen Institute of Zoology of the National Academy of Sciences of Ukraine,
15, Bohdana Khmelnytskoho St., Kyiv, 01030, UKRAINE; e-mail: nazarenko@izan.kiev.ua; ORCID: 0000-0003-4245-5049

Received 29.08.2023 **Accepted 29.11.2023 by Dr. N. N. Yunakov** **Published 28.12.2023**

Mazur (2002) Lompe (2018); Arzanov (2015); Merkl, Németh, Podlussány 2016; Gurney (2018); Pástor, Kollár, Bakay (2019); Yunakov (2019); Germann, Braunert, Schütte (2022); BMLU (2023); Germann *et al*. (2023); Alonso-Zarazaga *et al.* (2023); Yunakov *et al*. (2023). National distribution mapping data used are from Tveritina (1956), Kubisz, Mazur, Pawłowski (1998), Mazur (2002), Yunakov *et al.* (2018). Information on the national distribution at region level follows the adopted standard of 3-letter codes established in Yunakov *et al.* (2018), where asterisk (*) marks a new record, and square brackets ([]) represent doubtful data.

Abbreviation: SIZK — I. I. Schmalhausen Institute of Zoology of the National Academy of Sciences of Ukraine.

Results and discussions.

Family CURCULIONIDAE

Subfamily ENTIMINAE Schoenherr, 1823

Tribe POLYDRUSINI Schoenherr, 1823

Genus *Polydrusus* Germar, 1817

Subgenus *Poecilodrusus* Korotyaev et Meleshko, 1997

Polydrusus viridicinctus Gyllenhal, 1834

References. Germar, 1817; Schoenherr, 1823; Kuntze, 1926(1925); Roubal, 1941; Tveritina, 1956; Medvedev, Shapiro, 1957; Lazorko, 1963; Smreczyński, 1966; Tóth, 1968; Angelov, 1978; Dieckmann, 1980; Osella, Magnano, 1986; Korotyaev, Meleshko, 1997; Podlussány, Kocs, 1997; Kubisz, Mazur, Pawłowski, 1998; Lachowska, Holecová, Rozek, 1998; Pešić, 1998, 2003; Poiras, 1998; Mazur, 2002; Meleshko, 2003; Lompe, 2018; Arzanov, 2015; Sumarokov, Nazarenko, 2015; Gurney, 2018; Yunakov *et al.*, 2018; Pástor, Kollár, Bakay, 2019; Yunakov, 2019; Germann, Braunert, Schütte, 2022; Alonso-Zarazaga *et al.*, 2023;. BMLU, 2023; Germann *et al*., 2023; Yunakov *et al*., 2023.

Material. Ukraine: Cherkasy Region, Korsun-Shevchenkivskyi District, right bank of the Ros River, forest belts boarding Stebliv Reservoir, in front of Vygraivski Dachi natural boundary, ~ 5 km NNW Stebliv, N49.449312, E31.059976 — N49.449062, E31.059942, net-sweeping on *Alnus, Sambucus* etc., 29.07.2023 (V. Nazarenko) — 1 ♀ (SIZK); idem, ~ 3 km NNW Stebliv, N49.431940, E31.077813 — N49.431581, E31.0781586, net-sweeping on *Quercus, Populus, Betula, Ulmus* etc., 30.07.2023 (V. Nazarenko) — 1 ♀ (SIZK), (Figs. 1–3).

Distribution. Central, South and South-Eastern Europe, Balkans, Turkey and Cyprus (Yunakov, 2019; Alonso-Zarazaga *et al.*, 2023; Yunakov *et al*., 2023) (Fig. 4). Ukraine: ČER ČRK* [DNI] IFR KHM LWI ODE TER VIN ZAK (Kuntze, 1926(1925); Roubal, 1941; Lazorko, 1963; Kubisz, Mazur, Pawłowski, 1998; Mazur, 2002; Sumarokov, Nazarenko, 2015; Yunakov *et al.*, 2018, Yunakov, 2019) (Fig. 3).

Records from Chernivtsi, Lviv, Vinnytsia (Mazur, 2002), Kherson, Kirovohrad, Mykolaiv, and Poltava (Meleshko, 2003) regions need confirmation. The presence of *P. viridicinctus* in Crimea, as stated by Meleshko (2003), was refuted by recent survey (Yunakov, 2018). Finding the species in Dnipropetrovsk Region (Sumarokov, Nazarenko, 2015**)** is doubtful, possibly resulting from misidentification of an unusually small specimen of *P. picus* (Fabricius, 1792).

The general distribution of this species (Fig. 4) largely coincides with the South-Eastern European montane forests in the Carpathians and the Balkans, where it occurs in lower forest belt (Tveritina, 1956), and neighboring territories of temperate broad-leaved forest biomes (Koistinen, 2007), where the maximal number of finds were recorded (Yunakov, 2019; Yunakov *et al*., 2023). Single sites were mapped out of mentioned area in the similar plant associations, usually intrazonal floodplain forests (Yunakov, 2019 and original study). Obviously, the line from south-eastern Czech Republic to central Ukraine represents the north-eastern limit of the species range (Fig. 4), approximately corresponding to north latitude of 50 degrees. The easternmost records along the Siverskyi Donets River and upper the Don River (Arzanov, 2015) are indeed based on the misidentification of *Polydrusus picus* (Yuri Arzanov, pers. comm. to Nikolai Yunakov in 2015).

Differential diagnosis. *P. viridicinctus* differs from the similar *P. picus* by its elongated body shape, the presence of erect piliform setae on elytral interstriae, reddish legs, femora edentate, and antennal scrobes not reaching ventral side of the rostrum.

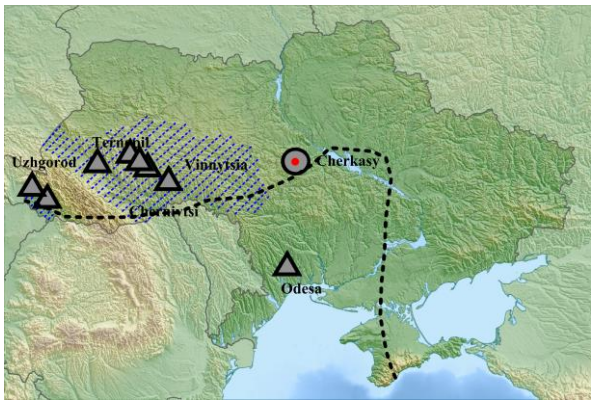
Biology. The species occurs in broad-leaved and mixed forests from May to July. The adults feed on the foliage of various deciduous trees, usually on *Quercus* and rarely on *Betula* (Tveritina, 1956). It is important to note a discrepancy the information on host plants in the text (oak, p. 97) compared to the pivot table (birch, p. 102), with the latter appearing to be erroneous. *P. viridicinctus* is known to feed on *Quercus* in dry habitats (Medvedev, Shapiro, 1957; Smreczyński, 1966; Angelov, 1978; Dieckmann, 1980). Subsequent studies have expanded its host range to include *Quercus petraea*, *Q. cerris* (Lachowska, Holecová, Rozek, 1998), *Q. petraea*,

Q. pubescens, *Q. robur* (Poiras, 1998), indicating oligophagy on oaks (Mazur, 2002). Additionally, it has been observed on *Carpinus* (Smreczyński, 1981; Lompe, 2018) and *Castanea sativa* (Pástor, Kollár, Bakay, 2019).

During the current study in Cherkasy Region, one specimen was swept on *Quercus* planting and one on mainly *Alnus* forest, but feeding on both oak and alder was not observed. Females captured on July 29–30 died within a week without feeding. Subsequent collections in August to September yielded no specimens in the same study area, aligning with known data on its phenology (Dieckmann, 1980; Yunakov *et al*., 2018).

F i g . 1 . ***P. viridicinctus,*** **♀, dorsal view.**

F i g . 2 . ***P. viridicinctus*****, natural habitat.**



F i g . 3 . The occurrences of *P. viridicinctus* in Ukraine: dot — new record, triangle — previously known record, hatched area — provisional distribution in Ukraine (by Mazur, 2002), dashed line — north-eastern distribution limit of *Poecilodrusus* (by Meleshko, 2003). Doubtful record from Dnipropetrovsk Region is not shown.

F i g . 4 . Distribution of *P. viridicinctus*: dot — previously known record, starred dot — new record, polygon — uncertain data.

Conclusions. The discovery of *P. viridicinctus* in Cherkasy Region significantly expands the known range of the species to the east, confirming its presence in the broad-leaved forests of the Dnipro River zone in the central part of Ukraine. Likely, the species may also be found in other, especially neighboring, southern and southeastern regions of Ukraine.

Acknowledgements. I would like to express my deep gratitude to Dr. Yu. Dubrovsky for organizational and transport assistance which made this research possible. I am also thankful to Dr. N. Yunakov and the two reviewers for their valuable recommendations, improvements, and corrections to the text.

REFERENCES

Alonso-Zarazaga, M. A., Barrios, H., Borovec, R., Bouchard, P., Caldara, R., Colonnelli, E., Gültekin, L., Hlaváč, P., Korotyaev, B., Lyal, C. H. C., Machado, A., Meregalli, M., Pierotti, H., Ren, L., Sánchez-Ruiz, M., Sforzi, A., Silfverberg, H., Skuhrovec, J., Trýzna, M., Velázquez de Castro, A. J., Yunakov, N. N. 2023. *Cooperative Catalogue of Palaearctic Coleoptera Curculionoidea*. 2nd ed. Monografías Electrónicas SEA, vol. 14. Sociedad Entomológica Aragonesa, Zaragoza, 1–780. URL: http://sea-entomologia.org/monoelec.html. LSID: urn:lsid:zoobank.org:pub:DC36DC23-14D6-417D-85AB-E8DCD373F223.

Angelov, P. A. 1978. *Fauna of Bulgaria. Volume 7. Coleoptera, Curculionidae. Part 2. Brachyderinae, Brachycerinae, Tanymecinae, Cleoninae, Curculioninae, Myorrininae [Фауна на България. Том 7. Coleoptera, Curculionidae, II част. Brachyderinae, Brachycerinae, Tanymecinae, Cleoninae, Curculioninae, Myorhininae]*. Bulgarian Academy of Sciences, Sofia, 1–234. [in Bulgarian].

Arzanov, Yu. G. 2015. A revised checklist species of the Curculionoidea (Coleoptera, excluding Scolytinae) of Rostov Oblast and Kalmykia, the southern part of European Russia. *Journal of Insect Biodiversity*, **3**(12), 1–32. DOI: https://doi.org/10.12976/jib/2015.3.12.

BCMA (British Columbia Ministry of Agriculture). 2019. Root and vine weevils. *In:* Jesperson, G., ed. *Home & Garden Pest Management Guide for British Columbia*. British Columbia Ministry of Agriculture, Victoria, B. C., Canada, 11-6. URL: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/animal-and-crops/plant-health/gardenguide-11-berries.pdf.

BMLU (Biological Museum, Lund University). 2023. *Polydrusus viridicinctus* Gyllenhal, 1834. *Biological Museum, Lund University — Search the Entomological Collections*. URL: https://ento.biomus.lu.se/search.php?taxa=Polydrusus%20viridicinctus. [Accessed 10.11.2023].

Bright, D. E., Bouchard, P. 2008. *Weevils of Canada and Alaska. Volume 2. Coleoptera, Curculionidae, Entiminae*. The Insects and Arachnids of Canada. Part 25. National Research Council Research Press, Ottawa, Ontario, Canada, 1–327. ISBN 9780660194004. DOI: https://doi.org/10.1139/9780660194004.

Dieckmann, L. 1980. Beiträge zur Insektenfauna der DDR: (Coleoptera - Curculionidae Brachycerinae, Otiorhynchinae). *Beiträge zur Entomologie*, **30**(1), 145–310. DOI: https://doi.org/10.21248/contrib.entomol.30.1.145-310.

Fiala, T., Holusa, J. 2022. *Polydrusus aeratus* (Coleoptera: Curculionidae: Entiminae): a potential pest of young coniferous stands. *Central European Forestry Journal*, **68**(1), 36–42. DOI: https://doi.org/10.2478/forj-2021-0014.

Germann, Ch., Braunert, C., Schütte, A. 2022. Contribution to the weevil fauna of Montenegro with the description of a new *Echinodera* Wollaston, 1863 species, and lectotype designations in the genus *Sciaphobus* K. Daniel, 1904 (Coleoptera, Curculionoidea). *Contributions to Entomology*, **72**(2), 179–211. DOI: https://doi.org/10.3897/contrib.entomol.72.e97253.

Germann, Ch., Bahr, F., Braunert, C., Link, A. 2023. Die Rüsselkäfer Griechenlands. Katalog der Curculionoidea Griechenlands (Coleoptera). *Le Charançon. Catalogues & Keys*, **3**. Curculio-Institute, Mönchengladbach. [Information recalled on 10.11.2023]. URL: https://curci.site.at/en/taxons/611.

Germar, E. F. 1817. Miscellen und Correspondenz-Nachrichten. *Magazin der Entomologie*, **2**, 339–341.

Gurney, M. 2018. *Polydrusus* and *Phyllobius*. *In:* Mathieu, M., Mathieu, F., eds. *La Galerie de Quel Est cet Animal. Photos et clés de détermination des Insectes et Arachnides de France*, 1–16. URL: https://quelestcetanimal-lagalerie.com/wp-content/uploads/2018/11/Polydrusus-and-Phyllobius.pdf.

Gyllenhal, L. 1834. *Polydrosus viridicinctus*. *In:* **Schoenherr, C. J.** *Genera et species Curculionidum, cum synonymia hujus familiae. Species novae aut hactenus minus cognitae, descriptionibus a Dom. Leonardo Gyllenhal, C. H. Boheman, et entomologis aliis illustratae*, **2**(1), Parisiis, Roret, Lipsiae, Fleischer, 138. URL: https://www.biodiversitylibrary.org/page/4112147. DOI: https://doi.org/10.5962/bhl.title.8952.

Kamusiime, E., Nantongo, J. S., Wacal, C. 2023. Insect pests in apple (*Malus domestca* Borkh) gardens: Review. *GSC Advanced Research and Reviews*, **15**(1), 030–053. DOI: https://doi.org/10.30574/gscarr.2023.15.1.0109.

Koistinen, V. 2007. A map of a classification of the world's vegetation into biomes. *In: Plant*: Wikipedia article. [Last modified September, 18, 2023].URL: https://en.wikipedia.org/wiki/Plant, https://commons.wikimedia.org/wiki/File:Vegetation.png.

Korotyaev, B. A., Meleshko, J. Ye. 1997. On the systematics of the weevil genus *Polydrusus* (Coleoptera: Curculionidae). *Zoosystematica Rossica*, **6**(1/2), 275–286. URL: https://www.zin.ru/journals/zsr/publication.asp?id=245.

Kubisz, D., Mazur, M., Pawłowski, J. 1998. Chrząszcze Miodoborów (Zachodnia Ukraina). Część II. Aktualny stan poznania (Insecta, Coleoptera). *Studia Ośrodka Dokumentacji Fizjograficznej*, **25**, 217–293.

Kuntze, R., 1926(1925). Nowe stanowiska kilku rzadszych chrząszczy w południowo-wschodniej Polsce. *Polskie Pismo Entomologiczne*, **4**(4), 237–244.

Lachowska, D., Holecová, M., Rozek, M. 1998. Chromosome number in nine beetle species (Coleoptera: Bruchidae, Apionidae, Curculionidae). *Folia Biologica*, **46**(1–2), 41–46.

Lazorko, V. 1963. *Materials to Systematics and Faunistics of Beetles of Ukraine [Матеріали до систематики і фавністики жуків України*]. The Shevchenko Scientific Society, Vancouver, Canada, 1–123. [in Ukrainian].

Lompe, A. 2018. Gattung *Polydrusus* Germ. *Die Käfer Europas. Ein Bestimmungswerk im Internet* [created 05.08.2009, last modified 25.08.2018 at 16:41:40]. URL: https://coleonet.de/coleo/texte/polydrusus.htm#viridicinctus.

Mazur, M. 2002. The distribution and ecology of weevils (Coleoptera: Nemonychidae, Attelabidae, Apionidae, Curculionidae) in western Ukraine. *Acta Zoologica Cracoviensia*, **45**(3), 213–244. URL: http://www.isez.pan.krakow.pl/journals/azc/pdf/azc_i/45(3)/05.pdf.

Medvedev, S. I., Shapiro, D. S. 1957. Towards knowledge of the beetle fauna (Coleoptera) of the Moldavian SSR and adjacent regions of Ukraine [К познанию фауны жуков (Coleoptera) Молдавской ССР и сопредельных районов Украины]. *Scientific Notes of Kharkov University [Учёные записки Харьковского университета]*, **90**, 173–206. [in Russian].

Mehrnejad, M. R., Meleshko, Ju. Ye., Korotyaev, B. A. 2017. Morphological description and observations on the biology of *Polydrusus davatchii* (Coleoptera: Curculionidae: Entiminae), a pest of pistachio trees in Iran. *Biologia* **72**, 1067–1074. DOI: https://doi.org/10.1515/biolog-2017-0116.

Meleshko, J. Ye. 2003. Supplemented description of the subgenus *Poecilodrusus* Korotyaev et Meleshko, genus *Polydrusus* Germ. (Coleoptera, Curculionidae) [Уточнение характеристики подрода *Poecilodrusus* Korotyaev et Meleshko рода *Polydrusus* Germar (Coleoptera, Curculionidae)]. *Entomological Review [Энтомологическое обозрение]*, **82**(2), 444–448. URL: https://www.elibrary.ru/item.asp?id=9291292. [in Russian].

Merkl, O., Németh, T., Podlussány, A. 2016. Beetles from Sălaj county, Romania (Coleoptera, excluding Carabidae). *Studia Universitatis Vasile Goldis, Seria Stiintele Vietii*, **26**(s1), 5–85. URL: http://www.studiauniversitatis.ro/2014/11/17/beetles-from-slaj-county-romania-coleoptera-excluding-carabidae.

Osella, G., Magnano, L. 1986. I coleotteri attelabidi e curculionidi a diffusione transadriatica. *Biogeographia*, **10**, 701–792. DOI: https://doi.org/10.21426/B610110254.

Pástor, M., Kollár, J., Bakay, L. 2019. Insect species composition on European chestnut (*Castanea sativa* Mill.) during flowering in selected localities in Slovakia. *South Western Journal of Horticulture, Biology and Environment*, **10**(2), 95–104. URL: https://biozoojournals.ro/swjhbe/v10n2/swjhbe_e19107_Pastor.pdf.

Pešić, S. 1998. The fauna of weevils (Coleoptera: Attelabidae, Apionidae, Curculionidae, Rhynchophoridae) in Kragujevac Basin (Serbia). *In:* Colonnelli, E, Louw, S, Osella, G, eds. *Taxonomy, Ecology and Distribution of Curculionoidea (Coleoptera: Polyphaga):* proceedings of the XX International Congress of Entomology (28 August 1996, Florence, Italy). Museo Regionale di Scienze Naturali, Turin, Italy, 163–182.

Pešić, S. 2003. Balkan weevils (Curculionoidea) in the Natural History Museum London (world part). *Kragujevac Journal of Science*, **25,** 139–162. URL: https://www.pmf.kg.ac.rs/KJS/en/volumes/kjs25/kjs25pesic139.pdf.

Petrukha, O. I., Globova, N. D., Stovbchatyy, V. N. 1988. Family weevils — Curculionidae [Семейство долгоносики — Curculionidae]. *In:* Vasil'ev, V. P., ed. *Pests of Agricultural Crops and Forest Plantations. Volume 2: Harmful Arthropods, Vertebrates [Вредители сельскохозяйственных культур и лесных насаждений. Том 2: Вредные членистоногие, позвоночные]*. 2nd ed. Urozhay, Kiev, 88. ISBN 5337001604. [in Russian].

Podlussány, A., Kocs, I. 1997. Hargita megye Curculionoidea faunájának alapvetése. *Acta (Csíki Székely Múzeum, Csíkszereda) a Csíki Székely Múzeum és a Székely Nemzeti Múzeum évkönyve*, **1**, 65–80. URL: https://epa.oszk.hu/03200/03277/00004/pdf/EPA03277_acta_1997_1_065_080.pdf.

Poiras, A. A. 1998. *Catalogue of the Weevils and Their Host Plants in the Republic of Moldova*, Pensoft Publishers, Sofia, Moscow, 1–156. ISBN 9789546420428.

Rodstrom, R. A., Skoczylas, J. C, Waters, T. D. 2015. Soak or spray: Control of *Polydrusus impressifrons* on un-rooted hybrid poplar cuttings. *Proceedings of the 74th Annual Pacific Northwest Insect Management Conference, January 12–13, 2015, Portland, Oregon*, 41–43. URI: http://hdl.handle.net/1957/60925.

Roubal, J. 1941. Rhynchophora. *In: Katalog Coleopter (Brouku) Slovenska a Vychodnich Karpat na zaklade bionomickem a zoogeografickem a spolu systematicky dopnek Ganglbauerovych 'Die Käfer von Mitteleuropa' a Reitterovy 'Fauna Germanica'. Dil 3*. Vydal Slovansky Ustav v Nakladatelstvi Orbis, Praha, 99–252.

Schoenherr, C. J. 1823. Curculionides. [Tabula synoptica familiae Curculionidum]. *Isis von Oken*, **10**, 1132–1146**.**

Smreczyński, S. 1966. *Klucze do oznaczania owadów Polski. Część XIX. Chrząszcze — Coleoptera. Zeszyt 98b. Ryjkowce — Curculionidae. Podrodziny Otiorhynchinae, Brachyderinae*. Państwowe Wydawnictwo Naukowe, Warszawa, 1–130. URL: https://baza.biomap.pl/pl/getpdf/KdOOP_Coleoptera_Curculionidae_Otiorhynchinae_Brachyderinae_cz_XIX_zesz_98b_nr_51.pdf.

Smreczyński, S. 1981. Unterfamilie Brachyderinae. *In*: Freude, H., Harde, K. W., Lohse, G. A., eds. *Die Käfer Mitteleuropas. Band 10. Bruchidae, Anthribidae, Scolytidae, Platypodidae, Curculionidae*. Goecke & Evers, Krefeld, 240–273.

Sumarokov, A. M., Nazarenko, V. Yu. 2015. The beetles of the superfamily Curculionoidea (Coleoptera) of agrocenoses in Dnepropetrovsk Region [Жёсткокрылые надсемейства Curculionoidea (Coleoptera) агроценозов Днепропетровской области]. *The Kharkov Entomological Society Gazette [Известия Харьковского энтомологического общества]*, **23**(1), 16–19. URL: http://nbuv.gov.ua/UJRN/Vkhet_2015_23_1_5. [in Russian].

Tóth, L. 1968. Adatok a Balaton-felvidék bogár (Coleoptera) faunájához. *A Veszprém Megyei Múzeumok Közleményei*, **7**, 351–365, URL: http://epa.oszk.hu/01600/01610/00007/pdf/vmm_07_1968_26_toth.pdf.

Tveritina, T. A. 1956. Weevils associated with wild woody vegetation of Transcarpathia [Долгоносики, связанные с дикой древесной растительностью Закарпатья]. *Scientific Notes of the Uzhgorod University [Научные записки Ужгородского университета]*, **16**, 93–108. URI: https://dspace.uzhnu.edu.ua/jspui/handle/lib/39933. [in Russian].

Velázquez-de-Castro, A. J., Gharali, B., Korotyaev, B. A. 2014. *Polydrusus nadaii* Meleshko & Korotyaev, a possible new pest for Pistachio trees in Iran (Coleoptera, Curculionidae, Entiminae). *Bulletin de la Société Entomologique de France*, **119**(3), 315–318. DOI: https://doi.org/10.3406/bsef.2014.2447.

Yunakov, N. 2019. *Polydrusus* (*Poecilodrusus*) *viridicinctus* Gyllenhal, 1834. *In:* Dmitriev, D. A. *3I Interactive Keys and Taxonomic Databases* [Last updated: February 28, 2019]. URL: http://dmitriev.speciesfile.org/taxahelp.asp?hc=31&key=Curculio&lng=En.

Yunakov, N., Nazarenko, V., Filimonov, R., Volovnik, S. 2018. A survey of the weevils of Ukraine (Coleoptera: Curculionoidea). *Zootaxa*, **4404**(1), 1–494. DOI: https://doi.org/10.11646/zootaxa.4404.1.1.

Yunakov, N., Girón Duque, J. C., Brown, S., del Río, M. G., Rincón, J., Cortés-Hernández, K. 2023. World Entiminae Database. *In:* Bánki, O. *et al. Catalogue of Life Checklist (Oct 2023)*. DOI: https://doi.org/10.48580/df7lv-3f8.

I. I. Schmalhausen Institute of Zoology of the National Academy of Sciences of Ukraine