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Invasive Species *Megabruchidius dorsalis* (Coleoptera, Chrysomelidae, Bruchinae) — a New Record in the Fauna of Ukraine

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NOTES

Occurrence of *Fadejewobdella quinqueannulata* (Hirudinida, Erpobdellidae) in the Sumy Region of Ukraine [Распространение *Fadejewobdella quinqueannulata* (Hirudinida, Erpobdellidae) в Сумской области Украины]. — *Fadejewobdella quinqueannulata* (Lukin, 1929) was recorded from Kharkiv, Chernihiv and Dnipropetrovsk Regions of Ukraine and Rostov Region and Krasnodar Territory of Russian Federation (Red Data Book of Kharkiv Region of Ukraine, 2013). This species is found in Sumy Region of Ukraine in small lakes near the village of Velyka Chernechchyna, 8.08.2006 (2 specimens) and village of Nyzhnia Syrovatka, 11.08.2006 (1 specimen). The specimens are deposited in the collection of invertebrates at the Department of Zoology and Animal Ecology, V. N. Karazin Kharkiv National University. The Sumy Region should be included on the list of Ukrainian Regions, where *F. quinqueannulata* has been found. — **S. Yu. Utevsky** (V. N. Karazin Kharkiv National University).

First Record of *Eotetranychus fagi* (Acariformes, Tetranychidae) in Ukraine [Первая находка *Eotetranychus fagi* (Acariformes, Tetranychidae) в Украине]. — *Eotetranychus fagi* (Zacher, 1922) originally described from Germany, has been found also in Armenia and Azerbaijan (Mitrofanov, Strunkova, Livshits, 1987), Belgium (Witters et al., 2003, 2004; Georgia (Reck, 1950; Mitrofanov et al., 1987); Italy (Bernini et al., 1995; Rigamonti, Lozza, 1999); Poland (Dobosz et al., 1995); Switzerland (Günthart, 1959). Host plants species of this mite are *Fagus orientalis* and *F. sylvatica*. *E. fagi* is recorded in Ukraine for the first time. Material: Chernivtsi Region, Glybochytsky District, in the vicinity of the village Velykyi Kuzmin, Kuzminskoe forestry, local preserve “Dzherelo”, *Fagus sylvatica* L., 17.07.2005, 2 ♀, 1 ♂, 4 N (Ilika). — **O. V. Zhovnerchuk** (Schmalhausen Institute of Zoology, NAS of Ukraine, Kyiv).

The First Record of *Leptusslivovi* (Acariformes, Erythraeidae) in Kazakhstan [Первая находка *Leptusslivovi* (Acariformes, Erythraeidae) в Казахстане]. — The erythraeid mite *Leptusslivovi* Beron, 1975 is a rare species, known only from Bulgaria and Poland. Only larvae were found on the tussock moth (Lepidoptera, Limantriidae) *Laeliacoenosa* (Hübner, 1808) and plants (Beron, 1975; Haitlinger, 1987). The present record from Kazakhstan expands a range of this species. Material: 1 larva, South-Eastern Kazakhstan, the river Chilik, environs settlement Sati, on the articular membrane of *Cicindella altaica* Eschscholtz, 1829 (Coleoptera, Carabidae), 15.06.1987 (leg. M. Eydelberg). — **O. Kh. Aslanov** (Institute of Zoology NAS of Azerbaijan; e-mail: snegovaya@yahoo.com)

First Records of a Rare Species, *Issus muscaeformis*, in the National Nature Park “Homilshanski Lisy” (Kharkiv Region, Ukraine) [Первые находки редкого вида, *Issus muscaeformis*, в НПП «Гомольшанские леса» (Харковская обл., Украина)]. — While analyzing the chick diet of the White Collared Flycatcher (*Ficedula albicollis* Temm, 1815) for the period 2011–2014 in an upland oak grove of the National Nature Park “Homilshanski Lisy” we revealed a number of rare beetle species — *Dirrhagus attenuatus* Makl. (Eucnemidae); *Dircaea quadriguttata* Pk. (Melandryidae); *Prionychus ater* F.; *Pseudocistela ceramboides* L. (Alleculidae); *Stenotus quercus* Götz (Cerambycidae) which are quite a rare find in nets of entomologists. These species of typical climax forest coenoses occur on trunks and in crowns of trees, and are often inaccessible to researchers. Among them, the rarest insect was a planthopper (Homoptera: Fulgoroidea), the iss, *Issus muscaeformis* Schrank,

which was misidentified as “*Issus coleoptratus*” for a long time and, according to Logvynenko (1975: 216), was cited in the entomological literature (Ivanov, 1928; Zakhvatkyn, 1948, Emelyanov, 1964). However, the true *Issus coleoptratus* Geoffroy is a Mediterranean species, which northern boundary of the range reaching Central Europe and not recorded in the former USSR (Lohvynenko, 1975: 216). Logvynenko stated that *I. muscaeformis* is the only representative of the genus occurring in Ukraine. Its range covers Southern and Central Europe, the Caucasus and Transcaucasia, but this species is the most common in the forests of the Crimean Mountains, the Carpathians, Transcarpathia, and Western Poland; some records are also known in Moldova. Typical for the watershed forests, the species is very rare at its northern distribution border (National Park “Homilshanski Lisy”). It has a disjunctive range and lives on branches of the oak, hazel and other deciduous trees that stand in places where adults of the White Collared Flycatcher hunting for prey. Finding *I. muscaeformis* in a natural upland oak forest isolated from the main range, gives reason to believe that this species belongs to the Miocene (Tertiary) nemoral relics and, by the nature of its distribution, belongs to the southern nemoral species of watershed forests (Prisny, 2003: 157). This small category of relics apparently includes the above-mentioned rare beetles, which in biogeocoenotical terms are also regarded as a link of decomposers among heterotrophs of climax forest coenoses. — V. N. Gramma, A. B. Chaplygina, D. I. Bondarets (H. S. Skovoroda Kharkiv National Pedagogical University).

Invasive Species *Megabruchidius dorsalis* (Coleoptera, Chrysomelidae, Bruchinae) — a New Record in the Fauna of Ukraine [Инвазивный вид жука-зерновки *Megabruchidius dorsalis* (Coleoptera, Chrysomelidae, Bruchinae) — новая находка в фауне Украины]. — Thirty-five females of *Megabruchidius dorsalis* (Farhaeus) emerged 28–30.11.2014 from dry pods of *Gleditsia triacanthos* (with 12 to 23 seeds in each pod) collected 27.11.2014 in Darnytsia, Kyiv, Ukraine (50°26'56" N, 30°36'52.7" E). Entomological material is deposited in the collection of I. I. Schmalhausen Institute of Zoology, NAS of Ukraine, Kyiv. This is a new record of *M. dorsalis* in Ukraine and the northernmost locality of its distribution. *M. dorsalis* has been already recorded from Donetsk Region (Martynov, V. V., Nikulina, T. V. The first finding of invasive species *Megabruchidius dorsalis* in the fauna of Ukraine // Vestnik zoologii. — 2014. — 48, N 3. — P. 286). Original distribution of *M. dorsalis* included Japan, Taiwan, China, India. The host plants of *M. dorsalis* are: *Gleditsia japonica* Lodd., *G. triacanthos* L., *G. sinensis* Lam., *G. rolfei* Vidal. The species was previously recorded in Europe from France, Hungary, Italy and Switzerland (Ramos, Y. R. Revision del genero orowiec *Megabruchidius* Borowiec, 1984 (Coleoptera: Bruchidae) y nuevas citas para la fauna Europea // Boletín Sociedad Entomológica Aragonesa. — 2009. — 45. — P. 371–382). — V. N. Fursov, V. Yu. Nazarenko (Schmalhausen Institute of Zoology, NAS of Ukraine, Kyiv; e-mail: ufensia@gmail.com).

***Dasineura gleditchiae* — an Invasive Species of Gall Midges (Diptera, Cecidomyiidae) in the Fauna of Ukraine [Dasineura gleditchiae — инвазивный вид галлиц (Diptera, Cecidomyiidae) в фауне Украины].** — For the first time the honey locust pod gall midge (*Dasineura gleditchiae*) is registered in Ukraine. It is the invasive species whose initial areal covers eastern region of North America. This species belongs to the group of monophages on the Honey locust (*Gleditsia triacanthos*, Fabaceae). Throughout Europe, *Dasineura gleditchiae* for the first time was recorded in 1975 in the Netherlands, where it was brought in with honey locust seedlings. After that the species had been spread fast enough in Europe with planting material: in 1980 it was recorded in Northern Italy, 1983 — in United Kingdom, 1990 — in Switzerland, 1992 — in Hungary, 1993 — in Serbia, 1994–1996 — in Poland, 1995 — in Slovakia and Greece, 1996 — in Spain, 1997 — in Luxembourg, Germany and the Czech Republic, 2000 — in Austria, 2005 — in France and Turkey, 2006 — in Denmark (EPP0 Reporting service 11: 2008/224), 2004 — in Croatia (Matošević D. Štetni kukci drvenastih biljnih vrsta zelenila Zagreba // Radovi Šumarski institut Jastrebarsko. — 2004. — 39, 1. — P. 37–50), 2008 — in Sweden (Molnár, B., Boddum, T., Szöcs, G., Hillbur, Y. Occurrence of two pest gall midges, *Obolodiplosis robiniae* (Haldeman) and *Dasineura gleditchiae* (Osten Sacken) (Diptera: Cecidomyiidae) on ornamental trees in Sweden // Entomologisk Tidskrift. — 2009. — 130. — P. 113–120), 2010 — in Slovenia (Jurc, M., Jurc, D. *Dasineura gleditchiae* (Osten Sacken, 1866) (Diptera: Cecidomyiidae), honeylocust pod gall midge: a new invasive species in Slovenia // Zbornik gozdarstva in lesarstva. — 2010. — 91. — S. 89–92). In 2011 this species was recorded the first time in the Krasnodar region of the Russian Federation (Щуров В. И., Бондаренко А. С., Вибе, Е. Н. Современное распространение новых видов-инвайдеров (Insecta: Homoptera, Heteroptera, Hymenoptera, Diptera) в древесно-кустарниковых экосистемах Северо-Западного Кавказа // Вредители и болезни древесных растений России. VII Чтения памяти О. А. Катаева : Материалы международной конференции (Санкт-Петербург, 25–27 ноября 2013 г.). — Санкт-Петербург : СПбГЛТУ, 2013. — С. 105–106. Massive damage of honey locust was recorded in June–August 2014 at the city of Avdiyivka (48°13'09" N, 37°73'04" E), 27.06.2014 and Donetsk (48°0'53" N, 37°47'59" E), 8.08.2014. The galls were revealed in all the examined trees within the city. Outside of settlements *Dasineura gleditchiae* was recorded in forest belts of Volodarske District of Donetsk Region, as well as in Rozivka District of Zaporizhzhya Region in the environs of the “Kamyani Mogyly” Reserve (47°18'31" N, 37°5'42" E), 5.07.2014. In August, 2014 the species was found in Kiev (Z. L. Berest, personal communication). Its wide distribution and massive caused damage do not leave doubts that the species appeared in Ukraine a few years ago. — V. V. Martynov, T. V. Nikulina (Donetsk National University, Donetsk, Ukraine).

Using of Modified Knott's Method for Long-Term Preparation of Blood Samples [Использование модифицированного метода Кнотта для долговременной подготовки образцов крови]. — Modified Knott's method is well known as useful for concentration and accurate quantifying of microfilaria in blood of mammals. The main defect of the method is the necessity of a lot of steps of blood preparation before the observation of samples. It includes preparing of 2 % buffered formalin solution, then blood sampling, centrifugal separation, staining with 1 : 1000 methylene blue dye and after all studying under light microscope (Knott, 1939). We modified the method according to the special needs of our studies; the modification allows:

a) reducing of the blood preparation stages, "ready-to-use"; b) staining of the elements of blood and microfilaria in tube; c) time increase for blood sample storage; d) prevention of coagulation of blood in formalin tube before erythrocyte lysis; e) in case of positive samples findings, possible usage of blood for PCR identification of microfilaria; h) price reduction of the process. Necessary amount of EDTA per 1 ml of whole blood for prevention of coagulation is 1.5–2.2 mg. We adjust the 2 mg/ml amount. Two milliliters of blood from vein was taken using the syringe and divided in two portions, one milliliter each. First portion of blood was poured into the tube containing 50 µl of the 4 % EDTA solution and frozen at –20 °C. Second portion was poured into the centrifuge tube and mixed well without the formation of bubbles with 9 ml of Staining Mix which was prepared earlier. Prepared in such a way, the second portion can be stored up to a month and should be centrifuged at 1,500 rpm with subsequent sinking of the supernatant. The sediment is spread on a slide, covered with coverslip and examined under a microscope.

Preparation of Staining Mix from crystallized forms (per one tube):

- 2 mg of EDTA
- 0.1 g of Methylene blue
- 0.49 ml of 37 % formalin solution
- 8.51 ml of distilled water

Preparation of Staining Mix from fresh solutions (per one tube):

- 50 µl of 4 % EDTA solution
- 90 µl of 1 % solution of Methylene blue dye
- 0.49 ml of 37 % formalin solution
- 8.37 ml of distilled water

Presented modification was successfully used for microfilaria identification. In our opinion, using "ready-to-use" solutions during blood sampling will save time and human resources for *Dirofilaria* investigations. — **R. Svitin, Ye. Yakovlev** (Taras Shevchenko National University of Kyiv; e-mail: romasvit@bigmir.net; Schmalhausen Institute of Zoology, NAS of Ukraine, Kyiv; e-mail: nadfh2@gmail.com).