

**РОССИЙСКАЯ АКАДЕМИЯ НАУК
Институт аридных зон ЮНЦ**

**RUSSIAN ACADEMY OF SCIENCES
Institute of Arid Zones SSC**



Кавказский Энтомологический Бюллетень

CAUCASIAN ENTOMOLOGICAL BULLETIN

Том 10. Вып. 1

Vol. 10. No. 1



**Ростов-на-Дону
2014**

***Paridea angulicollis* (Motschulsky, 1854) (Coleoptera: Chrysomelidae: Galerucinae) is a new genus and species for Russia**

***Paridea angulicollis* (Motschulsky, 1854) (Coleoptera: Chrysomelidae: Galerucinae) – новый род и вид для России**

**М.Ja. Orlova-Bienkowskaja, A.O. Bieńkowski
М.Я. Орлова-Беньковская, А.О. Беньковский**

A.N. Severtsov Institute of Ecology and Evolution, Russian Academy of Sciences, Leninsky pr., 33, Moscow 119071 Russia. E-mail: marinaorlben@yandex.ru

Институт проблем экологии и эволюции им. А.Н. Северцова Российской академии наук, Ленинский пр., 33, Москва 119071 Россия

Key words: Coleoptera, Chrysomelidae, *Paridea angulicollis*, Russia, Far East, diagnosis, Cucurbitaceae, pest.

Ключевые слова: Coleoptera, Chrysomelidae, *Paridea angulicollis*, Россия, Дальний Восток, диагноз, Cucurbitaceae, вредитель.

Abstract. The leaf-beetle *Paridea angulicollis*, a pest of medical plant *Gynostemma pentaphyllum* (Cucurbitaceae), has been found in Primorsky Province. It is the first record of the genus *Paridea* in Russia. *Paridea angulicollis* occurs in China, Japan, Taiwan and South Korea. The original map of the range is compiled (79 locations). The photo and diagnosis are given.

Резюме. В Приморском крае обнаружен листоед *Paridea angulicollis*, вредитель лекарственного растения *Gynostemma pentaphyllum* (Cucurbitaceae). Это первое указание рода *Paridea* для России. *Paridea angulicollis* распространен в Восточном Китае, Японии, Южной Корее и на Тайване. Составлена оригинальная карта ареала (79 мест находок). Приведены фотография и диагноз.

The genus *Paridea* Baly, 1886 includes about 85 species, which occur mainly in the eastern part of Palaeotropic region; nine species occur in the eastern part of Palaearctic (China, Korea, Japan) [Warchałowski, 2010].

Paridea angulicollis (Motschulsky, 1854) occurs in North-East, East, and South-East China, Taiwan, Japan (Hokkaido, Honshu, Shikoku, Kyushu and Ryukyu) and South Korea [Beenen, 2010; Warchałowski, 2010; Jeong et al., 2011; GBIF, 2013]. Until now, this species and the genus *Paridea* in general were not recorded from Russia [Medvedev, 1992; Bieńkowski, Medvedev, 2013]. In 2012 one specimen of *P. angulicollis* was collected in the Russian Far East (Fig. 1).

The genus *Paridea* as a member of the tribe Luperini of the subfamily Galerucinae shares the following characters: body is ovoid, broadened posteriorly, antennae are 11-segmented, pronotum is broader than long, with transverse impression behind middle, with lateral sides are margined, and apical and basal borders are immargined, basal margin is simple, without emarginations near posterior corners, elytron bears normally developed epipleura, anterior coxal cavities are open posteriorly, hind tibiae are without apical spurs, first hind tarsomere is shorter than others combined, tarsal claws are appendiculate.

The genus *Paridea* should be placed near the genus



Fig. 1. *Paridea angulicollis* collected in Primorsky Province.
Рис. 1. *Paridea angulicollis* из Приморского края.

Euliroetus Oglöblin, 1936 in the key to Galerucinae genera of the Russian Far East and Russia [Medvedev, 1992; Bieńkowski, Medvedev, 2013]. It differs from the last genus in the simple (without emarginations) basal border of pronotum and in the continuous pronotal impression.

P. angulicollis differs from the other Palaearctic species

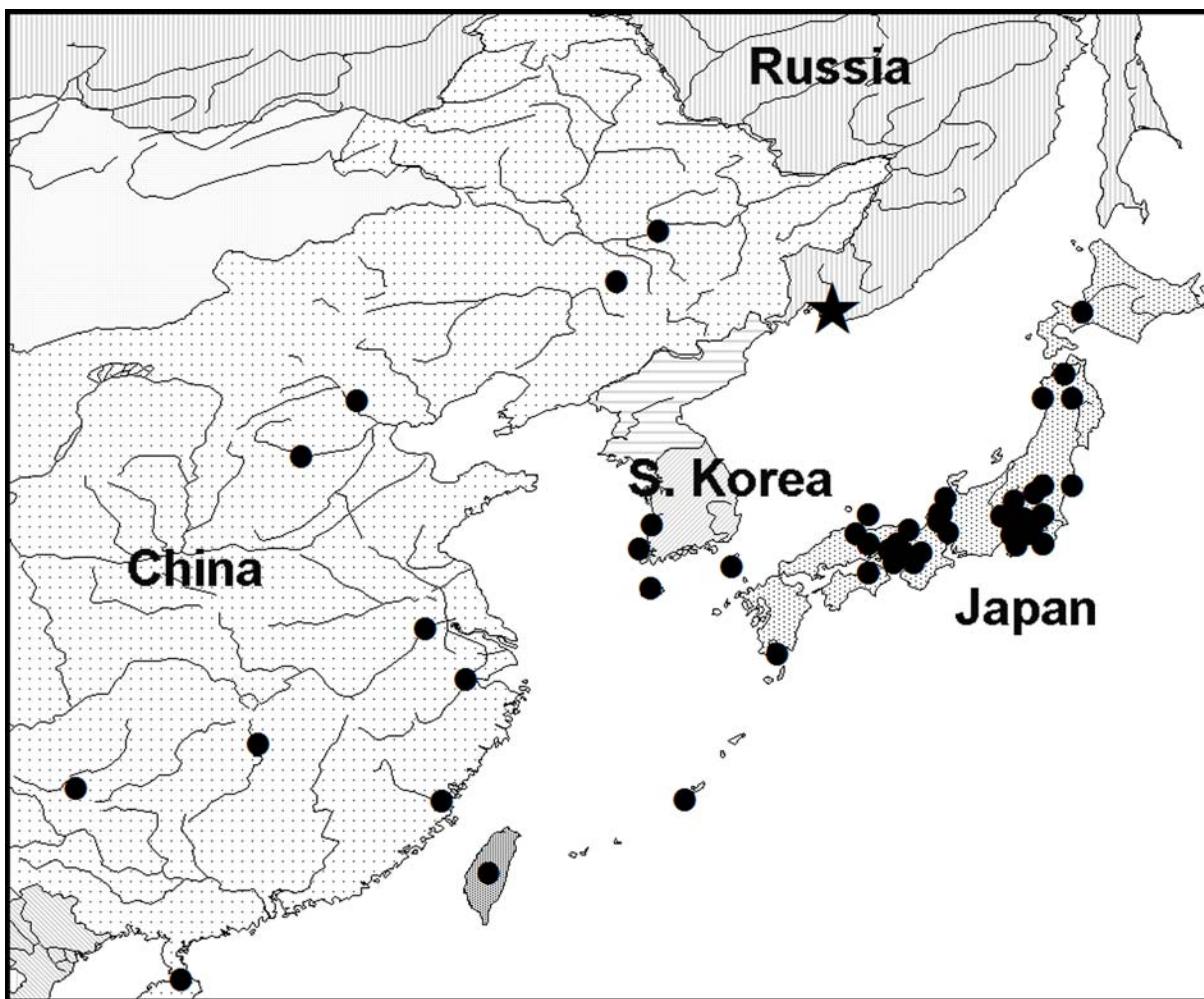


Fig. 2. Locations of *Paridea angulicollis* [after: Ogloblin, 1936; Beenen, 2010; Jeong et al., 2011; GBIF 2013 and original data]. Star – the first known location in Russia. Black dots – locations known from literature.

Рис. 2. Местонахождения *Paridea angulicollis* [по: Ogloblin, 1936; Beenen, 2010; Jeong et al., 2011; GBIF 2013 и оригинальные данные]. Звездочка – первое местонахождение в России. Чёрные круги – местонахождения, известные из литературы.

of the genus in the light (yellow) elytra, each with large black spot behind middle, with epipleura and basal 2/3 of lateral margin black. Besides that, female has a black spot at the elytral suture behind scutellum, and in male this spot is absent, but suture strongly depressed at this place. Specimens with elytra entirely yellow also occur.

In China *P. angulicollis* is a significant pest of the medical plant *Gynostemma pentaphyllum* (Cucurbitaceae). Beetles and larvae feed on leaves [Li, 2012]. Chemical control of this pest is being developed [Li et al., 2011]. *Gynostemma pentaphyllum* is widely distributed in China, Korea, Japan and in South and South-East Asia. In Korea *P. angulicollis* feeds on *G. pentaphyllum*, *Trichosanthes kirilowii* (Cucurbitaceae) and *Aster glehni* (Asteraceae) [Lee, Cho, 2006]. In Taiwan and Japan *G. pentaphyllum* and *T. cucumeroides* are recorded as host plants [Chûjô, Kimoto, 1961; Kimoto, Takizawa, 1997].

Cultivated plants of the family Cucurbitaceae are host plants for some other species of *Paridea* and some species from close genera of the subtribe Aulacophorina, in particular *Agetocera* Hope, 1831, *Aulacophora* Chevrolat, 1836, *Pseudocophora* Jacoby, 1884 [Ogloblin, 1936;

Gressitt, Kimoto, 1963; Medvedev, Dang Thi Dap, 1982; Medvedev, Roginskaya, 1988; Medvedev, Samoderzhenkov, 1989; Mohamedsaid, 2004]. Trophic specialization of *P. angulicollis* are poorly studied. Besides this, in new territory the leaf-beetle often begin to consume other plants from the same family [Medvedev, Roginskaya, 1988]. So it is not excluded that *P. angulicollis* in Russia could become a pest of cultivated Cucurbitaceae.

Material. *Paridea angulicollis*: Russia: Primorsky Province, Shkotovsky Distr., Anisimovka Vill., 43.17°N / 132.79°E, 6–8.07.2012, 1♂ (V.D. Ivanov leg.).

Acknowledgements

The authors are greatly indebted to Dr. V.D. Ivanov (Saint Petersburg State University) and Dr. A.G. Koval (All-Russia Institute of Plant Protection) who collected this interesting material and presented it to our disposal, to Dr. R. Beenen (Amsterdam University) who confirmed the identification of this species and provide us the valuable information on the host plants, and to K.V. Makarov (Moscow State Pedagogical University) who took the photo.

References

- Beenen R. 2010. Galerucinae. In: Catalogue of Palaearctic Coleoptera (I. Löbl, A. Smetana eds.). Vol. 6. Chrysomeloidea. Stenstrup: Apollo Books: 443–490.
- Bieńkowski A.O., Medvedev L.N. 2013. Opredelitel' zhukov-listoedov (Chrysomelidae) Rossii [Key to leaf beetles (Chrysomelidae) of Russia]. Available at: <http://www.zin.ru/animalia/coleoptera/rus/keyruchb.htm> (accessed 17 January 2014) (in Russian).
- Chujō M., Kimoto S. 1961. Systematic catalog of Japanese Chrysomelidae (Coleoptera). *Pacific Insects*. 3(1): 117–202.
- GBIF. 2013. Global Biodiversity Information Facility: datasets AKPM, CBM, GMNHJ, HCM, HUNM, HYO, INM, JACM, KCMII, KNA, KUM, MNHAH, OMNH, OMPIM. Available at: <http://www.gbif.org/> (accessed 17 January 2014).
- Gressitt J.L., Kimoto S. 1963. The Chrysomelidae (Coleoptera) of China and Korea. Part 2. *Pacific Insects Monograph*. IB: 301–1026.
- Jeong J.-Ch., Cha J.-Y., Kwon J.-M., Choi J.-K., Nam S.-H., Choi M., Kim Y., Cho Y. 2011. Historical Review of the Insect Fauna and Protected Species in Byunsanbando National Park. *Journal of National Park Research*. 2(2): 85–128.
- Kimoto S., Takizawa H. 1997. Leaf beetles (Chrysomelidae) of Taiwan. Tokyo: Tokai University Press. 581 p.
- Lee J.E., Cho H.W. 2006. Leaf beetles in the Crops (Coleoptera: Chrysomelidae). In: Economic Insects of Korea 27, Insecta Koreana Supplement 34. Korea, Suwon: National Institute of Agricultural Science and Technology. 130 p.
- Li W.M. 2012. Studies on feeding habits and life table of *Paridea angulicollis*. Globe Thesis. Available at: <http://www.globethesis.com/?t=2213330344451428> (accessed 17 January 2014).
- Li W., Zheng Y., Yang Ch., Li J., Li X. 2011. Effect of temperature on the feeding of *Paridea angulicollis* Motschulsky. *Acta Agriculture Boreali-occidentalis Sinica*. 20(10): 201–203.
- Medvedev L.N. 1992. Chrysomelidae – leaf beetles. In: Opredelitel' nasekomykh Dal'nego Vostoka SSSR. Tom 3. Zhestkokrylye, ili zhuki. Chast' 2. [Key to the Insects of the Far East of the USSR. Vol. 3. Coleoptera, or beetles. Part 2]. St. Petersburg: Nauka: 533–602 (in Russian).
- Medvedev L.N., Dang Tkhi Dap. 1982. Host plants of leaf beetles of Vietnam. In: *Zhivotny mir Vietnam'a* [Animals of Vietnam]. Moscow: Nauka: 84–97 (in Russian).
- Medvedev L.N., Roginskaya E.Ja. 1988. Katalog kormovykh rasteniy listoedov SSSR [Catalogue of the host plants of the leaf beetles of the USSR]. Moscow: PEM VNIIIS Gosstroya USSR. 192 p. (in Russian).
- Medvedev L.N., Samoderzhenkov E.V. 1989. New Galerucinae from Vietnam (Coleoptera, Chrysomelidae). *Entomofauna. Zeitschrift für Entomologie*. 10(29): 453–462.
- Mohamedsaid M.S. 2004. Catalogue of the Malaysian Chrysomelidae (Insecta: Coleoptera). Sofia – Moscow: Pensoft. 240 p.
- Ogloblin D.A. 1936. Fauna SSSR. Nasekomye zhestkokrylye. T. 26. Vyp. 1. Listoedy, Galerucinae [Fauna of the USSR. Beetles. Vol. 26. Iss. 1. Chrysomelidae, Galerucinae]. Moscow – Leningrad: Academy of Sciences of the USSR. 457 p. (in Russian, with French summary).
- Warchałowski A. 2010. The Palaearctic Chrysomelidae. Identification Keys. 2. Warszawa: Warszawska Drukarnia Naukowa. 685 p.