

## New data on the distribution of some Erebidae and Noctuidae species in Kazakhstan

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The paper contains new data on the distribution of two Erebidae and ten Noctuidae species in Kazakhstan. New northernmost known localities for *Leiometopon simyrides* Staudinger, 1888, *Lophoterges centralasiae* (Staudinger, 1901) and *Anarta vaciva* (Püngeler, 1906), westernmost locality for *Hadena dsungarica* Hacker, 1996, easternmost localities for *Autophila chamaephanes* Boursin, 1940, *Acronicta megacephala* ([Denis & Schiffermüller], 1775), *Episema tersa* ([Denis & Schiffermüller], 1775), *Leucochlaena fallax* (Staudinger, 1870), *Dasypolia timoi* Fibiger & Nupponen, 2006 and *Hadena persimilis* Hacker, 1996, and southernmost localities for *Acronicta megacephala* and *Phidrimana amurensis* (Staudinger, 1892) are provided. *Phidrimana amurensis* is reported here for Kazakhstan for the first time. Four new localities in Kazakhstan for *Thumatha senex* (Hübner, [1808]) are given in addition to the single one known previously.

**Key words:** Lepidoptera, Erebidae, Noctuidae, Kazakhstan, fauna, new records.

### Introduction

During the researches of the Noctuoidea fauna of northeastern and southeastern Kazakhstan, we found several interesting Erebidae and Noctuidae species which are in the new localities on limits of their known ranges. Our new finds extend significantly the known ranges of *Leiometopon simyrides* Staudinger, 1888, *Lophoterges centralasiae* (Staudinger, 1901) and *Anarta vaciva* (Püngeler, 1906) to the north, the range of *Hadena dsungarica* Hacker, 1996 to the west, the ranges of *Autophila chamaephanes* Boursin, 1940, *Acronicta megacephala* ([Denis & Schiffermüller], 1775), *Episema tersa* ([Denis & Schiffermüller], 1775), *Leucochlaena fallax* (Staudinger, 1870), *Dasypolia timoi* Fibiger & Nupponen, 2006 and *Hadena persimilis* Hacker, 1996 to the east, and the ranges of *Acronicta megacephala* and *Phidrimana amurensis* (Staudinger, 1892) to the south. In addition, the latter species is new for the fauna of Kazakhstan. These finds are published below.

### Material and methods

The moths were collected by using mercury and UV light and bait consisting of red wine and sugar. Some specimens were also collected on colonies of aphids. Material collected is deposited in the collections of Sergey Titov (CST, Pavlodar, Kazakhstan) and Anton Volynkin (CAV, Barnaul, Russia).

### Results

#### Family Erebidae Leach, [1815]

***Thumatha senex* (Hübner, [1808])** (Figs. 5, 13)

**Material examined.** 1 ♂, NE Kazakhstan, Pavlodar region, Aksu district, Kurkol village, 51°50'18.37"N, 77°10'10.12"E, 25.09., grass and sagebrush steppe, S.V. Titov leg. (Colls. CST and CAV); 12 ♂, NE Kazakhstan, Pavlodar region, Bayanaul district, Bayanaul Mts., Kurkeli natural landmark, 50°44'34.00"N, 75°38'16.80"E, 13.VII.2016, mixed forest, shrubs, rocky outcrops, S.V. Titov leg. (Coll. CST); 15 ♂, NE Kazakhstan, Pavlodar region, Bayanaul district, Bayanaul Mts., vic. of Toraighyr lake, 50°51'54.01"N, 75°40'21.29"E, 09.07.2016, dry steppe near rocks and mixed forest, S.V. Titov leg. (Coll. CST); 2 ♂, NE Kazakhstan, Pavlodar region, Bayanaul district, Kyzyltau Mts., vic. of Zhana Zhosaly vill., 50°23.357'N, 76°10.903'E, 16.07.2016, steppe, rocks, shrubs, meadows, S.V. Titov leg. (Coll. CST).

**Remark.** The new finds are a second report of the species in Kazakhstan, previously it was known from Alakol valley only (Dubatolov & Titov, 2015).

***Autophila (Cheirophanes) chamaephanes* Boursin, 1940** (Fig. 1)

**Material examined.** 1 ♂, NE Kazakhstan, Pavlodar region, Bayanaul district, Bayanaul Mts., vic. of Kempirtas Mt., 50°51'24.65"N, 75°34'37.21"E, 25.IX.2013, steppe, rocky outcrops near mixed forest, leg. S.V. Titov & A.V. Volynkin (Coll. CST); 1 ♂, NE Kazakhstan, Pavlodar region, Bayanaul district, Bayanaul Mts., vic. of Kempirtas Mt., 50°51'24.65"N, 75°34'37.21"E, 15.IV.2016, leg. M. Černila, S.V. Titov (Coll. CST).

**Remark.** Finds in the Bayanaul Mts. are easternmost known localities of the species. The closest known localities are in South Ural (Orenburg reg.), western (Aktolagai Mts.) and southwestern Kazakhstan (Mangistau Mts.) (Gorbunov, 2011; Ronkay et al., 2014).

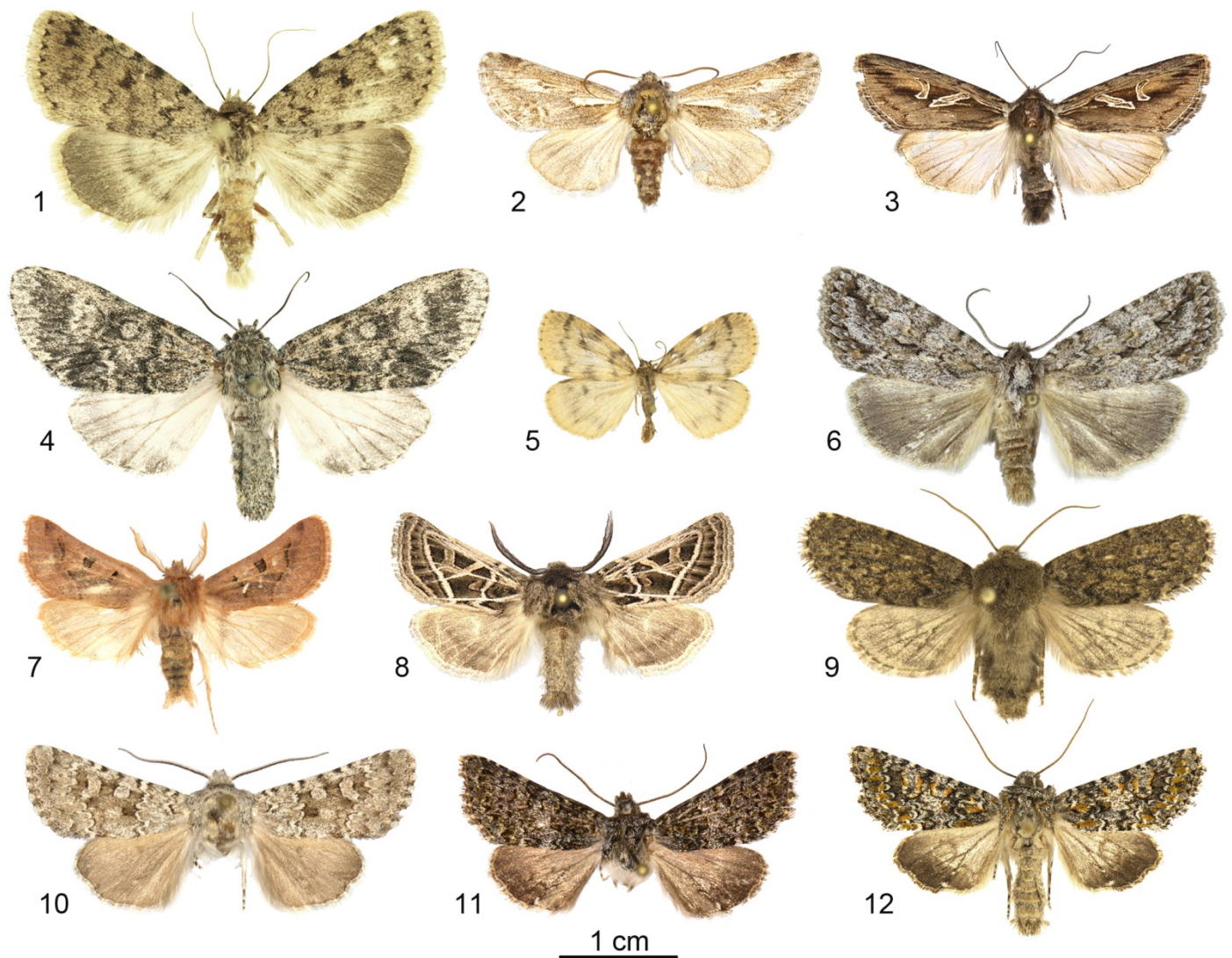
**Family Noctuidae Latreille, 1809*****Leiometopon simyrides* Staudinger, 1888** (Fig. 2)

**Material examined.** 2 ♀, NE Kazakhstan, Pavlodar region, Ekibastuz district, vic. of Karazhar vill., 52°12'18.64"N, 74°42'48.51"E, 30.VI.2009, steppe and salines, S.V. Titov leg (Coll. CST).

**Remark.** A northernmost known locality of the species. Previously, *L. simyrides* was known from South (Syrdarya river) and South-East Kazakhstan (Charyn river, Shelek vill., Ili river valley, Altyn-Emel National Park) (Kozhantschikov, 1950; Lehmann et al., 1998; Korb, 2013), Chinese Tien Shan (Kuldja) (Kozhantschikov, 1950) and Mongolia (Varga, 1976; Gyulai & Ronkay, 1999).

***Acronicta (Subacronicta) megacephala* ([Denis & Schiffermüller], 1775)** (Fig. 4)

**Material examined.** PAVLODAR REGION: 3 ♂, Zhelezinka district, vic. of Mikhailovka, 53°50.029'N, 76°30.136'E, 21.VII.2011, birch groves, at light, S.V. Titov leg. (Coll. CST); 2 ♂, 1 ♀, Zhelezinka district, vic. of Krasnovka vill., 53°43'44.54"N, 76°56'34.36"E, 05.VI.2012, birch groves, at light, S.V. Titov & V.S. Bychkov leg. (Coll. CST); 3 ♂, Zhelezinka district, vic. of Zhelezinka vill., 53°31'39.40"N, 75°18'29.58"E, Irtys river valley, poplar-willow forest near steppe, 19.VII.2010, S. Lorents leg. (Coll. CST); 2 ♂, 2 ♀, Zhelezinka district, vic. of Moiseevka vill., 53°26.902'N, 75°28.131'E, Irtys river valley, poplar-willow forest near steppe, 28.VIII.2011, S. & Yu. Lorents (Coll. CST); 2 ♂, 5 ♀, Zhelezinka district, vic. of Slavyanovka vill., 53°53.747'N, 76°22.59'E, birch



**Figures 1–12.** Noctuid moths: adults. 1 – *Autophila chamaephanes*, ♂, vic. of Kempirtas Mt., 15.IV.2016 (CST); 2 – *Leiometopon simyrides*, ♀, vic. of Karazhar vill., 30.VI.2009 (CST); 3 – *Lophoterges centralasiae*, ♂, vic. of Shonai vill., 27.VI.2013 (CST); 4 – *Acronicta megacephala*, ♂, vic. of Pavlodarskoe vill., 18.VII.2015 (CST); 5 – *Thumatha senex*, ♂, Kurkeli natural landmark, 13.VII.2016 (CAV); 6 – *Phidrimana amurensis*, ♂, Almaty city, 15.IX.2011 (CAV); 7 – *Episema tersa*, ♂, vic. of Shonai vill., 06.IX.2013 (CST); 8 – *Leucochlaena fallax*, ♂, vic. of Pavlodarskoe vill., 14.IX.2013 (CST); 9 – *Dasyppolia timoi*, ♀, 8 km SSE of Shiderty vill., 15.IV.2017 (CST); 10 – *Anarta vaciva*, ♂, vic. of Karazhar vill., 30.VI.2009 (CST); 11 – *Hadena dsungarica*, ♂, vic. of Kempirtas Mt., 12.VI.2013 (CAV); 12 – *Hadena persimilis*, ♂, Kurkol vill. (CST).

grove near steppe, at light, 11.VI.2012, S.V. Titov & V.S. Bychkov leg. (Coll. CST); 4 ♂, 1 ♀, Pavlodar city, Irtysh river valley, at light, 23.VIII.2014, S.V. Titov leg. (Coll. CST); 1 ♂, 1 ♀, Pavlodar district, vic. of Pavlodarskoe vill., 52°22.084'N, 76°52.161'E, Irtysh river valley, poplar-willow forest near steppe, 06.IX.2014, S.V. Titov leg. (Coll. CST); 10 ♂, 5 ♀, same locality and collector, but 13.VIII.2015 (Coll. CST); 5 ♂, 1 ♀, same locality and collector, but 18.VII.2015 (Coll. CST); 7 ♂, same locality and collector, but 27.VII.2016 (Coll. CST); 3 ♂, Pavlodar district, vic. of Rozovka vill., 52°36'N, 77°25'E, at light, 05.VI.2010, L.N. Ivan'ko leg. (Coll. CST); 2 ♂, 4 ♀, Sharbaky district, vic. of Sharbaky vill., 52°28'11.39"N, 78°9'56.72"E, at light, 30.VII.2008, S.V. Titov leg. (Coll. CST); 1 ♂, Bayanaul district, Bayanaul Mts., Kurkeli natural landmark, 50°44'34.00"N, 75°38'16.80"E, mixed forest, at light, 02.V.2012, S.V. Titov leg. (Coll. CST); 1 ♂, 1 ♀, same locality, but 14.VI.2013, S.V. Titov, A.V. Volynkin & M. Černila leg. (Coll. CST); 1 ♂, 1 ♀, Bayanaul district, Bayanaul Mts., vic. of Kempirtas Mt., 50°51'24.65"N, 75°34'37.21"E, steppe, rocky outcrops near mixed forest, at light, 30.VII.2013, S.M. Reznichenko (Coll. CST); 6 ♂, 1 ♀, Bayanaul district, Bayanaul Mts., vic. of Toraihyr lake, 50°51'54.01"N, 75°40'21.29"E, 09.VII.2016, dry steppe near rocks and mixed forest, S.V. Titov leg. (Coll. CST); 2 ♂, Aksu district, near old road bridge over Irtysh river, 52°18'54.95"N, 76°52'53.63"E, Irtysh river valley, poplar-willow forest, at light, 29.V.2015, S.V. Titov leg. (Coll. CST); 2 ♂, 1 ♀, Aksu district, Kurkol village, 51°50'18.37"N, 77°10'10.12"E, at light, 21.VI.2016, S.V. Titov (Coll. CST). KARAGANDA REGION: 15 ♂, 2 ♀, 14.VI.2015, Bektau-Ata Mt., 47,43°N 74,79°E, h = 581, at light. S.V. Titov & M. Černila leg. (Colls. CST and CAV).

**Remarks.** The finds in Pavlodar and Karaganda regions are respectively the easternmost and southernmost confirmed records for the species. The eastern and southeastern limits of the species range are still unclear due a probable confusion of *A. megacephala* with its eastern sister species *A. concerpta* (Draudt, 1937). The species was reported for Pavlodar region by Pospelov (1962) and Shek (1975).

#### ***Lophoterges (Variterges) centralasiae* (Staudinger, 1901) (Fig. 3)**

**Material examined.** 1 ♂, NE Kazakhstan, Pavlodar region, Bayanaul district, Bayanaul Mts., Birzhankol lake, 50°49'9.97"N, 75°20'52.44"E, 27.VI.2008, dry steppe near mixed forest with rocky outcrops, at light, S.V. Titov leg. (Coll. CST); 2 ♂, NE Kazakhstan, Pavlodar region, Bayanaul district, Bayanaul Mts., vic. of Shonai vill., 50°48'53.88"N, 75°44'22.45"E, 27.VI.2013, shrubs and rocky outcrops, at light, S.V. Titov leg. (Coll. CST); 3 ♂, NE Kazakhstan, Pavlodar region, Bayanaul district, Bayanaul Mts., vic. of Toraihyr lake, 50°51'54.01"N, 75°40'21.29"E, 08.VI.2014, dry steppe near rocks and mixed forest, at light, S.V. Titov leg. (Coll. CST).

**Remark.** A northernmost known locality of the species. In Kazakhstan, *L. centralasiae* previously was known from the southeastern part of the country (Almaty region: Altyn Emel National Park, Ili river valley, Transili Alatau Mts.) (Ronkay, 2005).

#### ***Phidrimana amurensis* (Staudinger, 1892) (Figs. 6, 14)**

**Material examined.** PAVLODAR REGION: 1 ♀, Zhelezinka district, vic. of Zhelezinka vill., 53°31'39.40"N, 75°18'29.58"E, Irtysh river valley, poplar-willow forest near steppe, at light, 21.VII.2012, V.S. Bychkov leg. (Coll. CST); 1 ♂, 1 ♀, same locality and collector, but 14.VIII.2012 (Coll. CST); 1 ♀, Zhelezinka district, vic. of Moiseevka vill., 53°26.902' N, 75°28.131'E, Irtysh river valley, poplar-willow forest near steppe, at light, 28.VIII.2011, S. & Yu. Lorents leg. (Coll. CST); 1 ♀, Kachiry district, vic. of Terenkol' vill., 53°3'59.30"N, 76°6'7.85"E, Irtysh river valley, poplar-willow forest, at light, 24.IX.2011, L.N. Ivan'ko leg. (Coll. CST); 1 ♀, Pavlodar, at light, 23.VIII.2014, S.V. Titov leg. (Coll. CST); 1 ♂, 2 ♀, Pavlodar district, vic. of Pavlodarskoye vill., Irtysh river valley, poplar-willow forest near steppe, at light, 02.IX.2012, S.V. Titov leg. (Coll. CST); 1 ♂, same locality and collector, but 17.IX.2011, at wine (Coll. CST); 2 ♀, same locality and collector, but 10.IX.2012, at wine (Coll. CST); 3 ♂, 2 ♀, same locality and collector, but 10.IX.2012, at light (Coll. CST); 1 ♂, 1 ♀, same locality and collector, but 26.VIII.2013, on colony of aphids (Coll. CST); 2 ♀, same locality and collector, but 15.IX.2013, on colony of aphids (Coll. CST); 1 ♂, 4 ♀, same locality and collector, but 03.VIII.2014, at light (Coll. CST); 3 ♂, 4 ♀, same locality and collector, but 18.VII.2015, at light (Coll. CST); 6 ♂, 8 ♀, same locality and collector, but 13.VIII.2015, at light (3 ♂), at wine (3 ♂, 4 ♀), on colony of aphids (4 ♀) (Coll. CST); 3 ♂, 2 ♀, same locality and collector, but 27.VII.2016, at light (Coll. CST); 1 ♂, Pavlodar district, vic. of Rozovka vill., 52°36'N, 77°25'E, steppe, 17–18.VIII.2010, L.N. Ivan'ko leg., slide AV0800m Volynkin (Coll. CST); 1 ♂, vic. of Zhetekshi vill., 52°18'31.94"N, 77°7'23.21"E, 30.VIII.2016, steppe with *Artemisia* and *Stipa* dominance, S.V. Titov leg. (Coll. CST); 1 ♂, Aksu district, western shore of the Kudaykol lake, 51°52'36.85"N, 75°56'12.70"E, at light, 29.VII.2016, S.V. Titov leg. (Coll. CST); ALMATY REGION: 1 ♀, vic. of Taldykorgan city, Prigorodny vill., IX.2015, 639 m, A. Belousov leg. (Coll. CAV); 1 ♂, 15.IX.2011, Almaty city, 850 m, P.V. Egorov leg. (Coll. CAV); 1 ♀, 26.VII.2011, Kapshagai district, vic. of Zarechnoe vill., 500 m, D.A. Zakharov leg. (Coll. CAV).



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**Figures 13–15.** Noctuid moths: adults in nature. 13 – *Thumatha senex*, ♂, Kurkeli natural landmark, 13.VII.2016 (Photo by S.V. Titov); 14 – *Phidrimana amurensis*, ♂, vic. of Pavlodarskoye vill., 13.VIII.2015 (Photo by S.V. Titov); 15 – *Dasytopia timoi*, ♀, 8 km SSE of Shiderty vill., 15.IV.2017 (Photo by S.V. Titov).

**Remark.** This is a first report of the species for the fauna of Kazakhstan. Previously, it was known from south of the European part of Russia, South Ural, West Siberia, Transbaikalia, Russian Far East, East Mongolia, N China and N Korea (Kononenko, 2016).

***Episema tersa* ([Denis & Schiffermüller], 1775) (Fig. 7)**

**Material examined.** 3 ♂, NE Kazakhstan, Pavlodar region, Bayanaul district, Bayanaul Mts., vic. of Shonai vill., 50°48'53.88"N, 75°44'22.45"E, 6.IX.2013, steppe hill with rocks, at UV-light trap, S.M. Reznichenko leg. (Colls. CST and CAV).

**Remark.** An easternmost known locality of the species, its closest known localities are in South Ural (Nupponen & Fibiger, 2002) and West Kazakhstan (Saykhin) (Hacker & Miatleuski, 2001).

***Leucochlaena (Furcochlaena) fallax* (Staudinger, 1870) (Fig. 8)**

**Material examined.** 2 ♂, NE Kazakhstan, Pavlodar region, Pavlodar district, vic. of Pavlodarskoe vill., 52°22.084'N, 76°52.161'E, Irtysch river valley, 14.IX.2013, steppe, S.V. Titov leg. (Colls. CST and CAV); 3 ♀, NE Kazakhstan, Pavlodar region, Bayanaul district, Bayanaul Mts., vic. of Shonai vill., 50°48'53.88"N, 75°44'22.45"E, 24.VIII.2013, steppe hill with rocks, at light, S.M. Reznichenko leg. (Colls. CST and CAV).

**Remark.** An easternmost known locality of the species. Previously the species was known from SE European part of Russia, South Ural and West Kazakhstan (Nupponen & Fibiger, 2002; Gorbunov, 2011; Kononenko, 2016).

***Dasypolia (Dasypolia) timoi* Fibiger & Nupponen, 2006 (Figs. 9, 15)**

**Material examined.** 1 ♀, NE Kazakhstan, Pavlodar region, Ekibastuz District, 8 km south-southeast of Shiderty village 51°39'7.13"N, 074°38'53.66"E, 231 m, 13.IV.2016, M. Černila & S.V. Titov leg. (Coll. CST); 2 ♀, same locality, but 15.IV.2017, S.V. Titov leg. (Coll. CST).

**Remarks.** This is an easternmost known locality of the species; previously it was known from South Ural (Orenburg Region), West (Aktobe region, 60 km W of Kobda) and Central Kazakhstan (Karaganda region, Karazhal) (Nupponen & Fibiger, 2006, 2012; Gorbunov, 2011). In Pavlodar region, *D. timoi* was found in the petrophilous steppe with rocky outcrops (Fig. 16).

***Anarta (Cardiostrea) vaciva* (Püngeler, 1906) (Fig. 10)**

**Material examined.** 1 ♂, NE Kazakhstan, Pavlodar region, Ekibastuz district, vic. of Karazhar vill., 52°12'18.64"N, 74°42'48.51"E, 30.VI.2009, steppe and salines, S.V. Titov leg., slide AV0799m Volynkin (Coll. CST).

**Remark.** A northernmost known locality of the species. The closest known localities of *A. vaciva* are in southeastern Kazakhstan (Ili river valley) (Hacker, 1998; Lehmann et al., 1998).

***Hadena (Hadena) dsungarica* Hacker, 1996 (Fig. 11)**

**Material examined.** 1 ♂, NE Kazakhstan, Pavlodar region, Bayanaul district, Bayanaul Mts., vic. of Kempirtas Mt., 50°51'24.65"N, 75°34'37.21"E, 12.VI.2013, steppe, rocky outcrops near mixed forest, S.V. Titov, A.V. Volynkin & M. Černila leg., slide AV0941m Volynkin (Coll. CAV).

**Remark.** A westernmost known locality of the species. Previously it was known from East Kazakhstan (the type locality: Zaisan) and several localities in the Russian Altai (Hacker, 1996; Volynkin, 2012).



**Figure 16.** NE Kazakhstan, Pavlodar region, Ekibastuz District, 8 km south-southeast of Shiderty village 51°39'7.13"N, 074°38'53.66"E, 231 m, 15.IV.2017, the habitat of *Dasypolia timoi* (Photo by S.V. Titov).

***Hadena (Hadena) persimilis* Hacker, 1996** (Fig. 12)

**Material examined.** 2 ♂, NE Kazakhstan, Pavlodar region, Aksu district, Kurkol village, 51°50'18.37"N, 77°10'10.12"E, 27.VI.2016, grass and sagebrush steppe, S.V. Titov leg. (Coll. CST).

**Remark.** An easternmost known locality of the species. The closest localities known earlier are in West Kazakhstan (Taskala distr.) and South Ural (Chelyabinsk and Orenburg regions) (Hacker, 1996; Nupponen & Fibiger, 2002).

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