

On a new Eurasian species of *Dictyna* Sundevall, 1833 (Aranei: Dictynidae), with taxonomic notes on poorly known Palaearctic *Dictyna* species

Новый евроазиатский вид *Dictyna* Sundevall, 1833 (Aranei: Dictynidae), с таксономическими заметками о малоизвестных палеарктических видах рода *Dictyna*

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KEY WORDS: Dictynidae, spiders, new species, new combinations.

КЛЮЧЕВЫЕ СЛОВА: Dictynidae, пауки, новый вид, новые комбинации.

ABSTRACT. A new species *Dictyna sinuata* sp.n. (♂) is described from the steppe zone of Orenburg Area, Russia. This species belongs to the *arundinacea* species group and is closely related to the North American *D. bostoniensis* Emerton, 1888, from which it can readily be distinguished by the shape of conductor, the smaller body size, and the body coloration. New combinations are proposed for five species names (all ex. *Dictyna*): *Nigma albida* (O. Pickard-Cambridge, 1885) comb.n., *Sudesna flavipes* (Hu, 2001) comb.n., *Bannaella lhasana* (Hu, 2001) comb.n., *Nigma nangquianensis* (Hu, 2001) comb.n. and *Brigittea varians* (Spassky, 1952) comb.n. *Dictyna xinjiangensis* Song, Wang et Yang, 1985, syn.n., is synonymized with *Brigittea varians* (Spassky, 1952). The earlier synonymy is confirmed: *Dictyna felis* Bösenberg et Strand, 1906 = *Dictyna paitaensis* Schenkel, 1953 syn.rev. Four species of *Dictyna* known from the females are to be treated as *insertae sedis*: “*Dictyna*” *linzhiensis* Hu, 2001, “*Dictyna*” *namulinensis* Hu, 2001, “*Dictyna*” *tristis* Spassky, 1952 and “*Dictyna*” *zhangmuensis* Hu, 2001.

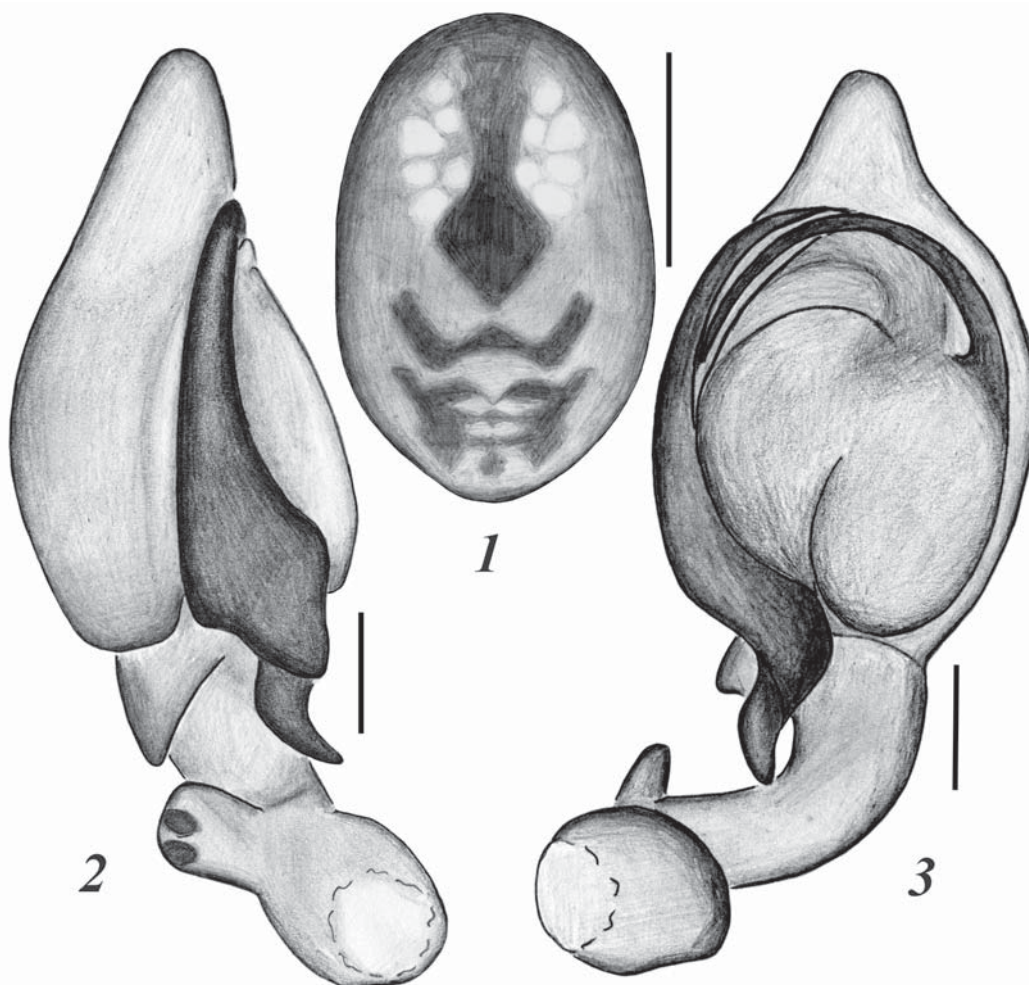
РЕЗЮМЕ. Новый вид *Dictyna sinuata* sp.n. (♂) описывается из степей Оренбургской области (Россия). Вид принадлежит к группе *arundinacea* и близок к североамериканской *D. bostoniensis* Emerton, 1888, от которой отличается формой кондуктора, меньшими размерами тела и окраской. Предложены новые комбинации для пяти видов (все бывшие *Dictyna*): *Nigma albida* (O. Pickard-Cambridge, 1885) comb.n., *Sudesna flavipes* (Hu, 2001) comb.n., *Bannaella lhasana* (Hu, 2001) comb.n., *Nigma nangquianensis* (Hu, 2001) comb.n. и *Brigittea varians* (Spas-

sky, 1952) comb.n. *Dictyna xinjiangensis* Song, Wang et Yang, 1985 синонимизирован с *Brigittea varians* (Spassky, 1952). Подтверждена установленная ранее синонимия: *Dictyna felis* Bösenberg et Strand, 1906 = *Dictyna paitaensis* Schenkel, 1953 syn.rev. Четыре вида *Dictyna*, известные по самкам, отнесены к *insertae sedis*: “*Dictyna*” *linzhiensis* Hu, 2001, “*Dictyna*” *namulinensis* Hu, 2001, “*Dictyna*” *tristis* Spassky, 1952 и “*Dictyna*” *zhangmuensis* Hu, 2001.

Introduction

Dictyna Sundevall, 1833 is a large genus of the family Dictynidae numbering 188 valid species names [WSC, 2016]. The Palaearctic fauna of *Dictyna* contains 37 species, of which almost a half (17) remains known from the females only. There are 19 species of *Dictyna* in Russia [Mikhailov, 2013], with ten of them being found in the Urals [Esyunin, unpublished data]. In May 2015, as a result of the field trip to the steppe zone of Orenburg Region, three adult males of a new *Dictyna* species were collected. This new species is described and illustrated in the present paper. We have also analyzed the original descriptions of 17 Palaearctic *Dictyna* species known from the females and presented taxonomic conclusions based on this analysis.

SEM micrographs were made by means of a Hitachi TM3000 SEM microscope with BSE (back-scattered electrons) at the Perm State University. The terminology of the dictynid palp morphology follows Marusik, Penney [2010]. The following abbreviations are used in the text: ALE — anterior lateral eyes; AME — anterior median eyes; PLE — posterior lateral eyes; PME — posterior median eyes. All measurements are



Figs 1–3. Abdomen and palp of *Dictyna sinuata* sp.n. (paratype). 1 — abdomen, dorsal view, scale 0.5 mm.; 2–3 — palp, lateral and ventral views, scale 0.1 mm.

Рис. 1–3. Брюшко и пальпа *Dictyna sinuata* sp.n. (паратип). 1 — брюшко, дорзально, масштаб 0,5 мм; 2, 3 — пальпа, вентрально и латерально, масштаб 0,1 мм.

given in millimeters. The holotype and two paratypes of the new species are deposited in the Zoological Museum of the Moscow State University (ZMMU, K.G. Mikhailov) and the Zoological Museum of the Perm State University (PSU, S.L. Esyunin).

Description

Dictyna sinuata sp.n.

Figs 1–7.

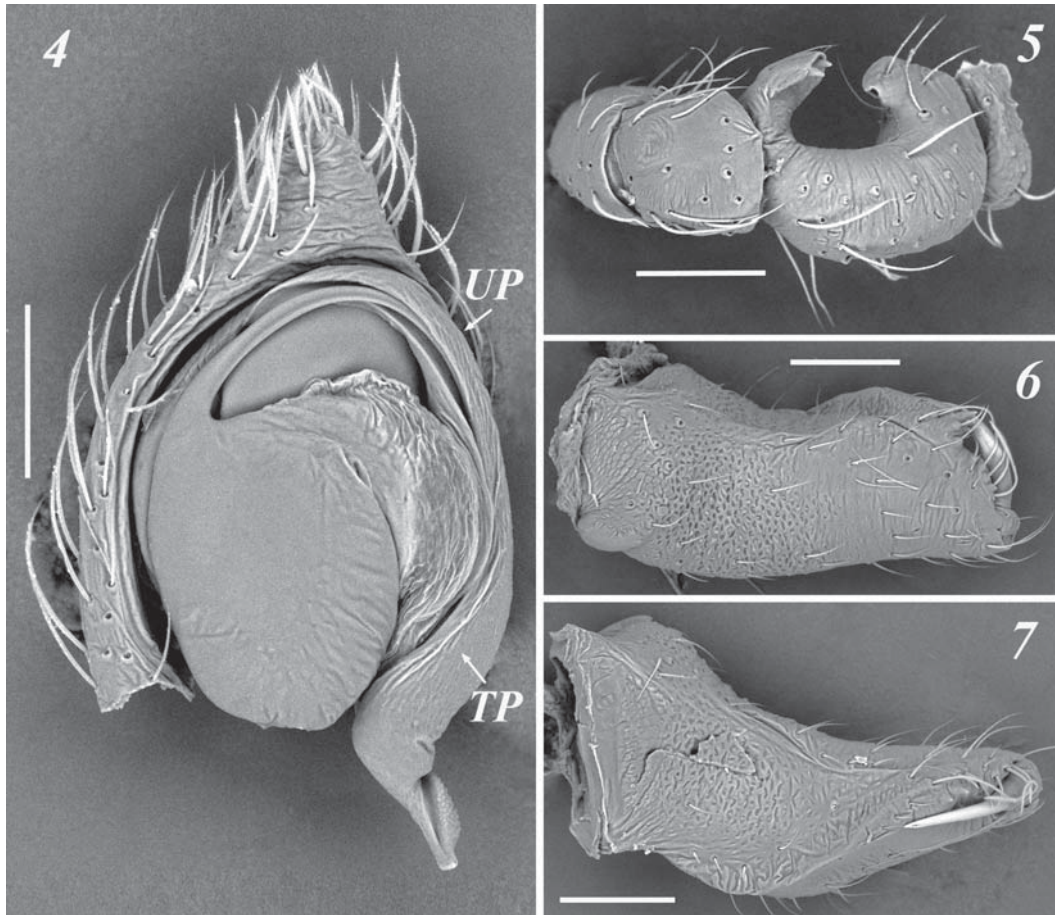
Types. Holotype ♂ (ZMMU) from Russia, Orenburg Area, Svetlyi Distr., c. 10 km N of Pervomayskiy Vil., the ‘Ashchisayskaya steppe’ division of the Orenburg Reserve, 50°58’N, 61°09’E, steppe, 6.V.2015 (A.N. Sozontov). — Paratypes: 1 ♂ (ZMMU), 1 ♂ (PSU), together with the holotype.

ETYMOLOGY. The species name is derived from the Latin word “sinuatus” meaning sinuate.

DESCRIPTION. Male. Spider is small, total length 2.18 (2.05–2.30). Carapace length 0.95 (0.90–0.95), width 0.7 (0.7–0.7). Carapace pear-shaped, brown, with

dark brown edges and five longitudinal rows of white hairs in the middle. Chelicera 0.4 long, brown, with a medial furrow in its inner margin, curved shape at the anterior side and poriferous microstructure at its basal part (Fig. 6). Cheliceral furrow curved backward, with 3 teeth on the promargin (Fig. 7). Labium trapezoid, its maximal width at the base is equal to its length. Maxillae elongated, width/length ratio 0.45, brown or yellow-brown, with a white tip. Sternum roundish, brown. Legs yellow-brown, with blackened femora. Abdomen white dorsally, with a black pattern of longitudinal median spots in its anterior half and transverse thin stripes in its posterior half (Fig. 1). Cardiac mark as an extended rhomb. Thin lateral stripes bent anteriorly. Abdominal sides black. Venter white, with a broad median band. Cribellum transverse. Spinnerets brown.

Eyes field transverse, its length 2.2 times longer than its width. Eye sizes and interdistances: AME 0.04, PME 0.05, PLE 0.05, ALE 0.05; AME-AME 0.08, PME-PME 0.08, AME-PME 0.07. Medial eyes field



Figs 4–7. Male palp and chelicera of *Dictyna sinuata* sp.n. (paratype). 4 — bulb, ventral view; 5 — palp tibia, dorsal view; 6–7 — chelicerae, interiorly and internally. Scale 0.1 mm. Abbreviations: TP — terminal part of the conductor, UP — upper part of the conductor.

Рис. 4–7. Хелицера и пальпа самца *Dictyna sinuata* sp.n. (паратип). 4 — бульбус, вентрально; 5 — голень пальпы, дорзально; 6, 7 — хелицера, снаружи и изнутри. Масштаб 0,1 мм. Сокращения: TP — терминальная часть кондуктора, UP — верхняя часть кондуктора.

almost square: length 0.14, width 0.14 anteriorly and 0.15 posteriorly.

Leg formula: I, II, IV, III. Leg measurements are given in the Table:

Leg	Femur	Patella+Tibia	Metatarsus	Tarsus	Total length
I	0.87 (0.80–0.90)	1.02 (0.95–1.05)	0.60 (0.55–0.65)	0.42 (0.40–0.45)	2.91 (2.70–3.05)
II	0.72 (0.65–0.75)	0.8 (0.75–0.85)	0.5 (0.45–0.55)	0.35 (0.35–0.35)	2.37 (2.20–2.50)
III	0.52 (0.45–0.55)	0.58 (0.50–0.65)	0.42 (0.35–0.45)	0.30 (0.30–0.30)	1.82 (1.60–1.95)
IV	0.65 (0.60–0.70)	0.73 (0.65–0.80)	0.52 (0.50–0.55)	0.30 (0.30–0.30)	2.20 (2.05–2.35)

The bulb conformation is typical for the genus (Figs 2–4): embolic base is situated laterally; embolus thin, arc-shaped; the upper part of conductor (*sensu* Marusik & Penney [2010]) is arc-shaped and procurved, forming a membranous groove; the terminal part of conductor is weakly twisted around its axis and directed backwards; the tip of the terminal part of conductor is simple, with multiple denticles situated at its external edge (Fig. 4); the palp tibia is modified, with a deep socket (Fig. 2–3, 5); a pair of ctenidia present at the tip of the posterior appendage (Fig. 5).

Female is unknown.

TAXONOMIC REMARKS. A notable modification of the palpal tibia, such as a deep socket (Fig. 5), is the unique diagnostic feature of *D. sinuata* sp.n. which is absent from the males of all the known Palearctic *Dictyna* species. To date, a more or less developed lateral socket of the palpal tibia has been described for a few North American species of the *foliacea* (*D. foliaceae* (Hentz, 1850)) and *arundinacea*¹ (*D. bostoniensis* Emerton, 1888, *D. brevitarsa* Emerton, 1915, *D. crosbyi* Gertsch et Mulaik, 1940) species groups only (see Chamberlin, Gertsch [1958]).

The male of *D. sinuata* sp.n. differs from those of the *foliaceae* species group in the absence of a rounded spur situated at the basal part of chelicerae. Two species of the *arundinacea* group (*D. brevitarsa* and *D. crosbyi*) can readily be distinguished from *D. sinuata* sp.n. by the presence of an unmodified posterior (basal) rim of the palpal tibial socket.

¹ The name “*arundinacea*-group” was proposed by Lehtinen [1967]; there is another name for the same species group — *brevitarsus* — proposed by Chamberlin & Gertsch [1958].

By the shape of palpal tibia, the male of *D. sinuata* sp.n. is most similar to that of *D. bostoniensis*, but differs in the conformation of conductor. In the latter species, the upper part of the conductor (*sensu* Marusik, Penney [2010]) is short, not reaching the middle part of the cymbium, and the terminal part possesses a tooth-shape projection (absent in *D. sinuata*). Additional differences between these two species include: 1) the total length of the new species (2.05–2.30) is significantly smaller than that of the American one (2.5–4.5), and the size ranges do not overlap; 2) the sternum and the carapace are orange in *D. bostoniensis* and brown in *D. sinuata*; 3) the carapace of the American species has dark radial lines that are absent from *D. sinuata*; 4) the cardiac mark is tridentate in *D. bostoniensis*, and rhomb-shaped in *D. sinuata*; 5) the venter is light, often having dark speckles by its edges in *D. bostoniensis*, whereas that of *D. sinuata* is white, with a dark medial band.

DISTRIBUTION. The type locality only.

Taxonomic notes on poorly known *Dictyna* species

As mentioned above, 17 Palaearctic species of *Dictyna* remain known from the females only. A careful analysis of their original descriptions has allowed us to come to the following taxonomic conclusions, all of which are in good evidence that none of these species could represent an unknown female of the new species described herein.

New combinations and synonymy

The following five *Dyctyna* species are to be transferred to other genera.

1. *Nigma albida* (O. Pickard-Cambridge, 1885), **comb.n.**

COMMENTS. Pickard-Cambridge [1885: 29] wrote that this species, which was described from western China (from between Yangi Hissar Town, Xinjiang Province, China and “Sirikol River”), “belongs to the *Dictyna variabilis* (Koch) [sic! — *S.E.*] group”. According to WSC [2016], *Dictyna variabilis* C.L. Koch, 1836 is a junior synonym of *Nigma flavescens* (Walckenaer, 1830), the type species of the genus *Nigma* Lehtinen, 1967. The latter genus includes 13 species that are primarily distributed in the subtropical areas of the West and Central Palaearctic Region. Based on the specimens from Lahore (Pakistan), Dyal [1935: fig. 79] redescribed and illustrated the female of *N. albida*. In our opinion, the female of *N. albida* described by Dyal [1935] resembles that of *N. conducens* (O. Pickard-Cambridge, 1876) from North Africa (cf. Lehtinen [1967: fig. 329]), but differs from it in having the yellow carapace (dark in *N. conducens*).

2. *Sudesna flavipes* (Hu, 2001), **comb.n.**

COMMENTS. According to Hu [2001: 621], *Dictyna flavipes* Hu, 2001 described from Xinjiang Province of China “is allied” to *Emblyna wangi* (Song et Zhou, 1985). However, the endogyna conformation of *S. flavipes* does not correspond to that of the genus *Emblyna* Chamberlin, 1948. Based on the original figures by Hu [2001: figs 8–19], the female possesses all the diagnostic characters of the genus *Sudesna* Lehtinen, 1967 (see Zhang, Li [2011]): viz., (1) the copulatory openings are situated anteriorly and widely separated from each other — the distance between them is 1.5 times longer than their diameter; (2) the tube-like copulatory ducts; and (3) the spermathecal heads are situated laterally. *S. flavipes* is most similar to *S. circularis* Zhang et Li, 2011 described from Yunnan Province of China, but can be distinguished by the following characters: (1) the ovoid spermatheca are not inclined to each other (inclined anteriorly in *S. circularis*); (2) a single convolution of the copulatory duct (two convolutions in *S. circularis*); and (3) this species is larger, with its total length of 3 mm (*S. circularis* smaller, the total length 1.6–2.0 mm).

3. *Bannaella lhasana* (Hu, 2001), **comb.n.**

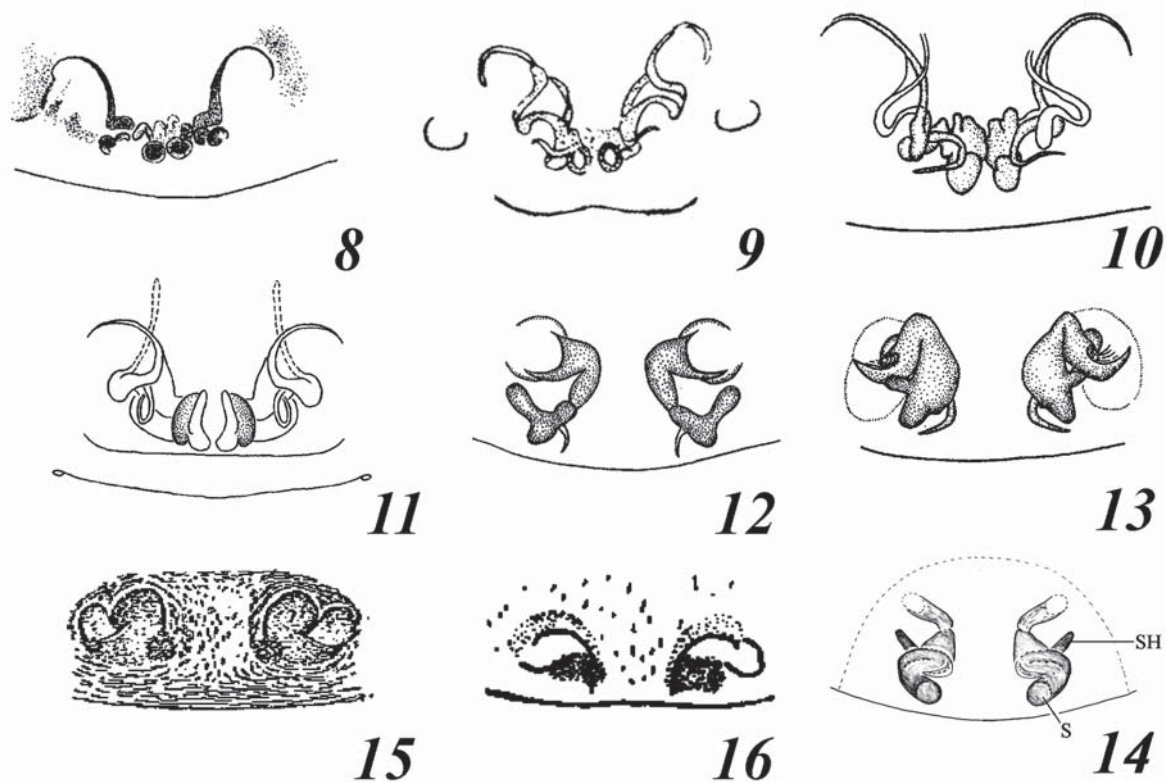
COMMENTS. *Dictyna lhasana* Hu, 2001 was described from Xizang Autonomous Region of China. Hu [2001: 621] wrote that “this new species resembles *Dictyna xinjiangensis*”. However, based on the original description [Hu, 2001: figs 8–21], this species should be assigned to the genus *Bannaella* Zhang et Li, 2011 recently described from China, because it has got the triangle, extending backwards epigyne and the S-shaped copulatory ducts. From both *Bannaella* species known from Yunnan Province of China, *B. lhasana* differs in having the widely separated epigynal fossae (close to each other both in *B. sinuata* Zhang et Li, 2011 and in *B. tibialis* Zhang et Li, 2011).

4. *Nigma nangquianensis* (Hu, 2001), **comb.n.**

COMMENTS. Hu [2001: 622] wrote that this species “resembles” *Nigma flavescens* (Walckenaer, 1830). We are of the same opinion, because the endogyna has got: (1) the)(shaped “receptacules”, and (2) the sac-shaped structures that are typical of *Nigma*. *N. nangquianensis* differs from all other *Nigma* species known to us in having the transverse epigynal plate (the elongated plate in other species).

5. *Brigittea varians* (Spassky, 1952), **comb.rev.** = *Dictyna xinjiangensis* Song, Wang et Yang, 1985, **syn.n.**

COMMENTS. *Dictyna varians* Spassky, 1952 was described from Tajikistan, Kazakhstan and Rostov Region of Russia. It was synonymized by Lehtinen [1967: 252] with *Brigittea latens* (Fabricius, 1775). Having mentioned the “uncertain synonymy”, Brignoli [1983: 511] proposed a new combination *Brigittea varians* (Spassky, 1952), which is not currently accepted by the WSC [2016]. We support Brignoli’s view, because



Figs 8–16. Epigynes of some dictynid species: *Dictyna felis* Bösenberg et Strand, 1906 (8–11), “*Dictyna*” *zhangmuensis* Hu, 2001 (12), *Sudesna hedini* (Schenkel, 1936) (13), *S. digitata* Zhang et Li, 2011 (14) and *Brigittea varians* (Spassky, 1952) (15, 16). Abbreviations: S — spermatheca; SH — spermathecal head. Figures were borrowed from the following publications: 8 — Schenkel, 1953: fig. 5c; as *Dictyna paitaensis* Schenkel, 1953; 9 — Zhu et Shi, 1985: fig. 45c; 10 — Song et Lu, 1985: fig. 3a, as *Dictyna foliicola* Bösenberg et Strand, 1906; 11 — Yin et al., 2011: fig.494c; 12 — Hu, 2001: fig. 8-27.3; 13 — Song et Lu, 1985: fig. 4b; 14 — Zhang et Li, 2011: fig. 11B; 15 — Spassky, 1952: fig. 4; 16 — Song et al., 1985: fig. 4, as *Dictyna xinjiangensis* Song, Wang et Yang, 1985.

Рис. 8–16. Эпигины некоторых видов диктинид: *Dictyna felis* Busenberg et Strand, 1906 (8–11), “*Dictyna*” *zhangmuensis* Hu, 2001 (12), *Sudesna hedini* (Schenkel, 1936) (13), *S. digitata* Zhang et Li, 2011 (14), *Brigittea varians* (Spassky, 1952) (15–16). Сокращения: S — сперматека; SH — «головка» сперматеки. Использованы иллюстрации из следующих публикаций: 8 — Schenkel, 1953: fig. 5c как *Dictyna paitaensis* Schenkel, 1953; 9 — Zhu, Shi, 1985: fig. 45c; 10 — Song, Lu, 1985: fig. 3a, как *Dictyna foliicola* Bösenberg et Strand, 1906; 11 — Yin et al., 2011: fig.494c; 12 — Hu, 2001: fig. 8-27.3; 13 — Song, Lu, 1985: fig. 4b; 14 — Zhang, Li, 2011: fig. 11B; 15 — Spassky, 1952: fig. 4; 16 — Song et al., 1985: fig. 4, как *Dictyna xinjiangensis* Song, Wang et Yang, 1985.

Spassky [1952: 202] pointed out that this species had got the “bilobate cribellum”, the character that is diagnostic of the genus *Brigittea* Lehtinen, 1967 [Marusik *et al.*, 2015]. The widely separated epigynal fossae (i.e., the distance between them is about the same as their diameter) are known from two *Brigittea* species: *B. innocens* (O. Pickard-Cambridge, 1872) and *B. latens* (Fabricius, 1775). *B. varians* can easily be distinguished from both by its abdominal coloration, which is “whitish and bears four wide brown spots situated longitudinally” (see Spassky [1952: 202]); the brown-black pattern in *B. innocens* and “from completely black to whitish with black folium” in *B. latens* [Marusik *et al.*, 2015: 138].

Dictyna xinjiangensis Song, Wang et Yang, 1985, of which the generic assignment remained uncertain, is very close to *B. varians* by its epigyne conformation. The authors of the original description [Song *et al.*, 1985: 25] were of the opinion that “this new species is closely allied to *Dictyna hedini* Schenkel”. However,

this species was not mentioned as a member of the genus *Sudesna* by Zhang & Li [2011]. Furthermore, the species has got the “head region high” [Song *et al.*, 1985: 25], which is not characteristic of the genus *Sudesna*, but well corresponds to the structure of the head region in *B. latens*, the type species of the genus *Brigittea*. Both the somatic characters and the structure of the epigyne (Figs 15, 16) in *B. varians* and *D. xinjiangensis* are virtually identical: (1) carapace size: 1.12 long, 0.88 wide and 1.13 long, 0.84 wide, respectively; (2) “carapace brown ... head region bears whitish hairs” [Spassky, 1952: 202] and “carapace reddish brown. Head region ... with ... white hairs” [Song *et al.*, 1985: 25]; (3) “the width of epigynal fossae is two times longer than their length”; (4) “a curved chitinous fold branches out the outer edge of fossae, running into the fossae and reaching almost the middle of their length”; (5) “there is a small brown spot seen at the rear-inner edge of each fossa”. Therefore, in our opinion, it is safe to conclude that *D. xinjiangensis* Song,

Wang et Yang, 1985 is to be considered a junior synonym of *B. varians* (Spassky, 1952).

6. *Dictyna felis* Bösenberg et Strand, 1906 = *Dictyna paitaensis* Schenkel, 1953, **syn.rev.**

COMMENTS. Lehtinen [1967: 229] argued that *D. paitaensis* was a junior synonym of *D. felis*. Brignoli's opinion [1983: 512] that it was an "uncertain synonymy" is hardly justified, because (1) the type locality of *D. paitaensis* (close to Beijing, China) lies within the known range of *D. felis*, of which the western limit runs along the line Inner Mongolia – Hebei – Hubei – Hunan Provinces of China [Yin *et al.*, 2012], eastward to Japan [Chikuni, 1989], southward to Hunan Province of China north to Maritime Province of Russia [Dunin, 1984]; (2) the males of *D. felis*, which have been well-illustrated by many authors from Japan, Korea, Russia and China, show the identical structure of copulatory organs across the species range; (3) based on the Chinese authors [e.g., Song, 1987; Zhang, 1987], who illustrated both sexes collected together, the epigynal conformation of *D. felis* (Figs 9–11) only insignificantly differs from that of *D. paitaensis* (Fig. 8), while the main characteristics are identical: (a) two widely separated fossae, (b) the distance between fossae twice as long as the fossa diameter in the anterior (restricted by the chitinous fold) part of the epigyne, (c) "receptacles" are small and round, situated at the lower edge of the fossae; (4) somatic characters of both species overlap:

Character	<i>felis</i>	<i>paitaensis</i>
Body length	2.5–5.0 mm	4.6 (but carapace 2.2 + abdomen 2.6 = total 4.8) mm
Carapace colour	dark brown	brown
Sternum colour	brown	brown

Therefore, in our opinion, *Dictyna paitaensis* is indeed a junior synonym of *Dictyna felis*, as was originally stated by Lehtinen [1967].

D. felis is very close to *Dictyna foliicola* Bösenberg et Strand, 1906 having a similar range (Maritime Province of Russia, central and eastern China, Korea, Japan). The males of the latter species are reliably separable by the longer cymbium and conductor. According to [Yin *et al.*, 2012: 976], the female copulatory ducts are twisted and very complex: the "receptacular organ arranged in transverse rectangle" in *D. foliicola*, whereas in *D. felis* the copulatory duct with a single loop in the middle; the endogyne of both species is V-shape.

Species *insertae sedis*

Based on the original descriptions, four *Dictyna* species, which are still known from the females only, are to be treated as *insertae sedis*.

1. "*Dictyna*" *linzhiensis* Hu, 2001.

COMMENTS. Hu [2001: 622] wrote that "this new species resembles *Dictyna civica* (H. Lucas)", but we failed to find any similarity in the conformation of the endogyne of this species with the congeners of the

genus *Brigittea*. Both the large epigynal fossae, with a clear edge and structured bottom (see Chamberlin, Gertsch [1958]), and the small spermatheca are characteristic of the genus *Tricholathys* Chamberlin et Ivie, 1935. The only Palaearctic member of this genus — *T. relicta* Ovtchinnikov, 2001 — was described from Kyrgyzstan [Ovtchinnikov, 2001]; it is twice as large as "*Dictyna*" *linzhiensis* and has got a different abdominal colour pattern and cheliceral dentation.

2–3. "*Dictyna*" *namulinensis* Hu, 2001 and "*Dictyna*" *zhangmuensis* Hu, 2001

COMMENTS. Both species were described from China and, in our opinion, were mistakenly compared with *Nigma flavescens*. The conformation of the epigyne and the endogyne of "*D.*" *namulinensis* (see Hu [2001: figs 8–24]) does not correspond to those of true *Dictyna*, because the latter is characterised by two epigynal fossae and the V-shaped configuration of the endogyne. By the presence of the singular, central epigynal depression, "*D.*" *namulinensis* is similar to representatives of the genus *Ajmonia* Caporiacco, 1934, but yet its endogyne shows a different structure, with a longitudinal rather than transversal arrangement of endogynal elements. Unfortunately, based solely on the original figures, it is impossible to analyze individual structures of the endogyne and thus to undertake a comparative analysis. A generic assignment of species therefore remains uncertain.

"*D.*" *zhangmuensis* (see [Hu, 2001: figs 8–27]) differs from representatives of the true *Dictyna*, as well as from the genus *Nigma*, in having the widely separated epigynal fossae and receptacles (Fig. 12; close or in contact in both compared genera). With certain assumptions, such the structure of epigyne and endogyne are known in the genus *Sudesna*, namely in *S. hedinii* (Schenkel, 1936) and *S. digitata* Zhang et Li, 2011 (Figs 13, 14). The necessary assumption is related to the V-shaped receptacles shown by Hu (Fig. 12), which are to be interpreted as two structures: the oval spermathecae inclined to the median line of the epigyne and the spermathecal heads situated at the right angle to the spermathecae. The epigyne of "*D.*" *zhangmuensis* is somewhat similar to that of *S. hedinii*, but can be distinguished by the following character: the "spermathecal heads" (= the external part of the V-shaped spermatheca shown in Hu's figure, Fig. 12) is large, nearly equal to the width of "spermatheca" itself (the inner part of the V-shaped spermatheca as shown in Hu's figure); in *S. hedinii*, the spermathecal heads are smaller than the spermatheca width. However, the real generic assignment of this species remains uncertain.

4. "*Dictyna*" *tristis* Spassky, 1952

COMMENTS. The species was described from Tajikistan and then synonymized with *Nigma flavescens* by Lehtinen [1967: 252]. Brignoli [1983: 516] mentioned this synonymy as "uncertain" and proposed a new combination *Nigma tristis* (Spassky, 1952). The latter is indeed mistaken, as the original description

clearly points to the undivided cribellum [Spassky, 1952: 2002]. Abdominal pattern is typical of the genus *Dictyna*, but the conformation of the epigyne is rather atypical. Based on the original description, the epigyne consists of “two deep bud-shaped fossae ... facing forward”. It is impossible to define the generic assignment of this species without an examination of its endogyne, and thus the species' status is to be treated as *inserta sedis*.

Four poorly known *Dictyna* species, which are still known from the females, were described from the territories lying far away from the type locality of the new species describes herein and, in our opinion, could not belong to this species. *D. ignobilis* Kulczyński, 1895 is known from Moldova and Armenia. *D. procerula* Bösenberg et Strand, 1906 is restricted to Japan. The following two species are known from Central Asia. *D. cronebergi* Simon, 1889 was described from Turkmenistan; it is small, with total length of 2 mm. Its carapace yellow-red, abdomen of red-brick colour and covered with niveous hairs. *D. uzbekistanica* Charitonov, 1946 was described from Uzbekistan, and it is larger than our species, with the total length of 4 mm. Its carapace orange-red, covered with white hairs, legs yellow, and abdomen dark yellow. Besides, the latter species has got the spiral spermathecae with a large number of convolutions, which is not typical of either the *arundinacea* species group, or the genus *Dictyna* on the whole.

Two *Dictyna* species were described from single females from Buryatia (eastern Siberia, Russia) and from non-steppe habitats [Danilov, 1994, 2000]: *D. dunini* Danilov, 2000 inhabiting meadows and mixed forests and *D. sotnik* Danilov, 1994 inhabiting the pine forest.

Of the steppe habitats of West and South Siberia are known two *Dictyna* species described from the females: *D. dahurica* Danilov, 2000 and *D. uvs* Marusik et Koponen, 1998. The main morphological characters of both species and our new species are given in the Table:

Character*	<i>Dictyna sinuata</i> (male)	<i>Dictyna dahurica</i> (female)	<i>Dictyna uvs</i> (female)
Abdomen colour	white	?	ochre
Abdomen colour pattern	longitudinal median spots anteriorly; transverse thin stripes posteriorly	typical pattern for the <i>major</i> group	with a rectangular brownish spot
Spot's apex	diamond-shaped	with a 'crown'	rectangular

D. sinuata readily differs from both in its abdominal colour pattern, and from *D. uvs* also in its general body coloration.

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* The characters that are subject to sexual dimorphism are not included; as compared to the females, *Dictyna* males are usually smaller, with the darker carapace and the more conspicuous head.

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