

Taxonomic remarks on the genus *Bogdocosa* Ponomarev et Belosludtsev, 2008 (Aranei: Lycosidae)

Таксономические заметки о роде *Bogdocosa* Ponomarev et Belosludtsev, 2008 (Aranei: Lycosidae)

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КЛЮЧЕВЫЕ СЛОВА: Аранеае, Центральная Азия, новые комбинации, новые синоним, пауки-волки.

ABSTRACT. *Bogdocosa* Ponomarev et Belosludtsev, 2008 is proven to be a monotype genus of the Lycosidae. A revision of the taxonomic status of some Central Asian wolf-spider species, such as *Alopecosa kronebergi* Andreeva, 1976 (from Tajikistan), *Bogdocosa baskuntchakensis* Ponomarev et Belosludtsev, 2008 (from cis-Caspian Region and Iran) and *Pardosa beijiangensis* Hu et Wu, 1989 of the *multivaga* species group (from East China), has resulted in two new synonyms and a new combination: *Bogdocosa kronebergi* (Andreeva, 1976) comb.n. (ex *Alopecosa*) = *P. beijiangensis* Hu et Wu, 1989 syn.n. = *B. baskuntchakensis* Ponomarev et Belosludtsev, 2008 syn.n. It is shown that the type series of *Alopecosa latifasciata* (Kroneberg, 1875) is heterogeneous and contains two syntype males from Magian Vil. (Panjakent District, Sughd Region, Tajikistan) and females of *B. kronebergi* from Samarkand Town (Uzbekistan). An updated diagnosis and description of *Bogdocosa* genus are provided; the distribution of *B. kronebergi* is mapped.

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РЕЗЮМЕ. *Bogdocosa* Ponomarev et Belosludtsev, 2008 рассматривается как монотипичный род Lycosidae. Пересмотр таксономического статуса некоторых центрально-азиатских видов пауков-волков: *Alopecosa kronebergi* Andreeva, 1976 (из Таджикистана), *Bogdocosa baskuntchakensis* Ponomarev et Belosludtsev, 2008 (из Прикаспийского региона и Ирана) и *Pardosa beijiangensis* Hu et Wu, 1989 из группы видов *multivaga* (из Западного Китая) позволил выявить новые синонимы и новые комбинации: *Bogdocosa kronebergi* (Andreeva, 1976) comb.n.

(ex *Alopecosa*) = *P. beijiangensis* Hu et Wu, 1989 syn.n. = *B. baskuntchakensis* Ponomarev et Belosludtsev, 2008 syn.n. Показано, что типовая серия вида *Alopecosa latifasciata* (Kroneberg, 1875) является сборной и содержит типового самца из поселка Магиан (Пенджикентский район, Согдийская область, Таджикистан) и самок *B. kronebergi* из окрестностей Самарканда (Узбекистан). Даны уточненный диагноз и описание рода *Bogdocosa*; распространение *B. kronebergi* закартировано.

Introduction

The spider genus *Bogdocosa* Ponomarev et Belosludtsev, 2008, with the type species *B. baskuntchakensis* Ponomarev et Belosludtsev, 2008, was described on the basis of both sexes from the Bogdinsko-Baskunchakskiy Reserve (Astrakhan Region, Russia). The authors [Ponomarev, Belosludtsev, 2008] compared this genus with such genera as *Pardosa* C.L. Koch, 1847 and *Aulonia* C.L. Koch, 1847. In their opinion, *Bogdocosa* is well distinguished from both by the apical position of the embolus. Having originally known from the south part of European Russia only, *B. baskuntchakensis* was later recorded from the northern part of Caspian Sea Region [Abdurakhmanov et al., 2012; Ponomarev, Abdurakhmanov, 2014] and Iran [Mirshamsi et al., 2015].

While studying two females of wolf-spiders from eastern Kazakhstan, one of us (SE) has found out that they are similar with two species of different genera: *B. baskuntchakensis* and *Alopecosa kronebergi* Andreeva, 1976. This observation made us to analyze all the information about both Central Asian species. As a result, some mistakes and confusion regarding the name *B. baskuntchakensis* have been revealed.

First, based on the original description, the species *A. kronebergi* described from Tajikistan is indeed identical to the type species of *Bogdocosa* and thus is to be transferred to this genus, becoming its type species as a senior synonym of *Bogdocosa baskuntchakensis* (see below). Second, *Pardosa beijiangensis* Hu et Wu, 1989 described from Xinjiang Uyghur Autonomous Region (China) is also identical to *B. kronebergi*. Recently, *P. beijiangensis* was redescribed, illustrated and placed in the *multivaga* species group by Chen, Song [2004]; the latter taxonomic solution was, in our opinion, a mistake. Third, the two females from Samarkand (Uzbekistan) identified, described and illustrated by Kroneberg [1875] as *Tarentula latifasciata* Kroneberg, 1875 are undoubtedly identical to those of *B. kronebergi* in their size, body coloration and shape of the epigyne. The fact that the females from Samarkand are markedly different in their coloration from the syntype males of *A. latifasciata* was indicated by the original author [Kroneberg, 1875: 40], who noticed that “the difference in the size of males and females is so significant ... that the latter can be attributed to a separate species”. Charitonov [1946], without considering the viewpoint of Kroneberg, illustrated the epigyne [Ibid.: fig. 20] and described [Charitonov, 1969] the female of *A. latifasciata* that did not match Kroneberg’s original figure and description. Thus, the type series of *A. latifasciata* is heterogeneous, consisting of the syntype males from Magian Village (Panjakent District, Sughd Region, Tajikistan) and two females of *B. kronebergi* from Samarkand Town (Uzbekistan).

A re-examination of the materials of the *Pardosa multivaga* species group stored in the Zoological Museum of the Moscow State University made it possible to reveal an erroneous identification.

In the present paper, we aim to provide an updated diagnosis, definition and description of *Bogdocosa*, to correct the aforementioned identifications, and to establish a new combination and two new synonyms.

Material and methods

The material studied here is deposited in the Zoological Museum of the Moscow State University (ZMUM, curator: K.G. Mikhailov), the department of Invertebrate Zoology and Aquatic Ecology of the Perm State University (PSU, curator: S.L. Esyunin) and Ponomarev’s personal collection (PC). Photographs are made by means of the camera SONY NEX-C3 attached to MIKMED-6 optical microscope at the Southern Scientific Centre, Russian Academy of Sciences, Rostov-on-Don. SEM micrographs were made by means of a Hitachi TM3000 SEM microscope with BSE (back-scattered electrons) at the Perm State University, Perm.

The distribution map was produced by using the online mapping software SimpleMapp [Shorthouse, 2010] with slight modifications.

Abbreviations used in the text and figures are as follows: ALE — anterior lateral eye, AME — anterior median eye.

The terminology of the *Bogdocosa* palp morphology follows Marusik et al. [2011], that of the epigyne morphology — Chen, Song [2004].

Genus *Bogdocosa* Ponomarev et Belosludtsev, 2008

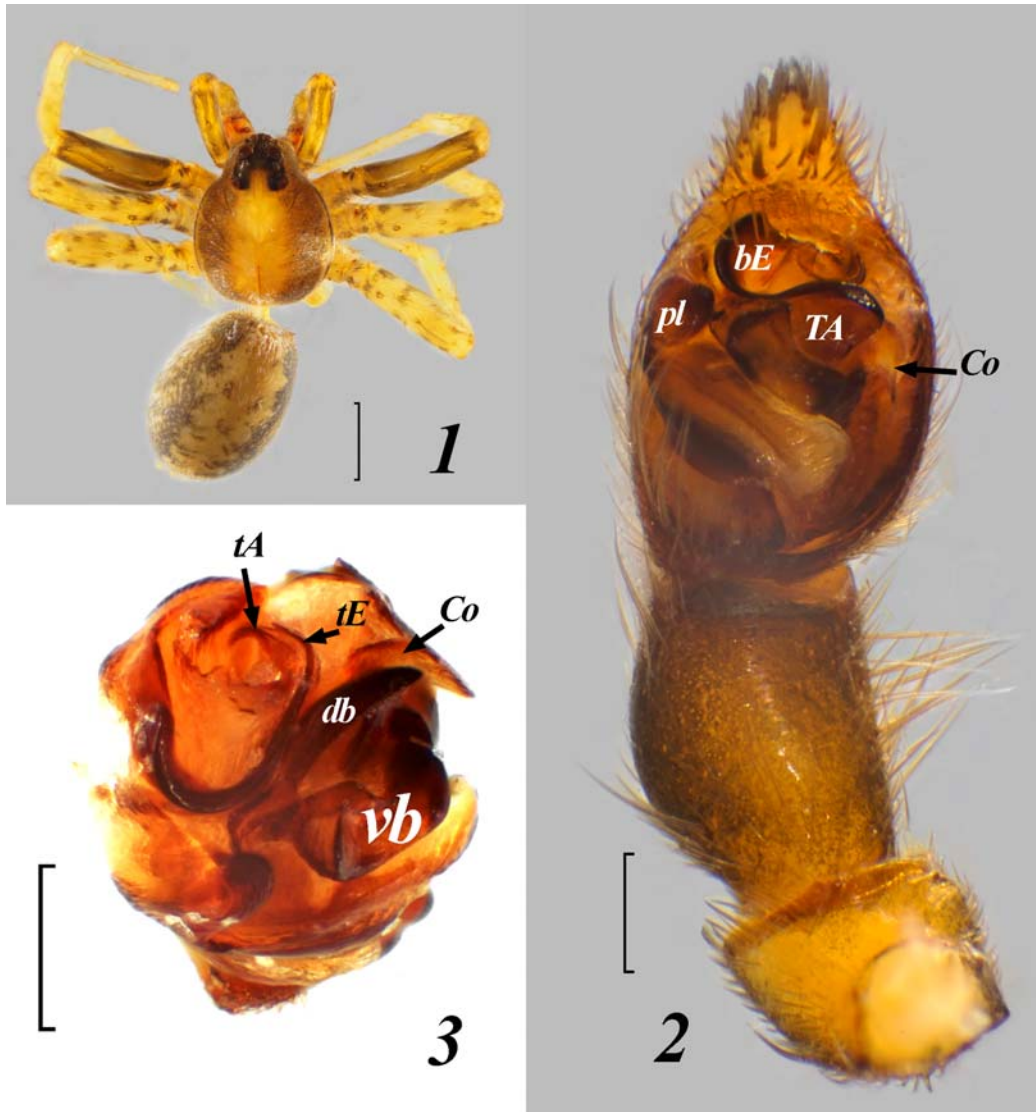
TYPE SPECIES. *Alopecosa kronebergi* Andreeva, 1976, as a senior synonym of *Bogdocosa baskuntchakensis* Ponomarev et Belosludtsev, 2008 (see below).

ETYMOLOGY. The generic name consists of two parts: ‘Bogdo’, referring to the name of Bogdo Mt. in the northern part of cis-Caspian Region, and the second half of the generic name *Lycosa*, which is often used to form generic names in the wolf-spiders. Gender: feminine.

DIAGNOSIS AND AFFINITIES. *Bogdocosa* is similar to *Evippa* Simon, 1882 and *Xerolycosa* Dahl, 1908 of the subfamily Evippinae Zyuzin, 1985 in some characters of the male palp: the cymbium with apical spines, the palea is absent, the terminal apophysis is associated with the embolus, the tegular apophysis with median prominences and branches (as in all *Xerolycosa* and some *Evippa* species), the embolus is bent before its apex. Yet, the genus differs from other Evippinae genera in the following characters: (1) the embolus does not form a flat, almost cyclic structure located at the bottom of the recess (‘alveolus’ *sensu* Zyuzin [1985]) as in the rest of Evippinae, (2) the tegular apophysis is arranged medially vs. retrolaterally in other Evippinae, (3) the epigynal septum and lateral pocket (‘windows of epigyne’ *sensu* Marusik et al. [2011]) are absent, but they present in other Evippinae genera.

A strong similarity of *Bogdocosa* species with those of the *Pardosa multivaga* species group was first noticed by Chen, Song [2004]. However, in our opinion, *Bogdocosa* differs from the *multivaga* group by (1) the thick spine-like hairs on the male sternum (Fig. 5) and (2) the bulge on the palpal tibia (Fig. 2) (both these characters are absent from the latter species group), (3) the lack of the lobe on the embolic base, which is present in the *multivaga* group [Chen, Song, 2004, figs 17–22, 32–35], (4) the narrow anterior half of the median epigynal plate, which is present in the females of the *multivaga* group [Chen, Song, 2004, figs 11, 13, 15, 30], and (5) the position of the copulatory openings, which are situated at the posterior margin of the median epigynal plate in *Bogdocosa* (Fig. 7), while at the anterior margin in the *multivaga* group [Chen, Song, 2004, figs 12, 14, 16, 31]. Besides, we are in favour of the viewpoint by Yin et al. [1997], who stated that the two *Pardosa* species — *P. multivaga* Simon, 1880 and *P. xinjiangensis* Hu et Wu, 1989 — differ from the generotype, *P. alacris* (C.L. Koch, 1833) by their conformation of copulatory organs; yet, in our opinion, the *multivaga* species group deserves a status of a separate genus that is close to *Bogdocosa*.

On the other hand, by their copulatory organs, *Bogdocosa* is similar to two predominantly African lycosid genera *Pterartoria* Purcell, 1903 and *Trabea* Simon, 1876, but differs from them in the shape of carapace and the size of median eye row [cf. Russell-Smith, 1981, 1982]. The common characters in *Bogdocosa* and the *Pterartoria*–*Trabea* complex are as follow: (1) the looped embolus that is situated apically in bulb, (2) the big plate-shape tegular apophysis with two or three branches (it should be noticed that Russell-Smith [1982: 70] considers the ‘tegular apophysis’ of *Trabea* not homologous to that of other Lycosidae), (3) the tegulum with a prolateral tegular lobe, (4) the epigyne with a median plate, without septum. However, *Bogdocosa*



Figs 1–3. Male habitus (1, dorsal view), palpus (2, ventral view) and bulbus (3, anterior view) of *Bogdocosa kronebergi* (Andreeva, 1976). Scale bars: 1 — 1 mm; 2, 3 — 0.2 mm.

Abbreviations: *bE* — embolic base; *Co* — conductor; *db* — dorsal branch of tegular apophysis; *TA* — tegular apophysis; *tA* — terminal apophysis; *tE* — embolic tip; *vb* — ventral branch of tegular apophysis.

Рис. 1–3. Тело самца (1, сверху), пальпа (2, снизу) и бульбус (3, спереди) *Bogdocosa kronebergi* (Andreeva, 1976). Масштаб: 1 — 1 мм; 2, 3 — 0,2 мм.

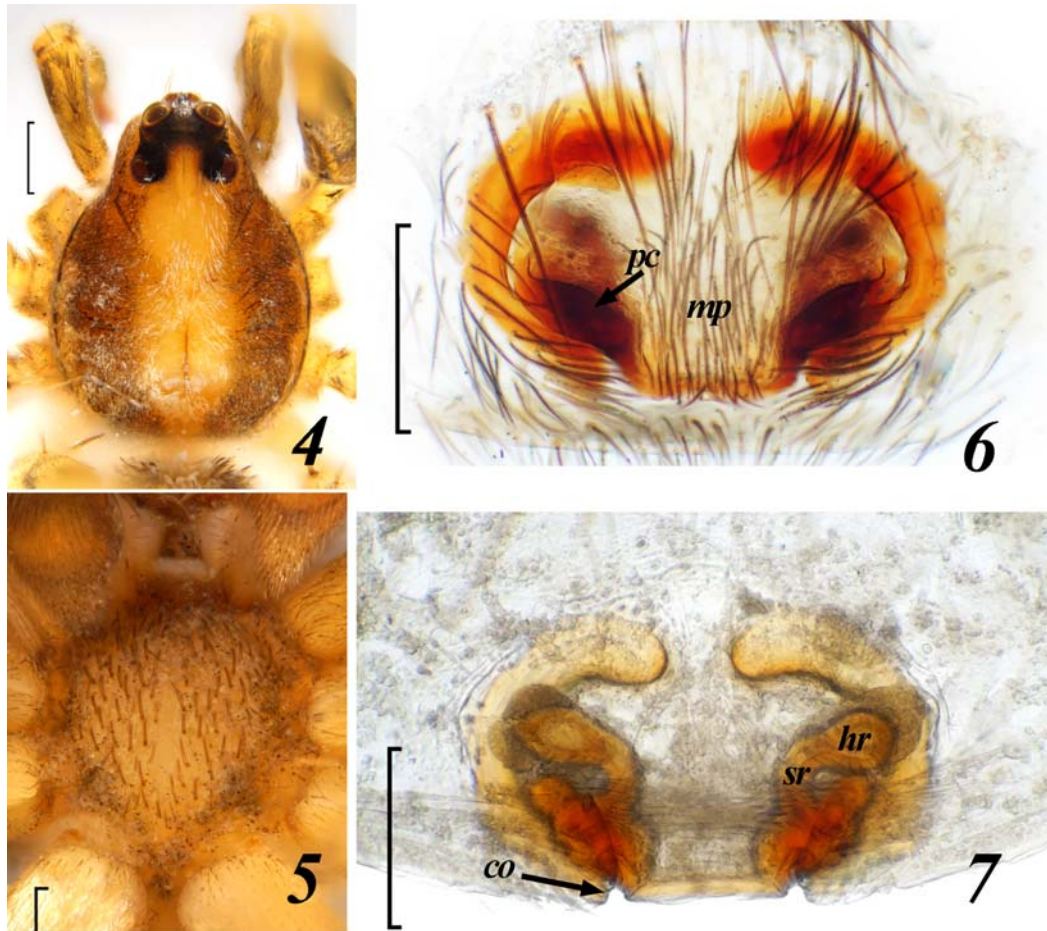
Сокращения: *bE* — основание эмболиуса; *Co* — кондуктор; *db* — дорсальная ветвь тегулярного отростка; *TA* — тегулярный отросток; *tA* — терминальный отросток; *tE* — вершина эмболиуса; *vb* — вентральная ветвь тегулярного отростка.

differs from *Trabea* in having not enlarged eyes of the median row ('markedly enlarged' in *Trabea* [Russell-Smith, 1982: 70]), and from both African genera in the absence of such a specific structure of the male palp as the embolic tip lying beneath a transparent membranous fold of the tegulum [see Russell-Smith, 1982: 70], as well as in the position of the copulatory openings: in *Bogdocosa* they are situated at the posterior margin of the median epigynal plate, whereas in *Trabea* and *Pterartoria* at the anterior margin (e.g., figs 7, 8 in Snazell [1983], figs 3G, 7E, 12F in Russell-Smith [1981]).

Having discussed the position of the two genera in the family Lycosidae, Russell-Smith [1982: 70] came to the

following conclusion: "It is probable that these two genera, together with *Pterartoria* Purcell, 1903, should be placed in a new taxon of their". Taking into account the significant differences of *Bogdocosa* from other genera in the Evippinae and Lycosinae *sensu* Zyuzin [1985], it is safe to conclude that the position of the genus *Bogdocosa* within the Lycosidae is to be treated as unresolved.

DESCRIPTION. Medium size: ♂♂ — 4.4 to 5.7 mm and ♀♀ — 5.0 to 8.2 mm in length. Sexes are alike, with a poorly marked colour dimorphism (♂♂ darker, marginal light bands on carapace narrower, femur I dark); yet, ♂♂ have spine-like hairs on the sternum (Fig. 5) (normal hairs in females) and darker femora I (Fig. 1). Carapace brown, with



Figs 4–7. Male carapace (4, dorsal view), male sternum (5, ventral view) and epigyne (6, 7, ventral and dorsal views, respectively) of *Bogdocosa kronebergi* (Andreeva, 1976). Scale bars: 4, 5 — 0.5 mm, 6, 7 — 0.2 mm.

Abbreviations: *co* — copulatory opening; *hr* — head of receptaculum; *mp* — median epigynal plate; *sr* — stem of receptaculum; *pc* — pocket of median epigynal plate.

Рис. 4–7. Карапакс (4, сверху) и sternum (5, снизу) самца и эпигина (6, 7, снизу и сверху, соответственно) *Bogdocosa kronebergi* (Andreeva, 1976). Масштаб: 4, 5 — 0,5 мм, 6, 7 — 0,2 мм.

Сокращения: *co* — копулятивные отверстия; *hr* — головка рецептакула; *mp* — срединная пластинка эпигины; *sr* — ножка рецептакула; *pc* — складка пластинки эпигины.

a light wide median stripe and narrow marginal bands (Fig. 1). Median band extends anteriorly between eyes of the posterior row (Fig. 4). Anterior eye row straight, slightly shorter than the median one. AME larger than ALE. Chelicerae brown, with three teeth on both margins. Sternum yellow; in ♂♂ with spine-like black hairs (Fig. 5), in ♀♀ with long black hairs. Legs yellow, femora with annulations (Fig. 1). Abdomen grey to grayish brown, with a wide pale median stripe dorsally, and yellow to yellow-grey stripes ventrally.

Male palp (Figs 2, 3, 8–12): cymbium without a distal claw, but with several strong spines (Fig. 9); embolus situated apically on bulbus (Fig. 2), bending before its apex (Figs 3, 10); terminal apophysis (*ta*) associated with embolus (Figs 3, 10); tegular apophysis (*TA*) plate-shape, with two branches: ventral (*vb*) and dorsal (*db*) (Fig. 11); tegulum with a prolateral tegular lobe (*pl*) and retrolateral conductor (*Co*) (Fig. 2, 12).

Female epigyne (Figs 6, 7): median plate (*mp*) transverse, with a pair of pockets (*pc*) near its posterior margin

(Fig. 6), septal stem absent; copulatory openings (*co*) situated near the posterior margin of epigynal plate; receptacles C-shaped, their distal parts directing anterior-laterad (Fig. 7).

COMPOSITION. *Bogdocosa kronebergi* (Andreeva, 1976), comb.n.

DISTRIBUTION. Central Asia (Fig. 13): from Iran and Daghestan to Xinjiang, China, north to Astrakhan Region of Russia and West-Kazakhstan Region, south to Khorasan-e Razavi Province of Iran.

Bogdocosa kronebergi (Andreeva, 1976) comb.n.

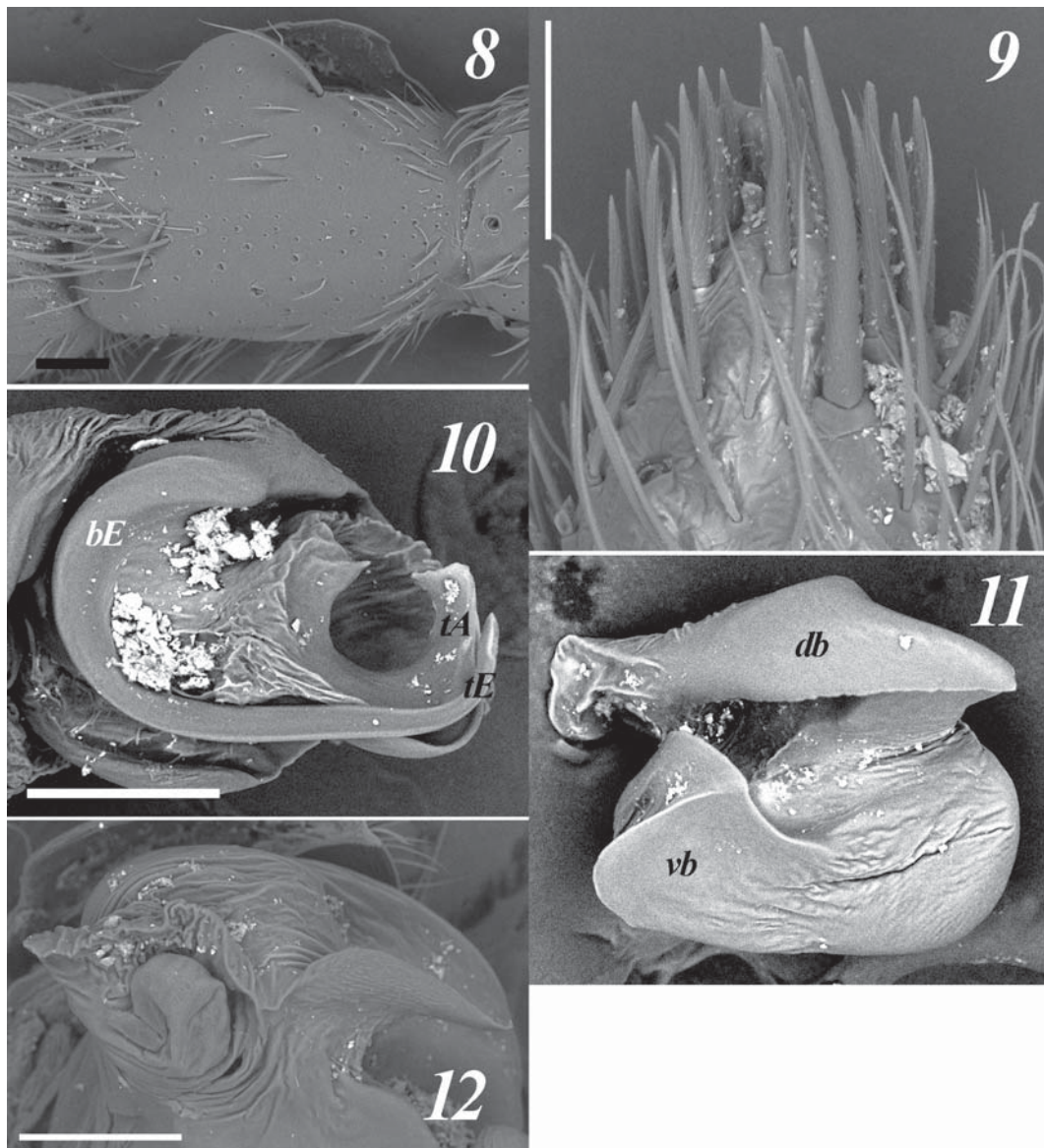
Figs 1–12.

Tarentula latifasciata Kroneberg, 1875: 39, Pl. 4, Fig. 27e (♀ only!; mismatched).

Alopecosa kronebergi Andreeva, 1976: 45, Figs 54–55 (♂♀).

Pardosa beijiangensis Hu et Wu, 1989: 210, Fig. 174.1–5 (♂♀), syn.n.

Pardosa beijiangensis: Zhao, 1993: 85, Fig. 35a–c (♂♀; copied from Hu, Wu [1989]).



Figs 8–12. Details of male palp of *Bogdocosa kronebergi* (Andreeva, 1976): 8 — tibia, dorsal view; 9 — tip of cymbium with apical spines, ventral view; 10 — terminal part of bulb, anterior view; 11 — tegular apophysis, ventral view; 12 — conductor, ventral view. Scale 0.1 mm.

Abbreviations: *bE* — base of embolus; *db* — dorsal branch of tegular apophysis; *tA* — terminal apophysis; *tE* — tip of embolus; *vb* — ventral branch of tegular apophysis.

Рис. 8–12. Детали пальца *Bogdocosa kronebergi* (Andreeva, 1976): 8 — голень, сверху; 9 — вершина цимбиума с апикальными щетинками; 10 — вершинная часть бульбуса, спереди; 11 — тегулярный отросток, снизу; 12 — кондуктор, снизу. Масштаб 0,1 мм.

Аббревиатура: *bE* — основание эмболюса; *db* — дорсальная ветвь тегулярного отростка; *tA* — терминальный отросток; *tE* — вершина эмболюса; *vb* — вентральная ветвь тегулярного отростка.

Tarentula andreevae Mikhailov, 1996: 108, an invalid emendation (not preoccupied by *Tarentula cronebergi* Thorell, 1875).

Pardosa beijiangensis: Song et al., 1999: 329, Fig. 193H, N (♂♀).

Pardosa beijiangensis: Chen, Song, 2004: 406, Figs 1–9 (♂♀).

Bogdocosa baskuntchakensis Ponomarev et Belosludtsev in Ponomarev et al., 2008: 164, Figs 1–6 (♂♀), **syn.n.**

Bogdocosa baskuntchakensis: Mirshamsi et al., 2015: 101, Figs 4–12 (♂♀).

TYPES. Paratypes of *Bogdocosa baskuntchakensis*: 2 ♂♂, 1 ♀ (CP: 25.23.1/1) from Russia, Astrakhan Province, Bogdisko-Baskunchakskiy Reserve, Surikovskaya Ravine, 48°09'24.17"N,

46°50'35.89"E, 16–18.VII.2002, E.A. Belosludtsev; 18 ♂♂, 1 ♀ (CP: 25.23.1/2), same locality, 48°13'23.40"N, 46°58'48.79"E, bank of lake, 7–10.VI.2005, E.A. Belosludtsev.

MATERIAL. **Russia**: 4 ♂♂, 6 ♀♀ (CP: 25.23.1/3), Daghestan, Kizlyar District, Tyuleny Island, 44°28'37.87"N, 47°31'37.60"E, shrub (*Tamarix*) – *Artemisia* steppe, 11–14.VI.2009, S.V. Alieva & N.Kh. Il'yasov; 13 ♂♂, 7 ♀♀ (CP), Daghestan, Daghestan Nature Reserve, 44°42'N, 47°00'E, Sarykum sand dune, 23.IV–4.VI.2017, M.A. Aliev. **Kazakhstan**: 2 ♀♀ (PSU-6443), Zhambyl Region, Balkhash Lake, 46°53'N, 74°44'E, 2007, K. Fadeev; 1 ♂ (ZMMU), West Kazakhstan Region, near Zhanybek Vil., 49°23'N, 46°48'E, windbreak from *Ulmus*, pitfall-traps, 11–14.VI.1984, K.G.

Table. Comparison of different populations of *Bogdocosa kronebergi* (Andreeva, 1976) according by somatic characteristics.Таблица. Сравнение различных популяций *Bogdocosa kronebergi* (Andreeva, 1976) по соматическим характеристикам.

Region	Tadjikistan	Xinjiang Province	Astrakhan Area	Iran
Publication	Andreeva, 1976	Chen, Song, 2004	Ponomarev et al., 2008	Mirshamsi et al., 2015
Published name	<i>Alopecosa kronebergi</i>	<i>Pardosa beijiangensis</i>	<i>Bogdocosa baskuntchakensis</i>	<i>Bogdocosa baskuntchakensis</i>
Total length				
male	4.9	4.4	5.7	5.7
female	5.0	5.2–6.6	8.0–8.2	6.7
Carapace length				
male	2.5	2.5	2.8	3.1
female	2.7	2.6–2.9	2.7–2.9	3.1
Carapace width				
male	–	1.8	2.1	2.2
female	–	1.8–2.2	2.0–2.2	2.2
Carapace coloration	Brown, with a wide median light stripe and marginal light bands	Pale (probably owing to preservation in alcohol), with a wide median yellow stripe and marginal yellow-white bands	Brown, with a wide median yellow stripe and marginal yellow bands	Brown, with a wide median light stripe and marginal light bands
Sternum coloration	Yellow	Yellow	Yellow	Yellow
Dorsum coloration	Dark greyish brown, with a wide light median stripe	(?) with a wide pale median stripe	Dark grey, with a wide yellow median stripe	Black, with a wide yellow-brown median stripe
Venter coloration	Yellow	–	Yellow	Yellow/Grey
Leg coloration	Yellow	Yellowish brown	Yellow	Yellow
Male femur I coloration	Brown	–	Dark brown (Fig. 1)	Brown
Chelicera coloration	Brown	–	Brown	Brown
Palp coloration	Brown, patella slightly lighter	Brown, patella slightly pale	From dark brown (Fig. 2) to yellow (Dagestan), patella slightly lighter	–
Eyes of the anterior row	AME bigger than ALE; AME and ALE contiguous	AME bigger than ALE; ?	AME slightly bigger than ALE; MAE and ALE contiguous	–

Mikhailov (as *Pardosa xinjiangensis* Hu et Wu, 1989; misidentification).

DIAGNOSIS. See above under the generic ‘Diagnosis and Affinities’.

DESCRIPTION. See Chen, Song [2004: 406–407; sub *Pardosa beijiangensis*] and Ponomarev et al. [2008: 164].

NOTES. In Introduction (see above), we have mentioned that *B. kronebergi* has been described or reported from cis-Caspian Region and Central Asia under the four names: *Tarentula latifasciata* [Kroneberg, 1875: ♀♀ only], *Alopecosa kronebergi* [Andreeva, 1976], *Pardosa beijiangensis* [Hu, Wu, 1989; Zhao, 1993; Song et al., 1999; Chen, Song, 2004] and *Bogdocosa baskuntchakensis* [Ponomarev

et al., 2008; Mirshamsi et al., 2015]. The type specimens of three species names (*T. latifasciata*, *A. kronebergi* and *P. beijiangensis*) have not been studied here, but there are detailed, recent and reliable (re)descriptions and figures of all the diagnostic characters of both males and females [Andreeva, 1976; Chen, Song, 2004; Ponomarev et al., 2008].

Three species populations of *B. kronebergi*, described as different species (viz., *A. kronebergi*, *P. beijiangensis* and *B. baskuntchakensis*) have the same somatic characteristics (see Table) and do not differ in the structure of the male palp and the epigyne (Fig. 14–17). The known localities of these species form a continuous range (Fig. 13). Therefore, it is safe to synonymize these three species names.

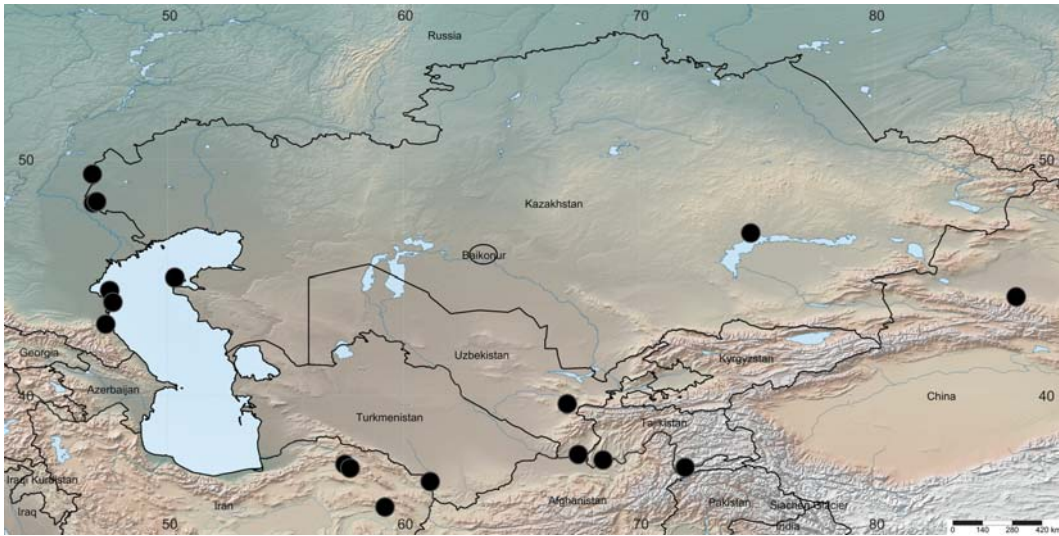
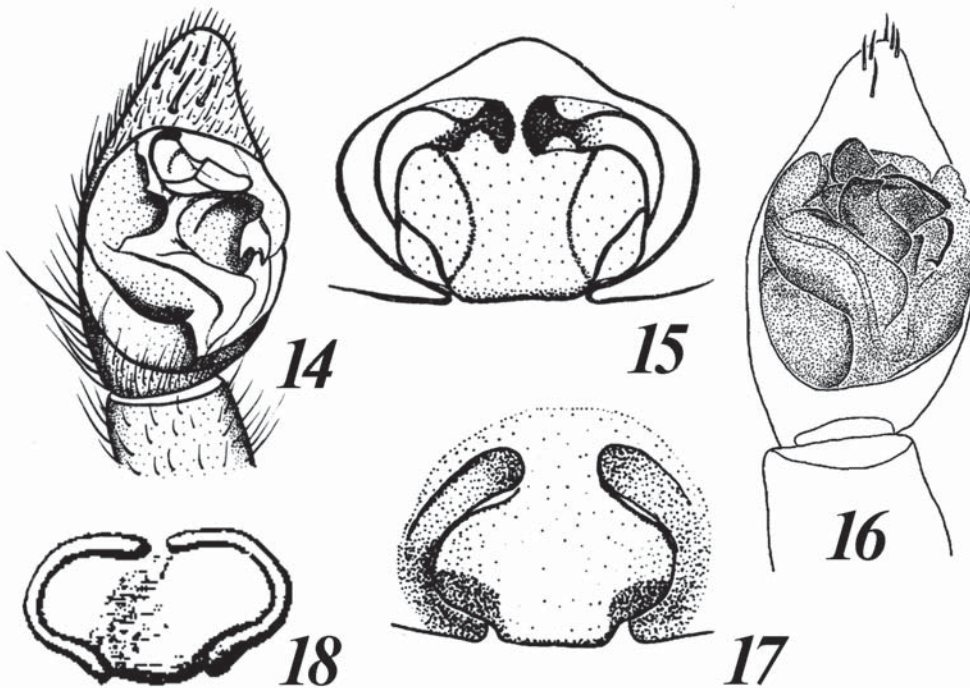


Fig. 13. Collecting localities of *Bogdocosa kronebergi* (Andreeva, 1976).

Рис. 13. Точки находок *Bogdocosa kronebergi* (Andreeva, 1976).



Figs 14–18. Variations of figures of palp (14, 16, ventral view) and epigyne (15, 17, 18, ventral view) of *Bogdocosa kronebergi* (Andreeva, 1976).

Figures are from the following publications: 14, 15 — after Andreeva [1976, figs 54–55, as *Alopecosa kronebergi*]; 16, 17 — after Song, Chen, 2004: figs 2, 4, as *Pardosa beijiangensis*], 18 — after Kroneberg [1875, fig. 27e, as *Tarentula latifasciata*].

Рис. 14–18. Варианты изображения пальпа (14, 16, снизу) и эпигины (15, 17, 18, снизу) *Bogdocosa kronebergi* (Andreeva, 1976).

Рисунки заимствованы из следующих публикаций: 14, 15 — [Андреева, 1976, рис. 54–55, как *Alopecosa kronebergi*]; 16, 17 — [Song, Chen, 2004: figs 2, 4, как *Pardosa beijiangensis* Hu et Wu, 1989], 18 — [Кронеберг, 1875, рис. 27е, как *Tarentula latifasciata*].

The females of *T. latifasciata* were described in less detail; however, the somatic characters (the total length of 7.0–8.5; carapace and abdomen with a light wide median stripe; sternum and abdomen ventrally light greyish brown) are in agreement with and the structure of its epigyne (Fig. 18) is identical to that of *B. kronebergi*.

DISTRIBUTION (Fig. 13). **Iran**: Northern Khorasan Province, Chenar Sookhte Vil., 37°05'21.17"N, 57°31'30.36"E, Baba Hossein cemetery, 36°55'34.84"N, 57°44'07.35"E; Khorasan-e Razavi Province, Torbate Heydariyeh, 35°16'27.9"N, 59°13'09.59"E, Dowlat Abad Village, 36°21'09.46"N, 61°08'00.30"E [Mirshamsi et al., 2015: as *B.*

baskuntchakensis. **Russia:** Astrakhan Region: Bogdisko-Baskunchakskiy Reserve [Ponomarev et al., 2008: as *B. baskuntchakensis*]; Daghestan Republic: nr. Makhachkala Town, 43°02'N, 47°22'E, Chechen' Island in Caspian Sea, 43°58'N, 47°40'E; Kizlyar Distr.: Tyuleniy Island [Ponomarev et al., 2011; Abdurakhmanov et al., 2012: as *B. baskuntchakensis*; Ponomarev, Abdurakhmanov, 2014: as *B. baskuntchakensis*] and Dagestan Nature Reserve, 44°42'N, 47°00'E [present data]. **Kazakhstan:** West Kazakhstan Region [Piterkina, Mikhailov, 2009: as *P. xinjiangensis*], Mangistau (=Mangyshlak) Area, Kulaly Island in Caspian Sea, 45°00'N, 50°18'E [Ponomarev, Abdurakhmanov, 2014: as *B. baskuntchakensis*], Zhambyl Area: Balkhash Lake [present data]. **Uzbekistan:** Samarkand, 39°39'N, 66°57'E [Kroneberg, 1875: as *T. latifasciata* non Kroneberg, 1875]; ?Larkurgan, 37°30'N, 67°25'E [Andreeva, 1976: as juvenile specimens *A. kronebergi*]. **Tajikistan:** Khatlon Region, Tigrovaya Balka Nature Reserve, 37°16'N, 68°28'E; Gorno-Badakhshan Autonomous Region, Ishkashim District, Daray-Abkharv Canon, 36°57'N, 71°57'E [Andreeva, 1976: as *A. kronebergi*]. **China:** Xinjiang Uyghur Autonomous Region, Shihezi City, 44°12'N, 86°00'E [Hu, Wu, 1989: as *P. beijiagensis*; Song et al., 1999: as *P. beijiagensis*; Chen, Song, 2004: as *P. beijiagensis*].

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