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TO THE TAXONOMY OF *HARPACTUS VEDICUS* NESTEROV, 1994 (HYMENOPTERA, CRABRONIDAE, BEMBICINAE)

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Summary. *Harpactus vedicus* Nesterov, 1994 is resurrected from synonymy of *H. elegans* (Lepeletier de Saint Fargeau, 1832). A new synonymy is proposed for *Harpactus vedicus* Nesterov, 1994 = *H. transcausicus* Nemkov, 1994, **syn. n.**

Key words: Apoidea, Spheciformes, new synonymy, Palaearctic region, Azerbaijan, Nakhchivan Autonomous Republic.

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Резюме. *Harpactus vedicus* Nesterov, 1994 (Hymenoptera, Crabronidae, Bembicinae) восстанавливается из синонима *H. elegans* (Lepeletier de Saint Fargeau, 1832) и рассматривается как валидный таксон. Предложена новая синонимия: *Harpactus vedicus* Nesterov, 1994 = *H. transcausicus* Nemkov, 1994, **syn. n.**

INTRODUCTION

Digger wasps of the genus *Harpactus* Shuckard, 1837 are represented by 73 species occurring in Afrotropical, Holarctic and Oriental zoogeographical regions. Six species are known from the Nakhchivan Autonomous Republic, Azerbaijan (Mokrousov *et al.*, 2019). Morphologically, the genus is well separated in the subtribe Gorytina (Bohart & Menke, 1974; Nemkov & Lelej, 2013), but the species require revision.

MATERIAL AND METHODS

Studied material included type series (2 ♀, 12 ♂) of *Harpactus transcausicus*, 15 specimens of *H. elegans* and 97 specimens of *H. vedicus* collected in 2019–2022 in the Nakhchivan Autonomous Republic (Azerbaijan) by M.Yu. Proshchalykin, Kh.A. Aliyev and

M.M. Maharramov. Specimens were deposited in the collection of the Federal Scientific Center of the East Asia Terrestrial Biodiversity of the Far Eastern Branch of the Russian Academy of Sciences, Vladivostok, Russia [FSCV], the personal collection of M.V. Mokrousov, Nizhny Novgorod, Russia [MMC] and the Zoological Institute of the Russian Academy of Sciences (Russia, St. Petersburg) [ZISP].

Photographs were taken using a Canon M200 digital camera attached to an Olympus SZX16 stereomicroscope. Multifocus images were created from stacks of photographs using Helicon Focus v. 7.7.4 Pro software. The final images were processed for sharpness, contrast and brightness using Adobe® Photoshop® software.

The classification and distribution generally follows Pulawski (2024).

TAXONOMY

Genus *Harpactus* Shuckard, 1837

Arpactus Jurine, 1807: 192, junior homonym of *Arpactus* Panzer, 1805, and of *Arpactus* Panzer, 1806. Type species: *Arpactus formosus* Jurine, 1807, designated by Shuckard, 1837: 220.

Harpactus Shuckard, 1837: 221. Emendation of *Arpactus* Jurine, 1807 (see Pulawski, 1985: 59).

Harpactes Dahlbom, 1843: 147, junior homonym of *Harpactes* Swainson, 1833 (Aves), and of *Harpactes* Templeton, 1834 (Arachnida). Unjustified emendation of *Harpactus* Shuckard, 1837.

Dienoplus Fox, 1894: 548. Type species: *Dienoplus pictifrons* Fox, 1894, by monotypy.



Figs 1–2. Females habitus of *Harpactus* spp. (all from the Nakhchivan Autonomous Republic, Azerbaijan). 1 – *Harpactus vedicus* Nesterov, 1994; 2 – *H. elegans* (Lepeletier de Saint Fargeau, 1832).

Harpactus elegans (Lepeletier de Saint Fargeau, 1832)

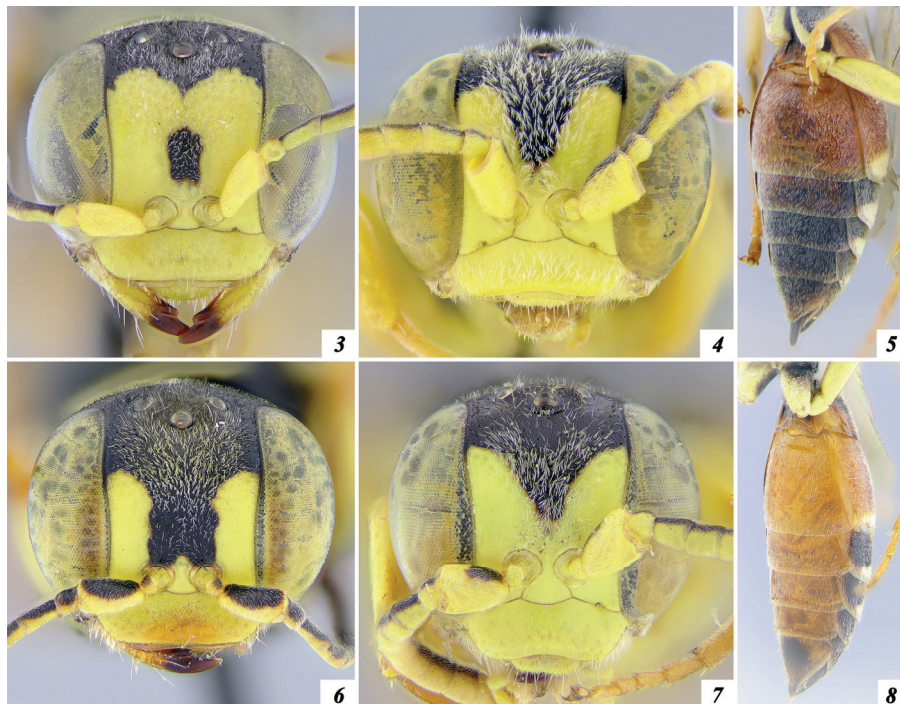
Figs 2, 6–8

Arpactus elegans Lepeletier de Saint Fargeau, 1832: 79, ♂ (syntypes: ♂♂, France, Lyon area [depository unknown]).

Harpactus elegans: Nemkov, 1997: 19; Mokrousov *et al.*, 2019: 12.

MATERIAL EXAMINED. **Azerbaijan:** *Nakhchivan Autonomous Republic:* Babek, Gahab, 39°15'N 45°31'E, 1045 m, 12.VI 2019, 1 ♀; Babek, Payiz, 39°26'N 45°22'E, 1225 m, 11.VI 2019, 1 ♂; Shakhbuz, Zarnatun, 39°31'N 45°46'E, 1550 m, 14, 18.VI 2019, 2 ♂; Julfa, Gazanchi, 39°13'N 45°41'E, 1300 m, 15.VI 2019, 1 ♀, 6 ♂; Sharur, Akhura, 39°33'N 45°13'E, 1640 m, 13.VI 2019, 3 ♂; Shakhbuz, Kulus, 39°21'N 45°37'E, 1395 m, 19.VI 2020, 1 ♀.

DISTRIBUTION. North Africa (Algeria), Europe, Russia (European part, North Caucasus, Eastern Siberia), Armenia, Azerbaijan, Turkey, Kazakhstan.



Figs 3–8. *Harpactus* spp. (all from the Nakhchivan Autonomous Republic, Azerbaijan). 3–5 – *H. vedicus* Nesterov, 1994: 3 – female; 4, 5 – male; 6–8 – *H. elegans* (Lepeletier de Saint Fargeau, 1832): 6 – female; 7, 8 – male.

***Harpactus vedicus* Nesterov, 1994, stat. resurr.**

Figs 1, 3–5

Harpactus vedicus Nesterov, 1994: 35, ♀, ♂ (holotype: ♀, Armenia, Khozrov Nature Reserve, Vedic section, 1300 m, 6.VI.1982, M. Nesterov leg. [I.I. Schmalhausen Institute of Zoology of National Academy of Sciences of Ukraine, Kiev]), not examined. Synonymized with *Harpactus elegans* (Lepeletier de Saint Fargeau, 1832) by Nemkov, 1997: 19.

Harpactus transcaucasicus Nemkov, 1994: 69, ♀, ♂ (holotype, ♀: Azerbaijan, Nakhichevan ASSR, 35 km north of Nakhichevan, 20.VI.1985, V. Tobias leg. [ZISP]), examined. **Syn. n.**; Nemkov, 1996: 1208; Yildirim *et al.*, 2016: 16; Mokrousov *et al.*, 2019: 12; Kaplan & Yildirim 2021: 35; 2023: 1681.

MATERIAL EXAMINED. *Type material:* **Azerbaijan:** *Nakhchivan Autonomous Republic:* 35 km north of Nakhichevan, 20.VI 1985, 2 ♀, 12 ♂, V. Tobias (holotype and paratypes of *Harpactus transcausicus* Nemkov, 1994). *Other material:* **Azerbaijan, Nakhchivan Autonomous Republic:** Babek, 3 km NE Sirab, 39°18'N 45°32'E, 1250 m, 12.VI 2019, 1 ♀; Babek, Goynuk, 39°18'N 45°40'E, 1680 m, 12.VI 2019, 13 ♀, 15 ♂; Shakhbuz, Zarnatun, 39°31'N 45°46'E, 1550 m, 14, 18.VI 2019, 4 ♀, 33 ♂; Julfa, Gazanchi, 39°13'N 45°41'E, 1300 m, 15.VI 2019, 2 ♂; Julfa, Milakh, 39°15'N 45°43'E, 1430 m, 15.VI 2019, 1 ♀, 1 ♂; Julfa, Teyvaz, 39°15'N 45°46'E, 1645 m, 15.VI 2019, 2 ♀, 1 ♂; Ordubad, Aghdara, 39°06'N 45°54'E, 2000 m, 17.VI 2019, 1 ♂; Shakhbuz, Gomur, 39°27'N 45°44'E, 1790 m, 18.VI 2019, 1 ♀; Shakhbuz, Kechili, 39°22'N 45°43'E, 1800 m, 19.VI 2019, 1 ♀; Shakhbuz, Kulus, 39°21'N 45°37'E, 1395 m, 14, 19, 26.VI 2020, 6 ♀, 4 ♂; 27.VI 2021, 3 ♀; 4.VII 2021, 1 ♀, 1 ♂; Shakhbuz, Kechili, 39°22'N 45°43'E, 1800 m, 12.VII 2022, 6 ♂.

NOTE. Paratypes of *Harpactus vedicus* Nesterov, 1994 – 9 ♀, 90 ♂, Armenia, Khozrov Nature Reserve and 1 ♀, 1 ♂, Azerbaijan, Nakhchivan Autonomous Republic, Bilav could not be found in the ZISP collection, although according to Nesterov (1994: 35) some of them should be kept there.

DISTRIBUTION. Armenia, Azerbaijan, Turkey.

DISCUSSION

Harpactus vedicus Nesterov, 1994 was synonymized with *H. elegans* (Lepelletier de Saint Fargeau, 1832) by Nemkov (1997: 19), but the original description allowed conclusions to be drawn about the fallacy of this synonymy. P. Nemkov noted that *H. vedicus* differed from *H. elegans* only in the colouration of the body, and he considered it to be a colour form of the latter. We do not agree with this opinion, as the original description includes a comparison with *H. elegans*, which differs not only in colouration but also in the punctuation of the metasomal tergae. Furthermore, the colouration characters of *H. vedicus* given by Nesterov in the original description are quite stable and clearly different from *H. elegans*: female face yellow with dark spot (dark medially in *H. elegans*, Fig. 3 vs. Fig. 6); yellow pattern on mesosoma more developed (Fig. 1 vs. Fig. 2); tergum I with large lateral spot (no spots or small unclear lateral spot on tergum I in *H. elegans*; Fig. 1 vs. Fig. 2); metasomal sterna III–VII of male dark (only sterna VI–VII dark in *H. elegans*; Fig. 5 vs. Fig. 8). Only material collected in the Arax valley (Nakhchivan Autonomous Republic, Azerbaijan) has been used for comparison purposes.

At the same time, *Harpactus vedicus* Nesterov and *H. transcausicus* Nemkov have the same colour and morphology. These facts, as well as the distribution (the Arax valley), lead to the conclusion that these species are conspecific. In addition, *H. elegans* is a relatively rare species in the Arax valley, while *H. vedicus* Nesterov is very common, as indicated by the number of type series, and this correlates well with the known abundance of *H. transcausicus*.

Both species (*Harpactus vedicus* Nesterov and *H. transcausicus* Nemkov) were described in the same year (1994), but the name *H. vedicus* Nesterov has priority because it was published earlier (February, 15) than *H. transcausicus* Nemkov (October, 14) (Article 23.1 – ICZN, 1999).

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