

## Correspondence

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E. S. Koshkin<sup>1 \*</sup>, V. G. Bezborodov<sup>2</sup>, A. A. Voronkov<sup>3</sup>, A. V. Korshunov<sup>4</sup>, A. E. Kostyunin<sup>5</sup>, K. M. Prokopenko<sup>6</sup>. **DISTRIBUTION OF THE HAWK MOTHS *CLANIS UNDULOSA* MOORE, 1879 AND *AMBULYX TOBII* (INOUE, 1976) (LEPIDOPTERA, SPHINGIDAE) IN RUSSIA. – Far Eastern Entomologist. 2015. N 302: 14-17.**

1) Institute of Water and Ecology Problems, Far Eastern Branch of the Russian Academy of Sciences, Khabarovsk, 680000, Russia. \*Corresponding author, E-mail: ekos@inbox.ru

2) Amur Branch of Botanical Garden-Institute, Far Eastern Branch of the Russian Academy of Sciences, Blagoveshchensk, 675000, Russia. E-mail: cichrus@yandex.ru.

3) Irtyshskaya Str. 28a, apt. 54, Vladivostok, 690089, Russia. E-mail: lm\_anton@mail.ru

4) Kemerovo State University, Kemerovo, 650043, Russia. E-mail: avkorschunov@mail.ru

5) Institute of Systematics and Ecology of Animals, Siberian Branch of the Russian Academy of Sciences, Novosibirsk, 630091 Russia. E-mail: rhabdophis\_tigrina@mail.ru

6) Belinskogo Str. 2, apt. 7, Vladivostok, 690024, Russia. E-mail: konstantinprokopenko@yandex.ru

**Summary.** The data on the distribution of two invading species of the hawk moths (Lepidoptera, Sphingidae), *Clanis undulosa* Moore, 1879 and *Ambulyx tobii* (Inoue, 1976), in the Russian Far East are given. At present an active extension of their ranges from south to the north is observed.

**Key words:** Lepidoptera, Sphingidae, *Clanis undulosa*, *Ambulyx tobii*, fauna, invading species, Russia.

**Е. С. Кошкин<sup>1</sup>\*, В. Г. Безбородов<sup>2</sup>, А. А. Воронков<sup>3</sup>, А. В. Коршунов<sup>4</sup>, А. Е. Костюнин<sup>5</sup>, К. М. Прокопенко<sup>6</sup>. Распространение бражников *Clanis undulosa* Moore, 1879 и *Ambulyx tobii* (Inoue, 1976) (Lepidoptera, Sphingidae) в России // Дальневосточный энтомолог. 2015. N 302. С. 14-17.**

**Резюме.** Изучено современное распространение двух видов-вселенцев бражников *Clanis undulosa* Moore, 1879 и *Ambulyx tobii* (Inoue, 1976) (Lepidoptera, Sphingidae) на Дальнем Востоке России. Показано, что в настоящее время идет активное расширение их ареалов на север.

## INTRODUCTION

The invading species *Clanis undulosa* Moore, 1879 and *Ambulyx tobii* (Inoue, 1976) (Lepidoptera, Sphingidae) were known from Russia in several localities of the extreme south part of Primorskiy krai (Izerskii, 1999; Tshistjakov, 2000, 2005, 2006; Koshkin & Bezborodov, 2013; Pittaway & Kitching, 2015a). *Clanis undulosa* was not collected in the Russian Far East before 1975 (Pittaway & Kitching, 2015a). *Ambulyx tobii* has been found in Russia only in 2011 (Koshkin & Bezborodov, 2013). In present paper we summarized new observations and author's materials collected during last few years. Thus, *Clanis undulosa* spreads to the north up to Spassk-Dalnii in Primorskiy krai, this species is firstly recorded here from Khabarovskii krai (Khabarovsk). *Ambulyx tobii* ranges to Oktyabrskii and Ussuriiskii districts in Primorskiy krai. At present both species show a wide expansion to the north and increase in number.

## RESULTS

### *Clanis undulosa* Moore, 1879

Fig. 1.

*Clanis undulosa undulosa*: Izerskii, 1999: 65 (Primorskii krai: Vityaz Bay, Primorskii); Pittaway & Kitching, 2015a (Primorskii krai: Andreevka, Yakovlevka, Vityaz Bay, Khasan, Primorskii, Gamov Peninsula, Furugelma Island).

*Clanis undulosus*: Tshistjakov, 2005: 67 (Primorskii krai: Zanadvorovka, Kedrovaya Pad Nature Reserve, Ryazanovka, Gamov Peninsula); Tshistjakov, 2006: 198 (Primorskii krai: Kedrovaya Pad Nature Reserve, 8 km SW Kedrovyi).

MATERIAL EXAMINED. **RUSSIA. Primorskii krai:** Spasskii district: Hvalynka, 44°38' N, 132°53' E, 100 m a.s.l., 4–11.VIII 2004, 1 ♂ (A.V. Korshunov leg.); Anuchino district: Anuchino, 43°57' N, 133°3' E, 190 m a.s.l., 18.VII 2014, 1 ♂, 1 ♀ (V.G. Bezborodov leg.); Oktyabrskii district: Sinel'nikovo-1, 43°57' N, 131°34' E, 12.VII 2015, 2 ♂, 1 ♀ (K.M. & A.K. Prokopenko leg.); Ussuriiskii district: Kaimanovka, 43°38' N, 132°14' E, 80 m a.s.l., 15–16.VII 2011, 2 ♂ (A.E. Kostyunin leg.), 13–14.VII 2013, 2 ♂ (V.G. Bezborodov leg.), 21.VII 2014, 1 ♀ (A.A. Voronkov leg.), 24.VII 2014, 3 ♂ (E.S. Koshkin & A.E. Kostyunin leg.), 8–29.VII 2014, 2 ♂ (A.V. Korshunov leg.); 5 km NE Kaimanovka, Komarovka river, near Ussuriisky reserve border (Komarovskoe lesnichestvo), 43°38' N, 132°17' E, 140 m a.s.l., 21.VII 2011, 1 ♂ (V.G. Bezborodov leg.); Vozdvizhenka, 43°54' N, 131°56' E, 40 m a.s.l., 24–27.VII 2014, 1 ♀ (A.V. Korshunov leg.); Shkotovo district: Ussuriisky reserve, Suvorovskoe lesnichestvo, 20 km NNE Mnogoudobnoe, Peishula science station, 43°38' N, 132°33' E, 155 m a.s.l., 22–23.VII 2011, 1 ♂ (A.E. Kostyunin leg.), 9.VII 2012, 1 ♂ (V.G. Bezborodov leg.), 25–28.VII 2014, 1 ♂, 1 ♀ (E.S. Koshkin & A.E. Kostyunin leg.); 41-st km of road from Shtykovo to Ivanovka, 43°36' N, 132°30' E, 110 m a.s.l., 24.VII 2015, 4 ♂, 2 ♀ (K.M. & A.K. Prokopenko leg.); Nadezhdinskii district: Tazhnyi (near Kiparisovo), 43°29' N, 131°58' E, 50 m a.s.l., 21.VII 2014, 1 ♀, 26.VII 2015, 3 ♂ (A.A. Voronkov leg.); Mirnyi, 43°23' N, 131°56' E, 29.VII 2015, 1 ♀ (A.A. Voronkov leg.); Khasan district: Gusevskii mine, 43°20' N, 131°33' E, 150 m a.s.l., 1.VIII 2011, 1 ♂ (A.E. Kostyunin leg.), 5.VII 2014, 6 ♂ (A.A. Voronkov leg.), 8–9.VII 2014, 2 ♂, 1 ♀ (V.G. Bezborodov leg.); 2 km S Andreevka, Risovaya Pad', 42°37' N, 131°08' E, 50 m a.s.l., 15.VII 2010, 1 ♂ (V.G. Bezborodov leg.); Gamov Peninsula, Telyakovsky Bay, 42°35' N, 131°13' E, 30.VII 2015, 8 ♂, 3 ♀ (K.M. & A.K. Prokopenko leg.); **Khabarovskii krai:** Khabarovsk city, railway station, 48°30' N, 135°04' E, 100 m a.s.l., 26–27.VII 2014, 1 ♀ (A.V. Korshunov leg.).

DISTRIBUTION. Nominotypical subspecies: Russia: south part of Primorskii krai, south of Khabarovskii krai (Khabarovsk); North Korea: Provinces South Hwanghae, North Hamgyong, South Hamgyong; South Korea: Provinces Kyonggi, Kangwon, North Chungchong, South Chungchong, North Cholla, South Cholla, North Kyongsang, South Kyongsang; China: Beijing, Provinces Liaoning, Hebei, Shaanxi; Taiwan; *Clanis undulosa gigantea* Rothschild, 1894: China: Provinces Anhui, Zhejiang, Hubei, Sichuan, Yunnan, Guizhou, Hunan, Jiangxi, Fujian, Guangdong, Guangxi, Hainan; Nepal; NE India; Thailand; Laos; Vietnam; Malaysia (Tshistjakov, 2000, 2005, 2006; Pittaway & Kitching, 2015a, b).

### *Ambulyx tobii* (Inoue, 1976)

Fig. 1

*Ambulyx tobii*: Koshkin & Bezborodov, 2013: 416 (Primorskii krai: Gusevskii mine, Zanadvorovka, Andreevka).

**MATERIAL EXAMINED. RUSSIA. Primorskii krai:** Oktyabrskii district: Sinel'nikovo-1, 43°57' N, 131°34' E, 31.V. 2014, 1 ♀ (K.M. & A.K. Prokopenko leg.); Ussuriiskii district: Kaimanovka, 43°38' N, 132°14' E, 80 m a.s.l., 24–25.VI 2015, 1 ♂ (V.G. Bezborodov leg.); Vladivostok district: Shamora pass, 43°12' N, 132°04' E, 19.VI 2015, 1 ♂, 1 ♀ (K.M. & A.K. Prokopenko leg.); Khasan district: Gusevskii mine, 43°20' N, 131°33' E, 150 m a.s.l., 16.VI 2011, 1 ♂ (V.G. Bezborodov leg.), 19.VI 2012, 1 ♂, 1 ♀ (V.G. Bezborodov leg.), 12–15.VI 2013, 6 ♂ (V.G. Bezborodov & A.A. Voronkov leg.), 8–9.VI 2014, 16 ♂, 3 ♀ (V.G. Bezborodov leg.), 22.VI 2014, 4 ♂, 1 ♀ (A.A. Voronkov leg.), 5.VII 2014, 3 ♂ (A.A. Voronkov leg.), 5–7.VI 2015, 6 ♂, 1 ♀ (V.G. Bezborodov & A.A. Voronkov leg.), 13–14.VI 2015, 3 ♂ (V.G. Bezborodov leg.), 25.VI 2015, 1 ♂ (A.A. Voronkov leg.); Znadvorovka, 43°18' N, 131°36' E, 40 m a.s.l., 22.VI 2013, 1 ♀ (V.A. Golovizin leg.); Andreevka, 42°39' N, 131°08' E, 25.VI 2013, 1 ♀ (V.A. Golovizin & B. Lalanne-Cassou leg.), 19–20.VI 2015, 3 ♂ (V.G. Bezborodov leg.); Ryazanovka, 42°47' N, 131°15' E, 20–21.VI 2015, 1 ♂ (V.G. Bezborodov leg.); 3 km SW Barabash, 43°10' N, 131°27' E, 5.VI 2015, 1 ♂ (K.M. & A.K. Prokopenko leg.).

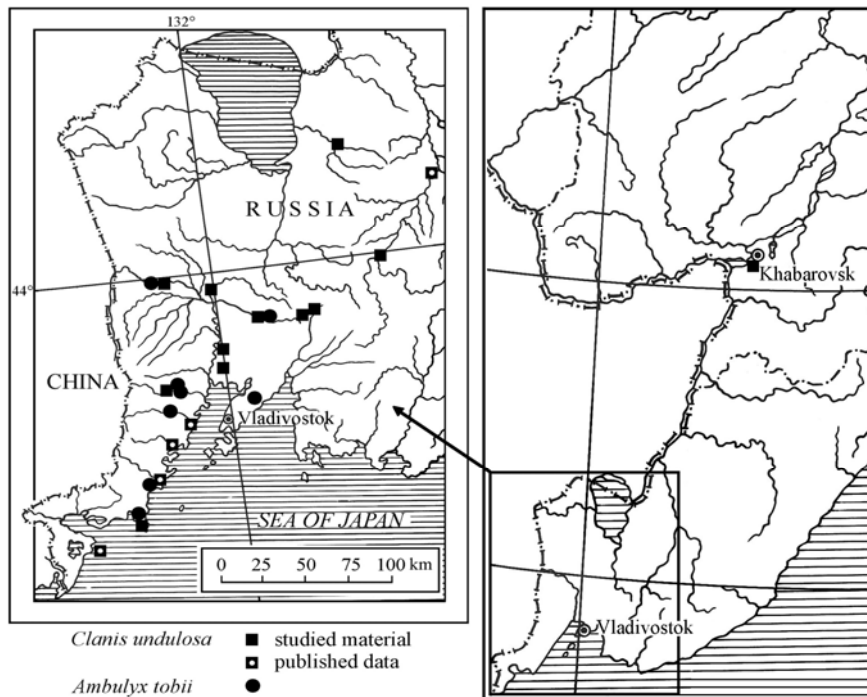


Fig. 1. Distribution of *Clanis undulosa* and *Ambulyx tobii* in Russia.

**DISTRIBUTION.** Russia: south part of Primorskii krai (north to 44° N); Japan: Hokkaido, Honshu, Shikoku, Kyushu, Tsushima; North Korea: North Pyongan Province; South Korea: Provinces Kyonggi, Kangwon, North Cholla, South Cholla, South Kyongsang; China: Beijing, Tianjin, Provinces Hebei, Henan, Shaanxi, Hubei, Qinghai, Zhejiang, Fujian, Jiangxi, Hunan, Guangdong, Sichuan, Yunnan, Guangxi, Xizang/Tibet; Taiwan; Vietnam: Lao Cai Province;

N. Myanmar; Bhutan (Inoue, 1976; Brechlin, 2009; Zolotuhin & Ryabov, 2012; Koshkin & Bezborodov, 2013; Pittaway & Kitching, 2015c; Nakao, 2015).

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