

# EXPANSION OF *HARMONIA AXYRIDIS* (PALLAS, 1773) (COLEOPTERA: COCCINELLIDAE) IN THE EUROPEAN PART OF RUSSIA IS CONTINUING

© 2023 Sazhnev A.S.<sup>a,\*</sup>

<sup>a</sup>Papanin Institute for Biology of Inland Waters Russian Academy of Sciences, Yaroslavl Region, Borok, 152742 Russia  
\*e-mail: [sazh@list.ru](mailto:sazh@list.ru)

Received: October 9, 2022; revised: February 12, 2023; accepted: February 17, 2023

**Abstract:** In the European part of Russia, the first records of multicoloured Asian ladybird *Harmonia axyridis* (Pallas, 1773) (Coleoptera: Coccinellidae) were observed in 2004 from the territory of the Belgorod Region. In recent years (2018–2020) *H. axyridis* has quickly spread across the Volga Region and the center of European Russia, and this expansion is continuing. In 2021–2022 *H. axyridis* was recorded in Saint-Petersburg, Leningrad, Sverdlovsk, Vologda Regions and Mari El Republic for the first time. The findings of *H. axyridis* from Ekaterinburg are the first record for Trans-Urals territory and the easternmost locality known in invasive (European) part of the species range.

**Keywords:** invasion; harlequin ladybird; multicoloured Asian lady beetle; range.

DOI: 10.35885/1996-1499-16-1-182-183

Full text of the paper is published in Russian Journal of Biological Invasions. DOI: 10.31857/S207511172104XXXXYY

## REFERENCES

- Binkovskaya, O.V., The role of forest shelter belts in the protection of Coccinellids as biological pest control agents on agricultural crops, Ecological problems of agricultural production: proceedings of the international scientific-practical conference (Voronezh, 3–4 June 2004), Voronezh: Edit House of Voronezh Agr. Univ., 2004, 117–118.
- Egorov, L.V., Podshivalina, V.N., Borisova, N.V. and Ruchin, A.B., *Harmonia axyridis* (Pallas, 1773) (Coleoptera: Coccinellidae) a new alien species for the Volga region fauna, *Eversmannia*, 2019, vol. 59–60, p. 73.
- Korotyaev, B.A., On high abundance of the harlequin lady beetle, *Harmonia axyridis* (Pall.) (Coleoptera, Coccinellidae), in the plains of the Northwestern Caucasus, Russia. *Entomological Review*, 2015, vol. 95, no. 9, pp. 1317–1319.
- Krivosheina M.G. 74. *Harmonia axyridis* Pallas, 1773 – Harlequin ladybird in, *the most dangerous invasive species of Russia (TOP-100)*. Dgebuadze, Yu.Yu., Petrosyan, V.G., and Khlyap L.A., eds. Moscow: KMK Scientific Press, 2018, pp. 487–492.
- Orlova-Bienkowskaja, M.Ja., The dangerous invasive harlequin ladybird *Harmonia axyridis* (Pallas, 1773) (Coleoptera, Coccinellidae) in European Russia, *Russian Journal of Biological Invasions*, 2013, vol. 4, no. 3, 190–193. DOI: 10.1134/S2075111713030107.
- Orlova-Bienkowskaja, M.Ja., The outbreak of harlequin ladybird *Harmonia axyridis* (Pallas, 1773) (Coleoptera, Coccinellidae) in the Caucasus and possible sources of invasion. *Russian Journal of Biological Invasions*, 2014, vol. 5, no. 4, pp. 275–281. DOI: 10.1134/S2075111714040055.
- Orlova-Bienkowskaja M.Ja., Bieńkowski A.O., Alien Coccinellidae (Ladybirds) in Sochi National Park and its vicinity, Russia. *Nature Conservation Research*, 2017, vol. 2, no. 4, pp. 96–101. DOI: 10.24189/ncr.2017.044.
- Ruchin, A.B., Egorov, L.V., Lobachev, E.A., Lukiyarov, S.V., Sazhnev, A.S. and Semishin, G.B., Expansion of *Harmonia axyridis* (Pallas, 1773) (Coleoptera: Coccinellidae) to European part of Russia in 2018–2020, *Baltic Journal of Coleopterology*, 2020, vol. 20, no. 1, pp. 51–60.
- Sazhnev, A.S., Anikin, V.V. and Zolotukhin, V.V. Overwintering and new records of invasive harlequin ladybird *Harmonia axyridis* (Pallas, 1773) (Coleoptera: Coccinellidae) after mass expansion to European part of Russia in 2018–2019. *Russian Journal of Ecosystem Ecology*, 2020, vol. 5, no. 4, pp. 1–6. DOI: 10.21685/2500-0578-2020-4-4.
- Sazhnev, A.S., Vlasov, D.V., Rusinov, A.A. and Titov, V.D. *Harmonia axyridis* (Pallas, 1773) (Coleoptera: Coccinellidae) – expansion to the north: first records of invasion species in Yaroslavl and Novgorod Regions, *Ecosystem Transformation*, 2021, vol. 4, no. 4, pp. 3–6. DOI: 10.23859/estr-210906.
- Ukrainsky, A.S., The multicoloured Asian lady beetle *Harmonia axyridis* Pall. (Coleoptera, Coccinellidae) in North Caucasus, Russia. *Euroasian Entomol. J.*, 2013, vol. 12, no. 1, pp. 35–38.

- Ukrainsky, A.S. and Shapovalov, M.I., Family Coccinellidae, in *Coleoptera insects (Insecta, Coleoptera) of the Republic of Adygea (annotated catalog of species). Synopsis of the fauna of Adygea. No. 1*. Zamotaylov, A.S. and Nikitsky, N.B., eds., Maykop, 2010, pp. 199–201.
- Zakharov, I.A., *Harmonia* in Moscow, *Priroda* (Moscow), 2015, no. 11, pp. 92–93.
- Zakharov, I.A., Goryacheva, I.I. and Suvorov, A., Mitochondrial DNA polymorphism in invasive and native populations of *Harmonia axyridis*, *European Journal of Environmental Sciences*, 2011, vol. 1, no. 1, pp. 15–18.
- Zakharov, I., Ruchin, A., Egorov, L., Romanov, D. and Sazhnev, A., Invasion of the Asian Ladybird *Harmonia axyridis* (Pallas, 1773) in the European Part of Russia, *Frontiers in Conservation Science*, 2021, vol. 2, 739313. DOI: 10.3389/fcosc.2021.739313.