

A new species of the genus *Devade* Simon, 1884 from Mongolia, with notes on *D. tenella* (Tyshchenko, 1965) (Aranei: Dictynidae)

Новый вид пауков рода *Devade* Simon, 1884 из Монголии, с заметками о *D. tenella* (Tyshchenko, 1965) (Aranei: Dictynidae)

S.L. Esyunin*, Yu.M. Marusik**
С.Л. Есюнин*, Ю.М. Марусик**

* Department of Zoology, Perm State University, Bukireva Str. 15, Perm 614600 Russia.

* Кафедра зоологии беспозвоночных животных, Пермский государственный университет, ул. Букирева 15, Пермь 614600 Россия.

** Institute for Biological Problems of the North, Portovaya Str. 18, Magadan 685000 Russia.

** Институт биологических проблем Севера, ул. Портовая 18, Магадан 685000 Россия.

KEY WORDS: spiders, *Devade*, Dictynidae, a new species, new synonymy.

КЛЮЧЕВЫЕ СЛОВА: пауки, *Devade*, Dictynidae, новый вид, новая синонимия.

ABSTRACT. A new species, *Devade mongolica* sp.n. (♀), is described from Mongolia. New synonymy is established: *Devade uiensis* Esyunin, 1994, *D. uiensis turanica* Esyunin et Efimik, 2000, and *D. qiemuensis* (Hu et Wu, 1990) = *D. tenella* (Tyshchenko, 1965). The distribution of *D. tenella* is mapped.

РЕЗЮМЕ. Описан новый вид — *Devade mongolica* sp.n. из Монголии. Установлены три новых синонима для *Devade tenella* (Tyshchenko, 1965): *D. uiensis* Esyunin, 1994, *D. uiensis turanica* Esyunin et Efimik, 2000 и *D. qiemuensis* (Hu et Wu, 1990). Приведена карта распространения *D. tenella*.

The first investigation of the Asiatic species of the genus *Devade* Simon, 1884 was made by Esyunin [1994]. Recently, species of this genus of Middle Asia and southern regions of Russia were reviewed by Esyunin & Efimik [2000]. In their paper, (1) *Devade tenella* (Tyshchenko, 1965) was revalidated, (2) *D. indistincta* (O.P.-Cambridge, 1872) was ejected from the regional list, (3) two new species — *D. kazakhstanica* Esyunin et Efimik, 2000 (West Kazakhstan) and *D. lehtineni* Esyunin et Efimik, 2000 (South Kazakhstan) — were described, (4) *D. uiensis* Esyunin, 1994 with one new subspecies was redescribed, (5) a new combination *D. qiemuensis* (Hu et Wu, 1990) (from *Amaurobius*) was designated, and (6) *D. qiemuensis* was established as a possible junior synonym of *D. tenella*.

New collection accumulated in our hands allows us not only to describe a new species but also to disclose new synonyms of *D. tenella* and to correct some misidentifications.

Material used for this study came from collections of the following museums: ISE — Zoological Museum of the Institute for Systematics and Ecology of Animals (Dr. D.V. Logunov); ZISP — Zoological Institute of the Russian Sci-

entific Academy, St.-Petersburg (Dr. V.A. Krivokhatsky); ZMMU — Zoological Museum of the Moscow University (Dr. K.G. Mikhailov); ZMUT — Zoological Museum of the University of Turku (Dr. S. Koponen).

All measurements are in mm.

Devade mongolica sp.n.
Fig.

Devade indistincta (non O.P.-Cambridge, 1872): Marusik, Logunov, 1999: 237.

MATERIAL. Holotype ♀ (ZMMU), Mongolia, Omnogov (=South Gobi) Aimak, Noyon Somon, Noyon uul (Mt. Range; 43°02'N 102°05'E), 1900 m a.s.l., vadi-small canyon in desert, under stones 30–31.V.1997, leg. Yu.M. Marusik

DESCRIPTION. FEMALE (male unknown) Total length 3.2. Carapace 1.2 long, 0.9 wide, yellow with gray margins. Sternum isabelline with dark margins. Chelicerae yellow, 0.6 long, with three (middle tooth biggest) promarginal and two retromarginal teeth. Diameter of eyes 0.06. Median eyes forming a square. Lateral anterior and posterior eyes closely separated but not contiguous. Legs yellow. Length of leg segments (total = femur + patella & tibia + metatarsus + tarsus): leg I — 3.46 = 1.05 + 1.21 + 0.70 + 0.50; leg II — 3.30 = 0.98 + 1.13 + 0.69 + 0.50; leg III — 3.15 = 0.94 + 1.01 + 0.73 + 0.44; leg IV — 4.14 = 1.16 + 1.39 + 1.05 + 0.54. Femora I–IV without spines. Tibia I and II each with 1+1 dorsal and 1 prolateral spine; tibia III in addition with a 1 retrolateral and 1 ventral spine; tibia IV with 1 dorsal, 1+1 retrolateral, 1 prolateral and 1+1 ventral spines. Armature of metatarsus abundant, legs III and IV especially. Calamistrum with 10 setae. Abdomen 2.0 long, 1.4 wide, light gray, with darker spots near spinnerets, dorsally with a dark pattern of transverse stripes. Abdomen covered with thin, dense, adpressed pubescence and more sparse, stronger, long, black hairs. Epigyne yellow as in Fig.

DISTRIBUTION. Type locality only.

DIAGNOSIS. *D. mongolica* sp.n. is closely related to *D. kazakhstanica*, distinguishing by the broader medium septum of the epigyne. The new species differs also from *D. tenella* by the rounded shape of apical part of the septum of the epigyne.

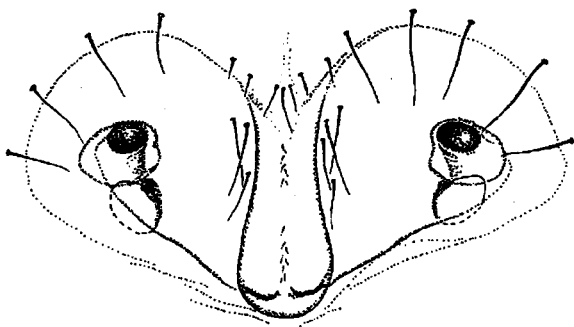


Fig. Epigyne of *Devade mongolica* sp.n.
Рис. Эпигина *Devade mongolica* sp.n.

REMARKS. A record of *D. indistincta*, in Mongolia by Marusik & Logunov [1999], should be attributed to *D. mongolica* sp.n.

Devade tenella (Tyshchenko, 1965) Map.

Altella tenella Tyshchenko, 1965: 696, fig. (♀).

Momius hispidus Andreeva & Tyshchenko, 1969: 380, fig. 5a-r (♂).

Devade indistincta indistincta (not O.P.-Cambridge, 1872) (part) — Esyunin, 1994: 39, figs 1a-d, 2c-d, 3a-c, 4a-d (♂♀).

Devade indistincta tatyanae Esyunin, 1994: 43, figs 1e-g, 3d-e (♂♀).

Devade uiensis Esyunin, 1994: 45, figs 2g; 3f,g; 4e-h (♀), syn.n.

D. uiensis uiensis: Esyunin & Efimik, 2000: 684, figs 1:1,2; 2:7; 3:3,4 (♂♀).

D. uiensis turanica Esyunin & Efimik, 2000: 684, figs 2:1,2 (♂♀), syn.n.

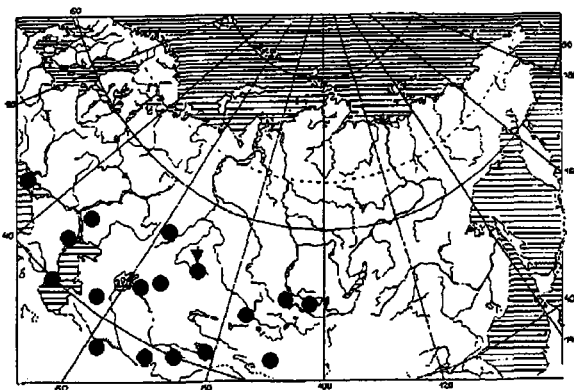
Amaurobius qiemuensis Hu & Wu, 1990: 57, fig. 40:1-8 (♀), syn.n.

Devade qiemuensis: Esyunin & Efimik, 2000: 685.

MATERIAL. **Ukraine:** 2♂♂, Crimea, Nikolaevka, 16.VI.1996, leg. Slushaenko R.L., Kovblyuk N.M. **Armenia:** 1♀, Echmiadzin Distr., Dzhrarat, 01.V.1996, leg. Zacharyan V.A. **Kazakhstan:** 1♀ (ZISP), Kzylorda Area, Aral Sea, Barsakelmes Island, bank, 26.V.1983, leg. et det. T.V. Pavlenko; 1sub♂ (ZISP), same locality and biotope, spring 1983, leg. et det. T.V. Pavlenko; 1♀ (cocoon with 32 eggs) (ZISP), same locality and biotope, 06.VII.1984, leg. et det. T.V. Pavlenko; 2♀♀, 1sub♀ (ZISP), same locality and biotope, 08.VII.1984, leg. et det. T.V. Pavlenko; 1♂ (ZISP), same locality and biotope, 18.VII.1984, leg. et det. T.V. Pavlenko. 1♀ (ZMMU), Guriev Area, 30 km NE Ganyushkino, Zhuzgun-tyube, saline land, 23.V.1977, leg. et det. A.V. Ponomarev. **Turkmenistan:** 1♀ (ZISP), Badkhyz Reserve, Er-Oilan-Duz Lake, salt bank, 27.V.1977, leg. V.Ya. Fet; 1♀ (ZISP), same locality and biotope, 29.V.1977, leg. V.Ya. Fet; 1♂, 2♀♀, 1sub♀, 1juv. (ZISP), same locality and biotope, 30.V.1977, leg. V.Ya. Fet; 1♂, 1♀, 1sub♂ (ZISP), same locality and biotope, 30.XI.1977, leg. V.Ya. Fet. **China Area:** 1♂, 1♀ (ISE), "Chindant", VII.1965. **Tuva:** 1♀ (ISE), 15 km E of Kyzyl Kaa-Khem River (51°43'N, 94°42'E), 900-1200 m a.s.l., 16-18.VI.1996, leg. et det. Yu.M. Marusik (as *D. birsutissima*); 1♂ (ZMUT), Erzín (50°12'N, 95°08'E), 1100 m a.s.l., gravel shore of a brook, 9-13.VI.1995, leg. S. Koponen.

Other material studied: see in Esyunin & Efimik [2000].

REMARKS. This species was originally described from Kazakhstan by Tyshchenko [1965] as *Altella tenella*. Later it has been repeatedly mentioned under this and other names from Middle Asia and southern regions of Russia (see Distribution). Esyunin [1994] erroneously synonymized this species under *D. indistincta* and described a new subspecies, *D. indistincta tatyanae* Esyunin, 1994, as well as a new species,



Map. Distribution of *Devade tenella* (Tyshchenko, 1965). Type locality arrowed.

Карта. Распространение *Devade tenella* (Tyshchenko, 1965). Типовой локалитет помечен стрелкой.

D. uiensis Esyunin, 1994. The restudy of the type of *Altella tenella* (ZISP) has revealed that *D. tenella* differs from *D. indistincta*, whereas *D. indistincta tatyanae* is a junior synonym of the former species [Esyunin & Efimik, 2000]. The authors revalidated *D. tenella*, but insisted on the validity of *D. uiensis* and described a new subspecies, *D. uiensis turanica* Esyunin et Efimik, 2000 [Esyunin & Efimik, 2000]. Their certitude was based on the considerably larger size, dark color and peculiarity of abdominal pattern (absence of long, black hairs) of examined specimens. A study of additional material, especially from Turkmenistan, has demonstrated now that variability in all the above mentioned characters in local populations covers differences between both species (*D. tenella*-*D. uiensis*) and subspecies (*D. u. uiensis*-*D. u. turanica*). As a result new synonymy is established herein: *Devade uiensis* Esyunin, 1994 syn.n. = *D. uiensis turanica* Esyunin & Efimik, 2000 syn.n. = *D. tenella*.

Amaurobius qiemuensis Hu et Wu, 1990 was recently described from Xinjiang, NW China. Esyunin & Efimik [2000] designated new combination (*Devade qiemuensis*) and suggested that *D. qiemuensis* is a junior synonym of *D. tenella*. We confirm this observation and formally establish a synonymy (see above).

DISTRIBUTION. Central Asian steppe-desert range. **Russia:** Kalmykia [Minoranskiy & Ponomarev, 1984; Ponomarev & Minoranskiy, 1984, both as *Altella tenella*], Volgograd Area [Esyunin, 1994: as *D. indistincta*; Esyunin & Efimik, 2000: as *D. u. turanica*], Chelyabinsk Area [Esyunin & Pakhorukov, 1992: as *Devade* sp. and *D. tenella*; Esyunin, 1994: as *D. indistincta tatyanae* and *D. uiensis*; Efimik & Zolotarev, 1998: as *D. i. indistincta*; Esyunin & Efimik, 2000: as *D. tenella* and *D. u. uiensis*], Tuva [Logunov et al., 1998: as ?*D. indistincta tatyanae*; Marusik et al., 2000: as *D. tenella* and *D. uiensis uiensis*]. **Ukraine:** Crimea [Onchurov, 1998: as *D. indistincta*]. **Azerbaijan** [Guseinov, 1997; 1998: as *D. indistincta*, 1999: as *D. indistincta*]. **Armenia** [orig. data]. **Turkmenistan:** Badkhyz Reserve [Ovtsharenko & Fet, 1980: as *Momius tenellus*; Mikhailov & Fet, 1994], Tashauz Area [Esyunin, 1994: as *D. indistincta*; Esyunin & Efimik, 2000: as *D. u. turanica*]. **Kazakhstan:** Kzylorda Area [Pavlenko, 1985: as *M. tenellus*; Zyuzin et al., 1994: as *D. indistincta*], Akmolinsk Area [Tyshchenko, 1965: as *Altella tenella*; Esyunin & Efimik, 2000], East-Kazakhstan Area [Savelyeva, 1979: as *Momius* sp.], Dzhabul Area [Esyunin, 1994: as *D. indistincta*].

ta; Esysunin & Efimik, 2000]. Guriev Area. Tajikistan: Parkhar Distr. [Andreeva & Tyshchenko, 1969; Andreeva, 1975, 1976: as *Momius hispidus*]. Kirghizia: Osh and Issyk-Kul [Ovtchinnikov, 1988: as *D. indistincta*; Esysunin & Efimik, 2000]. China: Xinjiang [Hu & Wu, 1990].

ACKNOWLEDGMENTS. We wish to thanks to the Dr. V.A. Krivokhatsky (ZISP) and Dr. S. Koponen (ZMTU) for the opportunity to study materials under their care. Our special thanks are extended to Ms. G. Farzaliyeva (Perm) who made the picture.

This work was supported in part by the Russian Foundation of Basic Research (RFFI), Project 00-04-49196, as well as by the Scientific-Practical Program "Universities of the Russia".

References

- Andreeva E.M. 1975. Distribution and ecology of spiders (Aranei) in Tadzhikistan // *Fragm. faun. Mus. Warszawa*. T.20. No.19. P.323–352.
- Andreeva E.M. 1976. [Spiders of Tadzhikistan. Fauna and zonal-ecological distribution]. Dushanbe: Donish Publ. 193 pp. [in Russian]
- Andreeva E.M., Tyshchenko V.P. 1969. [Materials to the spider (Aranei) fauna of Tajikistan, I. Haplogynae, Cribellatae, Ecribellatae, Trionychae (Pholcidae, Palpimanidae, Hersiliidae, Oxyopidae)] // *Entomol. Obozr.* Vol.48. No.2. P.373–384 [in Russian].
- Efimik V.E., Zolotarev M.P. 1998. [The additional data to fauna and ecology of the spider (Arachnida: Aranei) of the Chelyabinsk Area] // *Bespozvonochnye zhivotnye Yuzhnogo Zaural'ya i sopredel'nykh territoriy. Kurgan*. P. 140–146 [in Russian].
- Esysunin S.L. 1994. Remarks on the spider fauna of the Urals, 3. *Devade* Simon, 1884, a genus new to the Urals, with notes on *Devade indistincta* (O.P.-Cambridge, 1872) (Aranei, Dictynidae) // *Arthropoda Selecta*. Vol.3. No.1–2. P.39–47.
- Esysunin S.L., Efimik V.E. 2000. [A review of the spider genera *Devade* Simon, 1884 (Aranei, Dictynidae) of the fauna of the Middle Asia and southern Russia] // *Zool. Zhurn.* Vol.79. No.6. P.679–685 [in Russian, with English summary].
- Esysunin S.L., Pakhorukov N.M. 1992. [The spider fauna (Aranei) of the Troitskii Reserve] // *Chlenistonogie okhranyaemykh territoriy Chelyabinskoy oblasti. Sverdlovsk*. P.3–28 [in Russian].
- Guseinov E.F. 1997. [Spider (Arachnida, Aranei) species new to the fauna of Apsheron Peninsula, Azerbaijan] // *Izuchenie i okhrana zhivotnogo mira. Baku*. P.180–182 [in Russian].
- Guseinov E.F. 1998. [Spider of Lenkoran natural area and of Apsheron Peninsula, Azerbaijan]. Autoref. Thesis Candidate (Ph.D.) Biol. Sci. Degree. Baku. 17 pp. [in Russian]
- Hu J.L., Wu W.G. 1990. Spider from agricultural regions of Xinjiang Uygur Autonomous region, China (Arachnida: Araneae). Jinan: Shandong Univ. Publ. 435 pp.
- Logunov D.V., Marusik Yu.M., Koponen S. 1998. A check-list of the spiders in Tuva, South Siberia with analysis of their habitat distribution (Arachnida: Araneae) // *Ber. Nat-med. Verein Innsbruck*. Bd. 85. S.125–159.
- Marusik Yu.M., Logunov D.V. 1999. On the spiders (Aranei) collected in central Mongolia during a joint American-Mongolian-Russian expedition in 1997 // *Arthropoda Selecta*. Vol.7 (for 1998). No.3. P.233–254.
- Marusik Yu.M., Logunov D.V., Koponen S. 2000. Spiders of Tuva, South Siberia. Magadan: IBPN FEB RAS. 252 pp.
- Mikhailov K.G., Fet V.Ya. 1994. Fauna and zoogeography of spiders (Aranei) in Turkmenistan // *Biogeography and ecology of Turkmenistan. Monogr. Biol.* Vol.72. Dordrecht etc.: Kluwer Acad. Publ. P.499–524.
- Minoranskiy V.A., Ponomarev A.V. 1984. [Materials to the spider fauna of Kalmykia] // *Fauna i ekologiya paukoobraznykh. Perm: Perm State Univ. Press*. P.82–92 [in Russian].
- Onchurov M.V. 1998. [Revision of the araneofauna of Crimea] // *Ekosistemy Kryma, ikh optimizatsiya i okhrana. Tematich. Sb. Nauch. Tr. Simferopolsk. Gos. Univ.* No.10. P.45–47 [in Russian].
- Ovtchinnikov S.V. 1988. [Materials to the spider fauna of the superfamily Amaurobioidea of Kirghizia] // *Entomol. issledovaniya v Kirghizii*. Vol.9. P.139–152 [in Russian].
- Ovtsharenko V.N., Fet V.Ya. 1980. [Fauna and ecology of spiders (Aranei) of Badkhyz (SSR Turkmenia)] // *Entomol. Obozr.* Vol.59. No.2. P.442–448 [in Russian].
- Pavlenko T.V. 1985. [Distribution of spider in natural complexes of the Barsakelmes Island (Aral Sea)] // *Fauna i ekologiya paukov SSSR. Trudy Zool. Inst. AN SSSR*. Vol.139. P.147–155 [in Russian].
- Ponomarev A.V., Minoranskiy V.A. 1984. [Zoogeographical characteristics of spiders of Kalmykia] // [Abstr.] VIII Vses. Zoogeogr. konfer. Moscow. P. 233–235 [in Russian].
- Savelyeva L.G. 1979. [Zoogeographical complexes of spiders (Aranei) from Eastern Kazakhstan] // *Priroda i khozyaystvo vostochnogo Kazakhstana. Alma-Ata*. P.139–148 [in Russian].
- Tyshchenko V.P. 1965. [A new genus and species of spiders (Aranei) from Kazakhstan] // *Entomol. Obozr.* Vol.44. No.3. P.696–705 [in Russian].
- Zyuzin A.A., Tarabaev Ch.K., Fedorov A.A. 1994. [The spider (Arachnida: Araneae) fauna of eastern part of the Kyzylkum Desert and East Cisaralia] // *Seleviniya*. No.1. P.3–11 [in Russian].