



## Synopsis of the *Ozyptila rauda*-group (Araneae, Thomisidae), with revalidation of *Ozyptila balkarica* Ovtsharenko, 1979

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### Abstract

*Ozyptila balkarica* Ovtsharenko, 1979, belonging to the Holarctic *Ozyptila rauda*-group was thought to be a junior synonym of *O. orientalis* Kulczyński, 1926, because of its indistinguishable females. Comparison of topotype males from Caucasus and Kamchatka revealed clear differences in the shape of copulatory organs and carapace patterns; thus the junior name is revalidated here. Because the differences between the two taxa are of the same level as between *O. orientalis* and *O. basegica* Esyunin, 1992, which is considered a subspecies of the former species, subspecific rank to *O. orientalis balkarica* stat. nov. is suggested. Males of the two subspecies are illustrated, and a synopsis of the whole *O. rauda*-group accounting 14 species and subspecies is given. *O. sedotmikh*a Levy, 2007, from Israel was found to belong to this group. Distribution of all species is mapped.

**Key words:** crab spiders, species-group composition

### Introduction

*Ozyptila balkarica* belongs to the Holarctic *O. rauda*-group. This group was revised by Hippa *et al.* (1986) and at that time included seven species (*O. arctica* Kulczyński, 1908; *O. balkarica* Ovtsharenko, 1979; *O. conostyla* Hippa, Koponen & Oksala, 1986; *O. orientalis* Kulczyński, 1926; *O. pullata* Thorell, 1875; *O. rauda* Simon, 1875 and *O. yosemitica* Schick, 1965). Since that revision, six additional species (including one subspecies) have been described from the Palearctic: *O. secreta* Thaler, 1987; *O. sakhalinensis* Ono, Marusik & Logunov, 1990, *O. utotchkini* Marusik, 1990, *O. balkarica basegica* Esyunin, 1992, *O. ladina* Thaler & Zingerle, 1998 and *O. kaszabi* Marusik & Logunov, 2002. At this moment, *O. rauda*-group encompasses 12 species including one subspecies.

*O. balkarica* Ovtsharenko, 1979, was described from the Caucasus based on both sexes, and a female was chosen as the holotype, although epigynes within *O. rauda*-groups are very similar. Later this species was found in different parts of Siberia and also in China. Comparison of males from East Siberia and Ural allowed Esyunin (1992) to establish a new subspecies *O. balkarica basegica* restricted to Ural. The subspecies males have distinctly different tegular apophyses, while females are indistinguishable. Side by side comparison of females of *O. balkarica* from Siberia and the Caucasus (including paratypes) revealed no differences between them and the figures of holotype of *O. orientalis* described from Kamchatka. Therefore, the junior name was synonymised (Logunov & Marusik 1994).

An unusual distribution pattern of the two subspecies *O. o. orientalis* (Caucasus and all Siberia) and *O. o. basegica* (just inbetween two disjunctive parts of the range of nominative subspecies) triggered the idea to restudy males from Kamchatka and the Caucasus. Comparison of tegular apophyses of Kamchatkan and Caucasian specimens revealed distinct differences; therefore, *O. balkarica* has to be removed from synonymy

with *O. orientalis*. The main goal of this paper is to show morphological differences between the two subspecies, to present a brief synopsis of the entire *O. rauda*-group, and to resurrect the name *Ozyptila balkarica* Ovtsharenko, 1979.

## Material and methods

Specimens were photographed using an Olympus SZX12 stereomicroscope and Olympus Camedia C-5050 camera in the Zoological Museum, University of Turku, Finland. The images have been montaged using “CombineZM” image stacking software. Abbreviations of institutional collections (curators in parentheses) are as follows: IBPN, Institute for Biological Problems of the North (Y.M. Marusik); MMUM, Manchester Museum, the University of Manchester (D.V. Logunov); ZMMU, Zoological Museum of Moscow State University (K.G. Mikhailov).

## Comparison of *O. o. balkarica* and *O. o. orientalis*

### *Ozyptila orientalis balkarica* Ovtsharenko, 1979 stat. nov.

Figs. 1–2, 5–7, 11

*Oxyptila balkarica* Ovtsharenko, 1979: 45, figs 7–9, 32 (D♂♀)

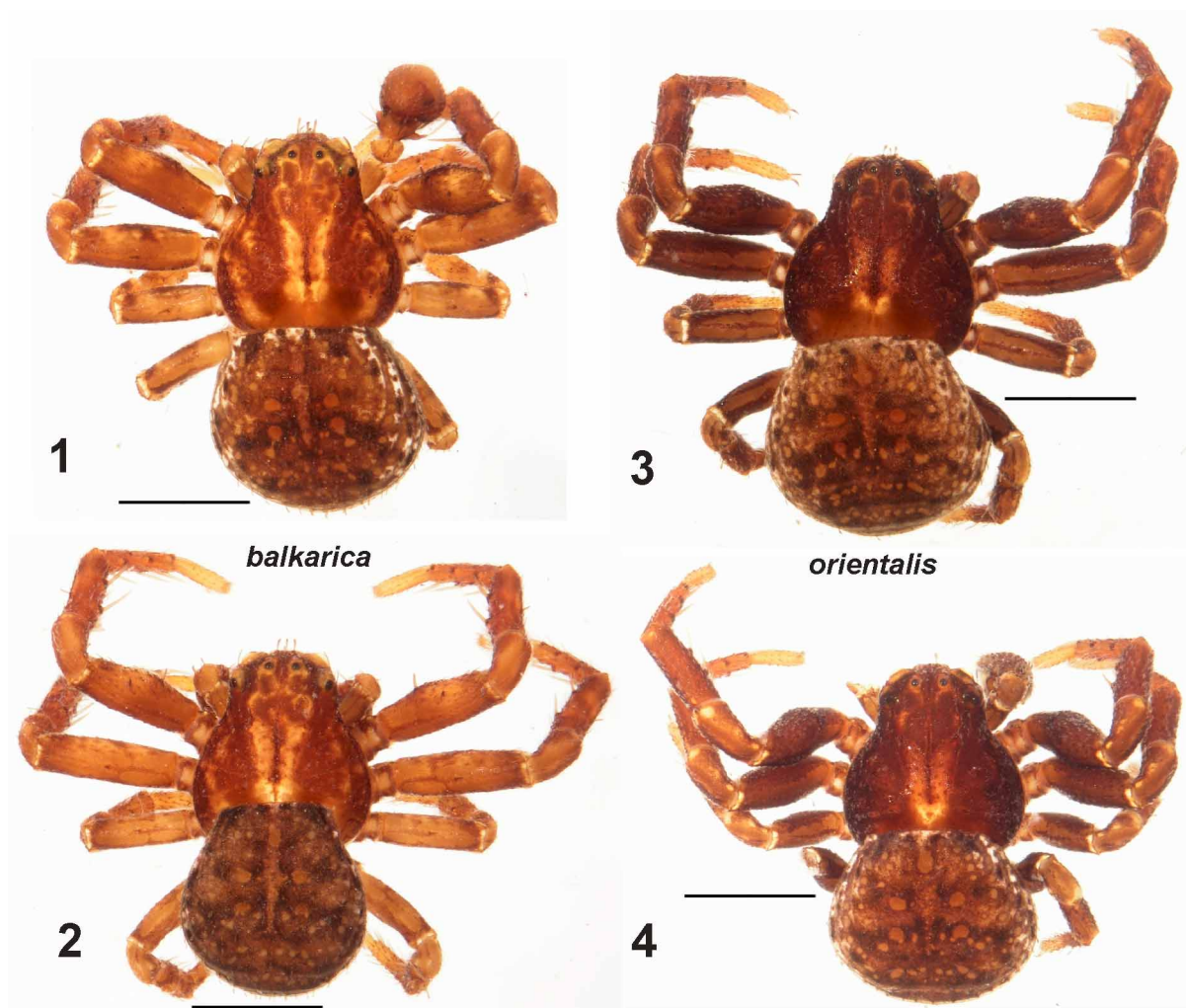
*Oxyptila orientalis*: Logunov & Marusik, 1994: 180, fig 1 (♀, Synonymised two names, fig. 1 refer to *O. o. b.*)

**Material examined. RUSSIA: Northern Osetia:** 3♂ 3♀ (ZMMU), Tsei Mt. range over Tsei Vill., N exposed slope, 3000 m, moss-lichen heath, pitfall traps, 8 June –16 July 1985 (S.K. Alexeev); 4♂ (ZMMU), same locality, S macroslope, 2750 m, subalpine belt, pitfall traps, 16 May 8 June 1985 (S.K. Alexeev). **GEORGIA: Lagodekhi District:** 8♀ (IBPN), Lagodekhi Reserve, gorge, 2800 m, alpine belt, 2.08.1982 (Y.M. Marusik).

**Diagnosis.** *O. o. balkarica* can be distinguished easily from the nominative subspecies as well as from *O. o. basegica* by the shape of tegular apophysis of the male palp, and also by carapace pattern. Apical turn of tegular apophysis in *O. o. balkarica* is as long as basal or even longer, while in *O. o. orientalis* it is shorter than basal (Figs 5–12). Carapace of *O. o. balkarica* is lighter than in *O. o. orientalis* (Figs 1–4): median fovea light, with distinct light margins (median band is light around the furrow in *O. o. orientalis*), submarginal light band distinct, although broken (submarginal light band absent with poorly distinct light spots in lighter specimens).

**Remarks.** *O. balkarica* was described based on both sexes from northern Caucasus. Because of the peculiarly long terminal part of embolus, which makes a whole circle, it was very easy to distinguish this species. Soon after description it was reported from several parts of Siberia. When vulvae of Siberian and Caucasian populations were studied, no differences were found between them and the figures of holotype female of *O. orientalis* from Kamchatka (figs 3a–b, Hippa *et al.* 1986); therefore, *O. balkarica* was synonymised with *O. orientalis* (Logunov & Marusik 1994).

Recently, I had the opportunity to compare males from Caucasus and Kamchatka. Although the male palp in two populations has the same conformation and even same size, tegular apophyses and carapace pattern appeared to be different (Figs 1–12). Differences found in tegular apophysis were at the same level as differences between *O. o. orientalis* and *O. o. basegica*, known from Ural. Therefore, I remove the name *O. balkarica* from synonymy with *O. orientalis orientalis*, and suggest for it the same status as for *O. o. basegica* Esysunin, 1992, namely *Ozyptila orientalis balkarica*.



**FIGURES 1–4.** *Ozyptila orientalis balkarica* (1–2) and *O. o. orientalis* (3–4). Habitus and dorsal pattern of male (1–2 from N-Osetia, 3 Kamchatka, 4 Altai). Scale = 1 mm.

***Ozyptila orientalis orientalis* Kulczyński, 1926**

Figs 3–4, 8–10, 12

*Oxyptila orientalis* Kulczyński, 1926: 64, pl. 3, fig. 25 (D♀).

*O. o.*: Hippa *et al.*, 1986: 326, figs. 3A–B (♀, removed from S of *O. arctica*).

*O. balkarica*: Ono *et al.*, 1990: 13, figs 28–32 (♂♀).

*Oxyptila balkarica*: Esyunin, 1992: 37, fig. 4.4 (♂).

*Oxyptila o.*: Logunov & Marusik, 1994: 180, fig 2 (♀, fig. 1 refer to *O. o. balkarica*).

*O. balkarica*: Lie *et al.*, 1999: 68, figs A–B (♂).

*O. o.*: Song *et al.*, 2001: 400, figs 264A–B (♂).

**Material examined. RUSSIA: Kamchatka:** 2♂ 1juv (IBPN), Bystrinskiy Distr., environs of Esso, mountain tundra, 900–1000 m, September 1989 (T. Pavlenko). **Magadan Area:** 1♂ (IBPN), Yablonevyyi, ca 60°30'N 151°30'E, 4 June 1974 (E.G. Matis); 1♀ (IBPN), 50 km N of Magadan, Splavnaya Vill., 28 May 1988 (Y.M. Marusik); 1♂ 5♀ (IBPN), upper Kolyma River flow (ca 62°N), environs of Sibit-Tyellakh, S exposed slope, Summer 1986 (Y.M. Marusik). **Sakhalin Area:** 1♀ (IBPN), Sakhalin, Okha Dist., Sabo, Pil'tun Bay, 4–18 January 1990 (A.M. Basarukin). **Tuva:** 1♂ 3♀ (IBPN), 15 km E of Kyzyl, Kaa-Khem (Riv.), 51°43'N 94°42'E, 800–1200 m, 16–18 June 1996 (Y.M. Marusik); 2♀ (IBPN), Naryn River middle flow, 50°12'N 95°39'E, 1540

m, 22-24.06.1996 (Y.M.Marusik). *Altai*: 1♂ (IBPN), ca 8 km S of Ust'-Kan, Aksas River upper reaches, 1900–2000 m, subalpine and tundra belts, 8–9 June 1999 (R. Dudko). MONGOLIA, *Chovsgol Aimak*: 1♂ (MMUM), Chovsgol Nuur National Park, Tarbagatai Chatgol (=Cechyr) larch taiga, under stones and in litter, 25.07.2000 (P.Szymkowiak).

**Diagnosis.** See under *O. o. balkarica*.

**Remarks.** This species was described on the basis of the female holotype from “Ust-Kamtschetskaja Koschka” or in English spelling Ust'-Kamchatskaya Koshka. Koshka is an out-of-date Russian term for a spit. Therefore, holotype female has been collected on the spit in Ust'-Kamchatsk Town. While describing this species Kulczyński compared it with *O. rauda*. Judging from figure and verbal description, Holm (1945) synonymised *O. orientalis* with *O. rauda*. Holotype female was examined for the first time in the context of *O. rauda*-group revision by Hippa *et al.* (1986). The vulva of *O. orientalis* appeared to be clearly different from that of *O. rauda*, and the species was removed from synonymy.

*O. orientalis* was found in several localities in South and Eastern Siberia, but for a long time it was identified as *O. balkarica*, a species described from Caucasus, based on both sexes (Marusik 1988; Ono *et al.* 1990; Marusik *et al.* 1992, 1993a, b, among others). Males of this species have a very characteristic long terminal part of embolus, which is unknown in other members of this species group.

### Synopsis of the *rauda*-species group

An annotated list of species belonging to *O. rauda*-group is provided below. Only selected references are given. All references to taxonomic publications dealing with individual species can be found in Platnick's (2008) catalogue.

**Diagnosis.** Members of the *Ozyptila rauda*-group can be easily distinguished from other groups by the proventral position of the transversely orientated ventral tibial apophysis (unique for whole Coriariachninae) and distinct, large tegular apophysis extending over the bulb. Females of the *Ozyptila rauda*-group are less distinct. They lack a hood (=scape) which is typical to the large *Ozyptila brevipes*-group, but have large and wide weakly sclerotized insemination ducts. Females of most of species have a rimmed fovea (exceptions *O. utotchkini* and *O. sedotmikka*).

### *Ozyptila arctica* Kulczyński, 1908

*Ozyptila rauda arctica* Kulczyński, 1908: 51 (D♂).

*O. septentrionalium*: Dondale & Redner, 1975: 163, figs 35, 38, 103–105 (♂♀).

*O. a.*: Hippa *et al.*, 1986: 325, figs 1B, I–J, 2B, D (♂♀, raised it from a subspecies of *O. rauda*).

*O. a.* Roberts, 1998: 177, figs (♂♀).

**Remarks.** Since its description, *O. arctica* was treated as a subspecies of *O. rauda* because of its close similarity to the copulatory organs of the two species. It was raised to species rank by Hippa *et al.* (1986).

*O. arctica* is the northernmost species of the *O. rauda*-group and of the entire genus reaching 72°N in Lena River delta. It has subcircum-Holarctic range, the widest distribution of the group, and occurs from northern Fennoscandia to the Northwest Territories in Canada, and from Altai and Tuva to the Amur River (Fig. 13). In the Nearctic it is restricted to northwestern part, the Nearctic sector of Beringia. Judging from its limited range in North America it seems that this species penetrated to the Nearctic rather recently during the latest existence of Bering land bridge.

This species is very similar to *O. rauda* and *O. pullata* and was often misidentified as the former species in Sweden (e.g. Tullgren 1944), Norway or northern Russia. For example, records of *O. rauda* from Komi Republic (Mazura 2000) and Norway (Aakra & Hauge 2008) undoubtedly refer to *O. arctica*.



**Habitat.** In continental parts of northeastern Siberia this species occurs in mountain tundra only. *O. arctica* inhabits chiefly bush thickets at elevations 1000–1800 m. Females are present through the whole season. In Chukotka it was collected in dry and warm places like gravelly meadows on south exposed slopes.

**Distribution.** From Northern Fennoscandia to Northwestern Territories and south to Altai (Fig. 13).

#### *Ozyptila conostyla* Hippa, Koponen & Oksala, 1986

*O. conostyla* Hippa *et al.*, 1986: 327, figs 1D, K (D♂).

*O. c.*: Marusik & Logunov, 1995: 138, figs 4–7 (♂).

**New material examined. AZERBAIJAN: Zagatala District:** 1♂ (IBPN), Rochugel, 22 June 2003 (N. Snegovaya, H. Aliev).

**Remarks.** So far this species is known by males from only four localities in four countries: Turkey (type locality), Azerbaijan, Georgia and Turkmenistan (Logunov & Marusik 1995). I present here a new record from Azerbaijan. Unlike in other members of the group, the intermediate (retroventral) tibial apophysis of *O. conostyla* is reduced to a small knob. Judging from the vulva and highland habitat, *O. lutosa* Ono & Martens, 2005, described from a single female from Iran, could be conspecific with *O. conostyla*.

**Distribution.** From Turkey to western Turkmenistan (Fig. 13).

#### *Ozyptila kaszabi* Marusik & Logunov, 2002

*O. kaszabi* Marusik & Logunov, 2002: 320, figs 23–26 (D♂♀).

*O. k.*: Zhang *et al.*, 2004: 8, figs 2A–D (♂).

**Remarks.** This species is known from two localities in central Mongolia and in northwestern China. Like *O. orientalis*, it has a long terminal part of the embolus and long and very thin tegular apophysis. Epigyne of *O. kaszabi* is very characteristic and has trapezoidal fovea with very distinct margins.

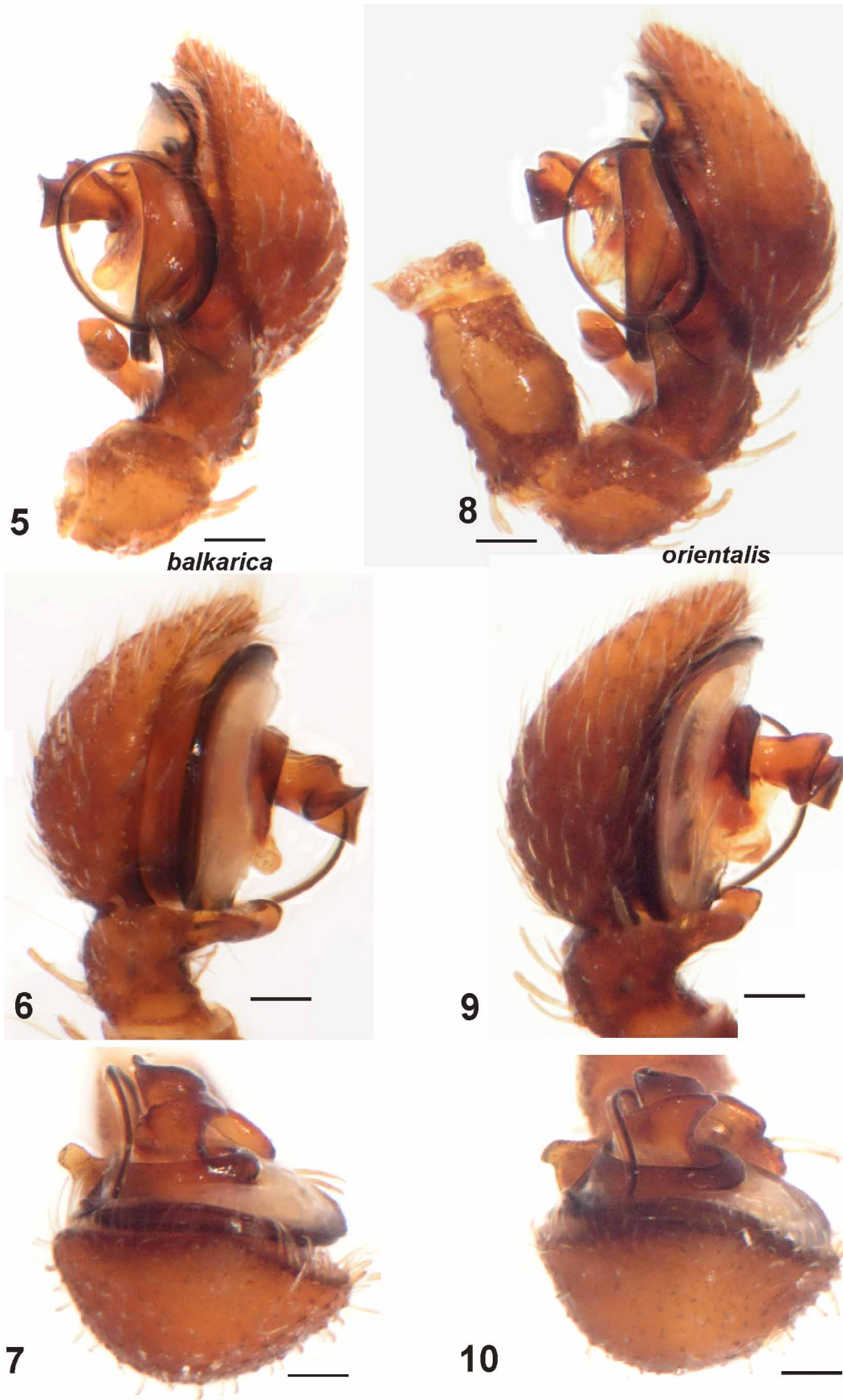
**Distribution.** Mongolia and NW China only (Fig. 13).

#### *Ozyptila ladina* Thaler & Zingerle, 1998

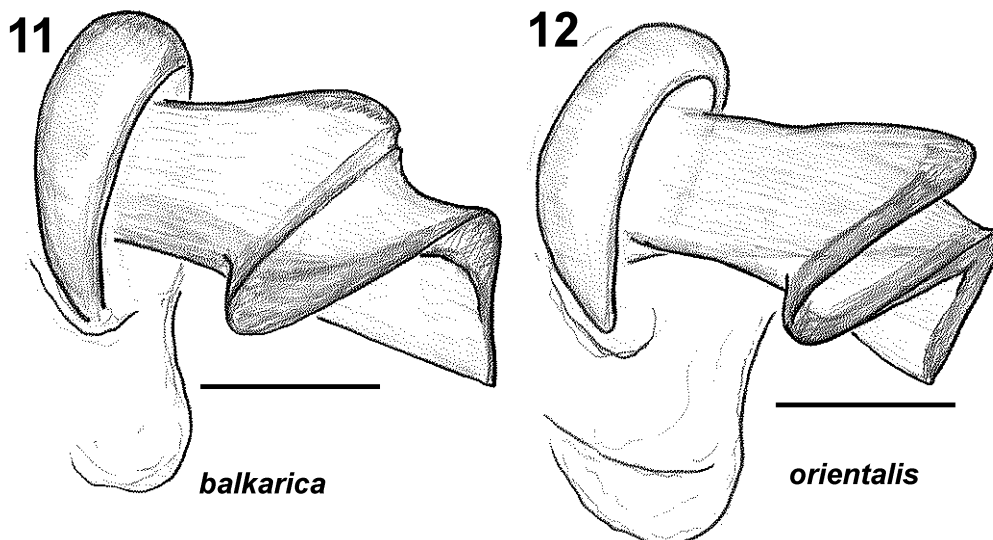
*O. ladina* Thaler & Zingerle, 1998: 99, figs 1–7 (D♂♀).

**Remarks.** This species is known from the type locality only, Dolomite Mountains in northern Italy. It was attributed to the *rauda*-group by the authors. Tegular apophysis in *O. ladina* is somewhat similar to those of Far Eastern *O. utotchkini*. Males of this species bear a plumose appendage on the embolus, which is unique for the group and the whole genus. Other peculiar characters are a long retrolateral tibial apophysis and bifurcate ventral retrolateral (=intermediate) apophysis. Thanks to bifurcate apophysis tibia has four apophyses instead of three or two. Epigyne and vulva of *O. ladina* is also unusual for the *O. rauda*-group. Insemination ducts are very short in comparison to those of other congroupers.

**Distribution.** Northern Italy only (Fig. 14).



**FIGURES 5–10.** *Ozyptila orientalis balkarica* (5–7, N-Osetia) and *O. o. orientalis* (8–10, Kamchatka). Male palp (5, 8 retrolateral; 6, 9 prolateral; 7, 10 from above). Scale = 0.1 mm.



FIGURES 11–12. *Ozyptila orientalis balkarica* (11, N-Osetia) and *O. o. orientalis* (12, Kamchatka). Tegular apophysis of male palp, prolatral view. Scale = 0.1 mm.

*Ozyptila orientalis orientalis* Kulczyński, 1926

**Remarks.** See above.

**Habitat.** In the continental parts of northeastern Siberia this subspecies occurs at elevations 450–800 m. It inhabits dry and warm south-exposed slopes. Adults occur through the warm season, from snow thaw to snow fall. In northern Cisokhotia first females were collected on April 20 in 1985 on steep seashore slopes, while the night temperatures at that period were around minus 20°C.

**Distribution.** This subspecies is known from Altai to the Upper Kolyma and Kamchatka and south to about 43°N in northwestern China. Lie *et al.* (1999) and Platnick (2008) listed this species for Japan, but it has never been reported from there (Fig. 14).

*Ozyptila orientalis balkarica* Ovtsharenko, 1979

**Remarks.** See above.

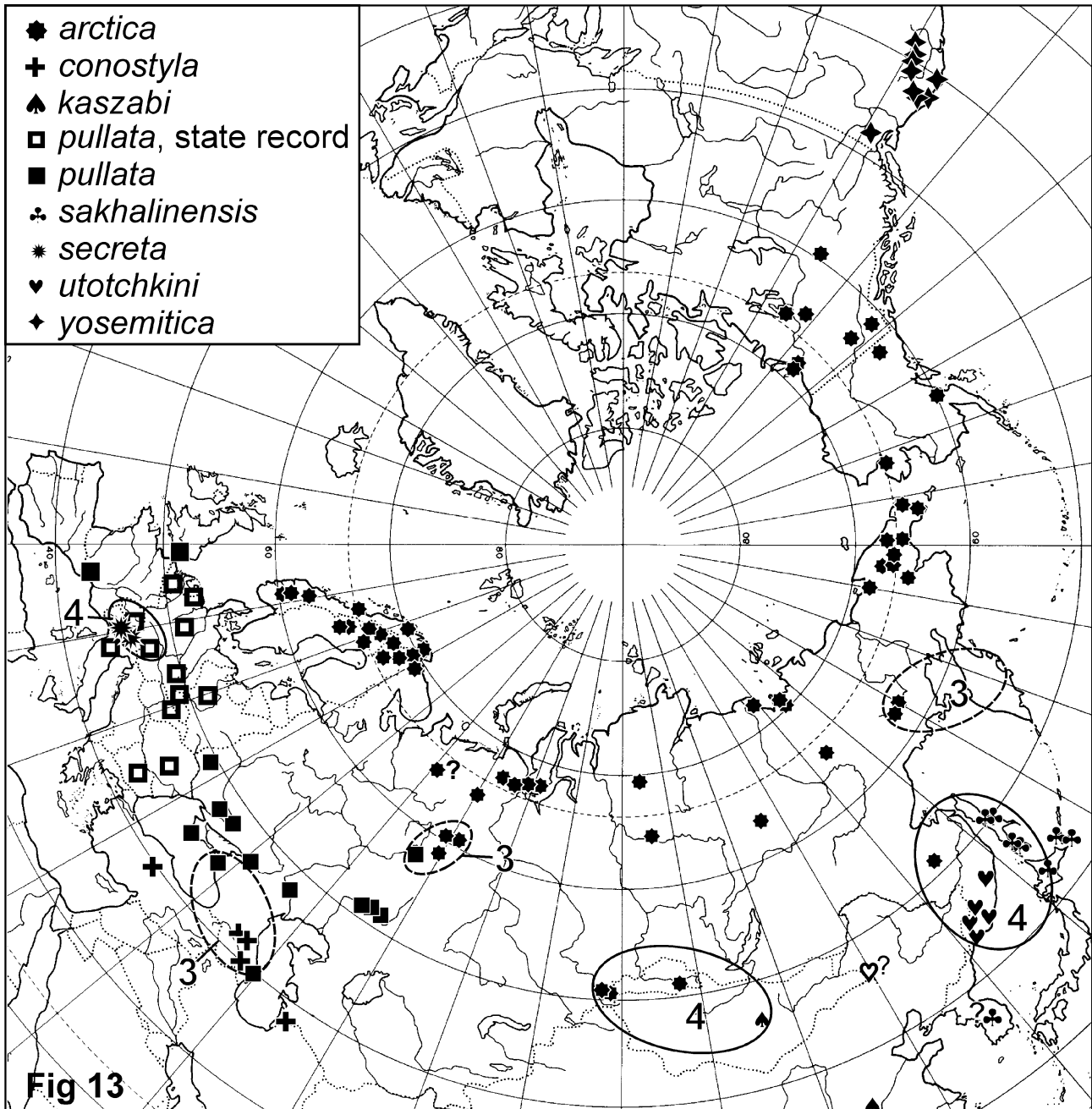
**Distribution.** Caucasus Major (Fig. 14).

*Ozyptila orientalis basegica* Esyunin, 1992

*Oxyptila balkarica basegica* Esyunin, 1992: 36, figs 2.2, 4.1–6 (D♂♀).

**Remarks.** This subspecies is known from two localities in Ural. It occurs in the mountain tundra belt. Mountain tundra habitats in other places are occupied by *O. arctica*. It differs from other subspecies by the shape of tegular apophysis.

**Distribution.** Middle Ural (Fig. 14).



**FIGURE 13.** Distribution records of *O. arctica*, *O. conostyla*, *O. kaszabi*, *O. pullata*, *O. sakhalinensis*, *O. secreta*, *O. utotchkini*, *O. yosemitica* and centers of species diversity (broken line – 3 species, solid line – 4 species).

***Ozyptila pullata* (Thorell, 1875)**

*Xysticus pullatus* Thorell, 1875: 93 (D♂).

*O. pullata*: Hippa *et al.*, 1986: 326, f. 1C, G–H, L, 2C (not F), E (♂♀).

*O. p.*: Roberts, 1998: 176, fig (♂♀).

**Remarks.** This species is very similar to *O. rauda* and therefore was often confused with it. Clear differences between the two sibling species were shown by Hippa *et al.* (1986). It is reported from SW England to the Middle Ural, and from SW France to Absheron Peninsula in Azerbaijan. It might be distributed more widely, and may even occur in Spain and Portugal. Extensive studies in the Crimea and Azerbaijan revealed that ear-



lier records of *O. rauda* from these territories refer to *O. pullata* (N.M. Kovblyuk & E.F. Huseynov, personal communication).

**Distribution.** South and central Europe (Fig. 13).

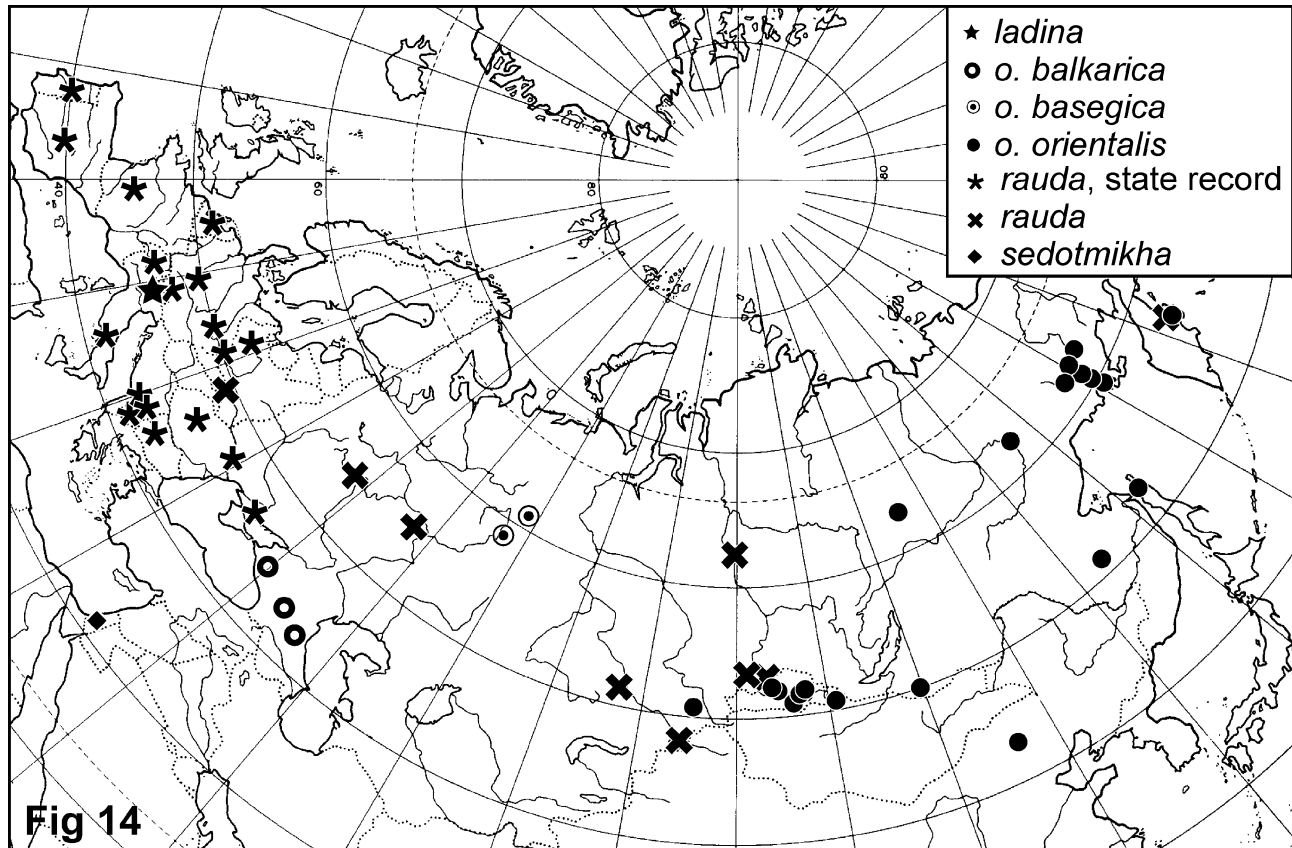


FIGURE 14. Distribution records of *O. ladina*, *O. orientalis baltarica*, *O. o. basegica*, *O. o. orientalis*, *O. rauda* and *O. sedotmikha*.

### *Oxyptila rauda* Simon, 1875

*Oxyptila rauda* Simon, 1875: 226, pl. 7, fig. 20 (D♂♀).

*O. r.*: Hippa *et al.*, 1986: 324, figs 1A, E–F, 2A, F (not C), 3C (♂♀).

*O. r.*: Roberts, 1998: 177, fig (♂♀).

**Remarks.** *O. rauda* is the earliest-described species in the group. Because of this and its similarity to *O. pullata* and *O. arctica*, it was often misidentified and many records of *O. rauda* refer to sibling species. All records of *O. rauda* from northern areas such as Norway or Komi Republic refer to *O. arctica*, while records from southern territories such as Azerbaijan or the Crimea refer to *O. pullata*. Clear differences between three sibling species were shown for the first time by Hippa *et al.* (1986). *O. rauda* has the second widest range among the group and is known from Portugal (although a record from there may refer to *O. pullata*) to Kamchatka, or at least to Yenisei River. It is unknown between Yenisei River and NE Kamchatka. Record from Kamchatka is based on two subadult females, described by Kulczyński (1926) as *O. terrea*. One of the syntype females was close to the final molt and its vulva was studied by J.H. Redner (Ottawa), and illustrated in Hippa *et al.* (1986, fig. 3c). Vulva appeared to be identical to *O. rauda* and the junior name was synonymised.

**Distribution.** Palearctic with a disjunction between Yenisei River and Kamchatka (Fig. 14).

### *Oxyptila sakhalinensis* Ono, Marusik & Logunov, 1990

*Oxyptila sakhalinensis* Ono *et al.*, 1990: 13, fig. 33 (D♀).  
*O. s.*: Ono & Yasuda, 1992: 7, figs 4–5 (♀).  
*Oxyptila s.*: Logunov & Marusik, 1994: 194, figs 25–27 (D♂).

**Remarks.** Because of the shape of the tegular apophysis and epigyne, this species stands separately and cannot be grouped with other species. The male palp resembles that of *O. yosemitica*.

**Distribution.** This species is known so far from south half of Sakhalin Island and Hokkaido. During the International Kuril Island Project, it was found in Kunashir and Shikotan Islands also (personal data), and its known range has been extended a little bit to the east (Fig. 13).

### *Oxyptila secreta* Thaler, 1987

*O. secreta* Thaler, 1987: 394, figs 9–18 (D♂♀).

**Remarks.** Since the original description from northern Italy (South Tirol) this species was found in Switzerland only (Thaler & Zingerle 1998). All records of *O. secreta* are from the foothills, at about 500–600 m. The tegular apophysis of this species resembles that in *O. utotchkini*, although tibial apophyses are clearly different as are the epigynes.

**Distribution.** Northern Italy and southern Switzerland (Fig. 13).

### *Oxyptila sedotmikka* Levy, 2007

*O. sedotmikka* Levy, 2007: 22, figs 58–62 (D♂♀).

**Material examined. ISRAEL:** 1♂ (IBPN), near Nehusha, 18 January 2002 (Y. Mandelik); 1♀ (IBPN), Sedot Mikha, 14 May 2002 (Y. Mandelik).

**Remarks.** This species is known from Israel only. Levy (2007) considered this species related to the European *O. sanctuaria* (O.P.-Cambridge, 1871). Figures provided by Levy (2007) and specimens examined clearly signify belonging of *O. sedotmikka* to the *rauda*-group. The shape of the tegular apophysis and the reduced intermediate apophysis indicate its relationship to *O. conostyla*.

**Distribution.** Israel only (Fig. 14).

### *Oxyptila utotchkini* Marusik, 1990

*Oxyptila utotchkini* Marusik, in Marusik & Chevrizov, 1990: 93, figs 9–11 (D♂).  
*O. u.*: Marusik & Omelko, 2008: 65, figs 1–12 (♂, D♀).

**Remarks.** This species was described based on two males from the Maritime Province of Russia. While females of uncertain placement collected in the type locality were known to me for a long time, they looked so different from all members of *O. rauda*-group that they were not described until females and males were found in one sample (Marusik & Omelko, 2008). While describing female it was recognised that it is similar to *O. gasanensis* Paik, 1985, based on holotype female from Korea. Thus it is rather possible that two names may be synonymised in the future when males are found in Korea or topotypes are available. The male palp of this species somewhat resembles that of *O. ladina*.

**Distribution.** So far this species is known from the Maritime Province of Russia, but its occurrence in adjacent China, Korea and Khabarovsk Province is very likely (Fig. 13).

### *Ozyptila yosemitica* Schick, 1965

*O. yosemitica* Schick, 1965: 173, figs 261–262 (D♀).

*O. y.*: Dondale & Redner, 1975: 164, figs 36, 39, 106–107 (♀, D♂, S).

**Material examined. USA: Washington State:** 2♂ 2♀ (IBPN), Chelan Co., Fish Lake bog, 588 m, leaf litter in deciduous forest, 47.825°N 120.720°W, 19 May 1996 (Y.M.Marusik)

**Remarks.** This is one of two species of the *O. rauda*-group found in North America, and single endemic species of the group in the Nearctic. This species was assigned to *O. rauda*-group by Dondale & Redner (1975) when they discovered the male. The epigyne of this species somewhat resembles that of *O. rauda* and related species, while the male has a tegular apophysis somewhat similar to that in *O. utotchkini*. It seems that this species cannot be grouped with any other species. For a long time it was known from California and adjacent Oregon. During a short trip to central part of Washington State organised by R. Crawford, this species was collected in Chelan Co., which is the northernmost locality of the species and the first record in Washington State. Occurrence of *O. yosemitica* in adjacent British Columbia is very likely (Fig. 13).

### Insufficiently known species probably belonging to *O. rauda*-group

#### *Ozyptila gasanensis* Paik, 1985

*Ozyptila gasanensis* Paik, 1985: 14, figs 1–5 (D♀).

**Remarks.** This species is known from the original description of the holotype female collected in Korea. It might be a senior synonym of *O. utotchkini* known earlier from males only. The recently discovered female of *O. utotchkini* has a very similar epigyne (Marusik & Omelko 2008). See also comments under *O. utotchkini*.

#### *Ozyptila lutosa* Ono & Martens, 2005

*O. lutosa* Ono & Martens, 2005: 121, figs 68–70 (D♀).

**Remarks.** The species is known from a single female from Azerbaijan Province of Iran from an elevation 1650 m. Judging from its occurrence in the mountains and shape of epigyne, it might be conspecific with *O. conostyla*, the female of which is unknown. See also comments under *O. conostyla*.

### Discussion

Presently, at least 14 species and subspecies certainly belong to the *O. rauda*-complex. Only five species can be placed in two complexes based on similarities of the copulatory organs: 1) *rauda*-complex: *O. arctica*, *O. rauda* and *O. pullata* and 2) *conostyla*-complex: *O. conostyla* and *O. sedotmikha*. *O. orientalis* can be regarded as a complex species with three independent species or three subspecies: *O. orientalis*, *O. balkarica* and *O. basegica*. Unlike in *O. rauda*-complex, females of *O. orientalis* subspecies cannot be differentiated

and therefore, following Esyunin (1992) I treat them as subspecies. All other six species, *O. kaszabi*, *O. ladina*, *O. sakhalinensis*, *O. secreta*, *O. utotchkini* and *O. yosemitica* are rather different and cannot be grouped.

Two species are known from males only: *O. conostyla* and *O. kaszabi*, although female of the former species was possibly described as a separate species, *O. lutosa*.

The *O. rauda*-group is one of the most easily defined monophyletic group within the paraphyletic genus *Ozyptila s.l.*, and deserves the status of genus.

Looking at the distribution of the species of *O. rauda*-group, five areas of species concentration can be recognised (Fig. 13). Two areas contain three species: Caucasus (*O. conostyla*, *O. balkarica*, *O. pullata*) and Ural (*O. basegica*, *O. pullata*, *O. arctica*). Three areas of similar size encompass four species: Alps (*O. ladina*, *O. pullata*, *O. rauda* and *O. secreta*), Altai-Mongolia (*O. arctica*, *O. kaszabi*, *O. orientalis* and *O. rauda*) and southern part of Russian Far East (*O. arctica*, *O. orientalis*, *O. sakhalinensis* and *O. utotchkini*). If one counts the record of *O. rauda* from eastern Kamchatka, northern Far East can be also regarded as area with 3 species (*O. arctica*, *O. orientalis* and *O. rauda*).

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