

First records of *Latrodectus dahli* Levi, 1959 from Morocco, Turkey, Turkmenistan and the United Arab Emirates

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Summary

Latrodectus dahli Levi, 1959 is recorded from Morocco, Turkey, Turkmenistan and the United Arab Emirates for the first time. New records are given from Uzbekistan and Tajikistan. The morphology of the female copulatory organ is illustrated. The single female from Morocco represents the westernmost record of this species and is 3700 km distant from the previously known distribution range (Middle East to Central Asia). A map including all known records is provided.

Introduction

Black widow spiders (Theridiidae: *Latrodectus*) have long been a matter of scientific interest owing to their potential medical impact on humans (e.g. Powell 1871; Bücherl 1965; Thorp & Woodson 1976; Tarabaev 1993). Taxonomic revisions and precise distribution data are necessary to identify specimens and to provide information helpful for taking reasonable precautions. Since the taxonomic revision of Levi (1959) and his later corrections (Levi 1983), only a few comprehensive revisions have been published, all of which are restricted to certain geographic regions. One of them, by Knoflach & van Harten (2002), provided an excellent compilation on the taxonomy, distribution and biology of the genus in Yemen and neighbouring countries. In the same publication the authors synonymized *L. tadzhicus* Marusik & Tarabaev, 1995 with *L. dahli* Levi, 1959. Garb *et al.* (2004) did not include *L. dahli* in their molecular approach.

In a recent survey a single female of *Latrodectus* was collected in Morocco and the material was sent to the first author for identification. It proved to belong to *L. dahli* and represents the westernmost record of this species. As distribution records are scattered over different papers and a map of the currently known distribution was not available, a compilation of currently known records including material previously unpublished is provided here.

Material & methods

A Leica MZ16A stereomicroscope with a camera lucida attachment was used for examining and illustrating the specimen from Morocco. This specimen was collected in 96% ethanol. All four right legs were removed and sent to

Jessica Garb (Lowell, Massachusetts, USA) for molecular studies. The spider is now kept in 70% denatured ethanol and is deposited in the Senckenberg Research Institute (SMF). For illustrating the internal duct system of the female, lactic acid was not used because of the presence of membranous parts, which may shift after treatment with this or similar chemical agents. Slit sense organs and the epigynal field are included in the illustration as they are considered useful as descriptive characters by Jäger (2007, 2009).

The geographical coordinates of material collected by Alexander V. Gromov were obtained from the GPS receivers: Magellan Map330, Garmin eTrex Vista and Garmin GPSMap 60CSx. All labels were revised (or recognised) using the computer programs Google Earth 5.2.1.1588, Microsoft Encarta 2003, as well as Russian Military Maps (scales 1:100000 and 1:200000) and other paper maps. The map of distribution was made using the computer programs GPSMapEdit 1.0.57.3, Microsoft Office Excel 2007, The Geographic Calculator 6.3 2007.516 and ArcGIS 9.3.1.

Abbreviations: AGC = Alexander V. Gromov private collection (Almaty, Kazakhstan); AMC = Antonio Melic private collection (Zaragoza, Spain); CTH = Konrad Thaler collection (Innsbruck, Austria); HUI = Hebrew University of Jerusalem (Jerusalem, Israel); IZA = Institute of Zoology (Almaty, Kazakhstan); IZT = Institute of Zoology (Tashkent, Uzbekistan); MCZ = Museum of Comparative Zoology (Harvard, USA); MHNG = Muséum d'Histoire Naturelle (Genève, Switzerland); MNHN = Muséum National d'Histoire Naturelle (Paris, France); MRAC = Musée Royal de l'Afrique Centrale (Tervuren, Belgium); NHM = British Museum of Natural History (London, United Kingdom); NHMB = Naturhistorisches Museum Basel (Basel, Switzerland); NHRS = Naturhistoriska Riksmuseet (Stockholm, Sweden); NHMW = Naturhistorisches Museum (Vienna, Austria); RRC = Repetek Reserve Collection (Repetek, Turkmenistan); SMF = Senckenberg Research Institute (Frankfurt am Main, Germany); ZISP = Zoological Institute of the Russian Academy of Science (St Petersburg, Russia); ZMF = Zoology Museum, Ferdowsi University of Mashhad (Mashhad, Iran); ZMMU = Zoological Museum of the Moscow State University (Moscow, Russia).

Latrodectus dahli Levi, 1959

Latrodectus dahli: Levi (1959): 42, figs. 11–12, map 7 (descr. ♀); Tyschchenko & Ergashev (1974): 934, figs. 1–5, 9 (descr. ♂); Ergashev (1978): 67; Levy & Amitai (1983): 55, figs. 37–41; Tyschchenko & Ergashev (1983): 1481, figs. 1–3; Ergashev *et al.* (1984): 3; Ergashev (1990): 65, figs. 31.1–5, 9; Tarabaev *et al.* (1993): 655, fig. 1; Zyuzin *et al.* (1994): 9; Marusik & Tarabaev (1995): 213, figs. 5–6; Mikhailov (1997): 36; Levy (1998): 108, figs. 198–202; Knoflach (2002): 169, fig. 4a; Knoflach & van Harten (2002): 333, figs. 3, 12–19; Azimov (2003): 54, map; Knoflach (2004): 184, fig. 24b; Mirshamsi Kakhki, 2005: 56, figs. 1, 4A–E.

Latrodectus tadzhicus: Marusik & Tarabaev (1995): 212, figs. 1–4 (descr. ♂♀); Knoflach & van Harten (2002): 333 (synonymization with *L. dahli*).

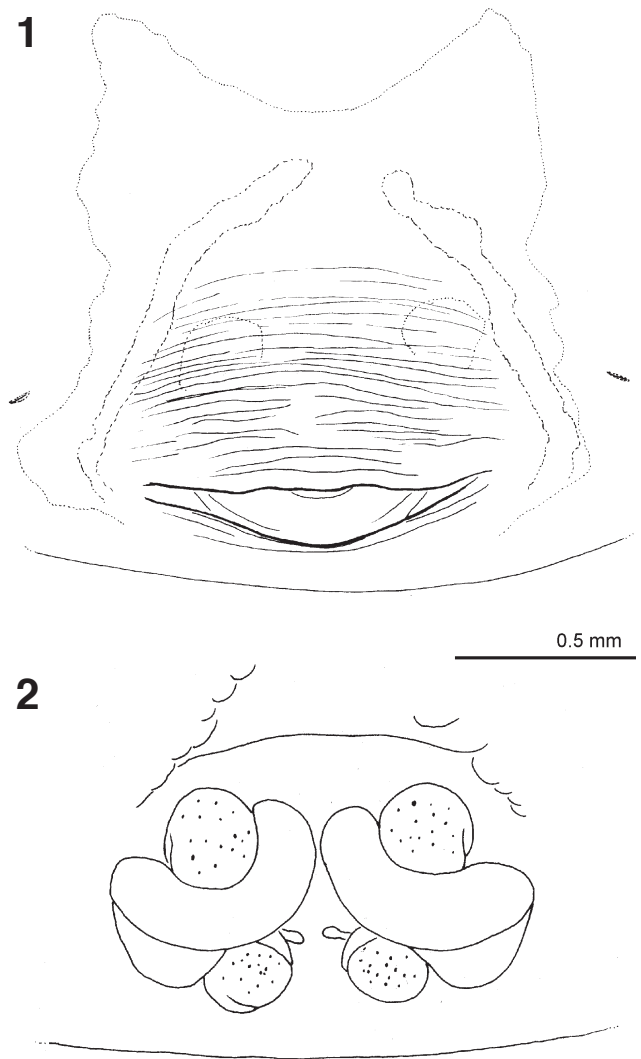
Material examined: MOROCCO: Meknes-Tafilalet Region, Errachidia (= Er Rachidia, Ksar es Souk) Province: 1♀ (SMF 59798), Sahara Desert, Erg Chebbi, environs

of Tisserdmine, c. 31°17'29.6"N, 3°58'57.3"W, c. 764 m a.s.l., sand dunes, gravel, oasis, houses (precise locality and habitat unknown), 5 July 2009, I. Rechenberg leg. TURKEY: Hatay (= Antakya) Province: 1 juv. (AGC), Reyhanlı District, c. 1.6 km SE of Oğulpınar, SW slope of Ardizdağ (= Artuk) Hill, 36°15'13.8"N, 36°40'12.3"E, c. 316 m a.s.l., 29 May 2007, A. V. Gromov, H. Koç leg. Sqañlıurfa (= Urfa) Province: 1♀ (AGC), Sqañlıurfa (= Urfa) District, Sqañlıurfa (= Urfa) Plateau, N slopes of Çardak Hills, c. 1.7 km WSW of Sqañlıurfa (= Urfa), c. 0.3 km E of Toki, parkland, 37°08'23.2"N, 38°45'09.7"E, c. 713 m a.s.l., 18 May 2007, A. V. Gromov leg. IRAN: Bushire (= Bushehr) Province: 1♀ (NHM 1882, holotype of *Latrodectus dahli*), 2♀ (MCZ and NHM 109), paratypes of *Latrodectus dahli*, Arabian (= Persian) Gulf bank, Bushire (= Bushehr), c. 28°55'30.0"N, 50°50'45.0"E, c. 0–30 m a.s.l. (Levi 1959). UZBEKISTAN: Navoi Area: 1♀, 1 juv. (AGC), Tamdy (= Tomdi) District, NW foothills of Tamdytau Mt. Range, c. 0.6 km NNW of Zarafshan (= Zarafshon), 41°35'50.8"N, 64°11'15.5"E, c. 379 m a.s.l., 21 April 1998, A. V. Gromov leg. 1 juv. (AGC), Tamdy (= Tomdi) District, NW foothills of Tamdytau Mt. Range, c. 0.5 km SSE of Zarafshan (= Zarafshon), 41°33'33.9"N, 64°12'25.9"E, c. 423 m a.s.l., 18 April 1998, A. V. Gromov leg.; 5♂ (AGC), same locality and collector, 26 April 1998; 3♂, 1 juv. (AGC), same locality and collector, 28 April 1998; 2♂, 1♀, 1 juv. (AGC), same locality and collector, 29 April 1998; 1♂ (AGC), same locality and collector, 26 May 1998; 4♀ (AGC), same locality and collector, 13 June 1998. Dzhizak (= Zhizzakh) Area: 1♀ (AGC), Farish District, Kyzylkum Desert, c. 43.3 km NW of Yangikishlak (= Yangikishlok), environs of Farm No. 4, c. 40°46'17.4"N, 66°55'54.1"E, c. 258 m a.s.l., 16 July 1982, N. E. Ergashev leg. 1♀ (AGC), Zaamin (= Zomin) District, N foothills of Turkestan Mt. Range, c. 3 km W of Ul'yanovo (= Obruchevo), NW environs of Tagaibaz, c. 40°07'35.0"N, 68°26'05.7"E, c. 395 m a.s.l., 15 October 1996, Z. T. Sharipov leg. Kashkadarya (= Qashqadaryo) Area: 1♀ (AGC), Nishan (= Nishon) District, Karshi Steppe, NW environs of Nishan (= Nishon), c. 38°37'36.1"N, 65°40'28.6"E, c. 346 m a.s.l., desert with *Haloxylon*, N. E. Ergashev leg. (ex ovo to adult at lab. in Tashkent (= Toshkent)). 1 juv. (AGC), Guzar (= Guzor) District, Kichik-Uradarya River canyon, left bank, N foothills of Adamtash Mt. Range, c. 17.5 km SE of Guzar (= Guzor), W environs of Gumbulak (= Gumbulok), c. 38°28'50.9"N, 66°25'45.4"E, c. 710–720 m a.s.l., 18 October 1992, A. A. Zyuzin leg. Surkhandarya (= Surhondaryo) Area: 1♂ (AGC), Uzun District, E foothills of Babatagh Mt. Range, c. 4.6 km WSW of Akmechet' (= Okmachit), Dukhana (= Dikhona) Valley, 38°01'34.0"N, 68°15'22.0"E, c. 706 m a.s.l., 21 May 2003, A. V. Gromov leg. TURKMENISTAN: Akhal (= Ashgabat, Ashkhabad) Area: 1 juv. (AGC), Gyavers (= Gyaurs) District, N foothills of Central Kopetdagh Mts., c. 1.5 km SE of Berzengi, 37°52'10.0"N, 58°23'32.0"E, c. 425 m a.s.l., 31 March 2002, A. V. Gromov leg. 2 juv. (AGC), Tedzhen District, near Tedzhen Reservoir, c. 12 km SSE of Gangaly (= Tedzhenstroi), 36°55'51.0"N, 60°50'22.0"E, c. 235 m a.s.l., 3 April 2002, A. V. Gromov leg. 1♀ (AGC), Saragt (= Serakhs) District, Badkhyz Plateau, Badkhyz Nature Reserve, S environs of Akarcheshme Cordon, 35°47'12.0"N, 61°27'43.0"E–35°47'02.0"N, 61°27'44.0"E, 760–790 m

a.s.l., 20 April 2002, A. V. Gromov leg. Lebap (= Chardzhou, Chardzhev) Area: 1♀ (RRC), Chardzhou (= Chardzhev) District, Karakum Desert, Repetek Nature Reserve, environs of Repetek, c. 38°33'56.4"N, 63°10'44.1"E, c. 187 m a.s.l., 1982, V. A. Krivokhatsky leg. Mary Area: 1♀ (AGC), Serketabad (= Kushka, Gushgy) District, NE vicinities of Serketabad (= Kushka, Gushgy), left bank of Kushka River, 35°17'24.0"N, 62°20'58.0"E, c. 645 m a.s.l., 12 April 2002, A. V. Gromov leg. TAJIKISTAN: Khatlon (= Kurgan-Tyube) Area: 80♂, 5♀ (AGC), 1♂, 1♀ (SMF), 2♂, 2♀ (AMC), Khurozon (= Khuroson, Gozimalik) District, NW foothills of Aruktau Mt. Range, c. 21.2 km NW of Kurgan-Tyube, environs of Gandzhina, 37°57'59.0"N, 68°33'32.0"E, c. 750 m a.s.l., S. L. Zonstein & A. A. Fyodorov leg. (ex ovo to adults in May–July 2002 at lab. in Almaty (= Alma-Ata)). 1♂ (ZMMU, paratype of *Latrodectus tadhicus*), 1♀ (ZMMU, holotype of *Latrodectus tadhicus*), Pyandzh (= Panj) District, Pyandzh Karatau Mt. Range, W slope of Astana Mt., c. 37°23'16.7"N, 69°14'08.6"E, c. 1500 m a.s.l., 24 April 1991, S. L. Zonstein leg. UNITED ARAB EMIRATES: Umm Al Quwain (= Umm Al Qaywayn, Umm Al Qaiwain) Emirate: 1♂ (AGC), Arabian (= Persian) Gulf bank, c. 3 km NE of Al Raafa (= Al Rafaah), c. 0.2 km NE of Bin Majid Resort, 25°38'26.0"N, 55°43'41.0"E, c. 1 m a.s.l., salty soil with bushes, sweeping, 25 April 2007, A. V. Gromov leg. 1 juv. (AGC), Arabian (= Persian) Gulf bank, c. 1.7 km WSW of Umm Al Thaoub Industrial Area, 25°32'25.4"N, 55°38'31.8"E, c. 1 m a.s.l., salty soil with bushes, sweeping, 16 April 2007, A. V. Gromov, K. Mahmood leg. Ash Shariqah (= Sharjah) Emirate: 1♀ (AGC), Rub' Al Khali Desert, c. 10.2 km ESE of Ash Shariqah (= Sharjah), Breeding Centre for Endangered Arabian Wildlife, Sharjah Desert Park, 25°16'47.0"N, 55°41'31.7"E, c. 75 m a.s.l., greenhouse, grass, 9 March 2009, N. Halpandeniya leg. (ex juv. to adult 20 November 2009 at lab. in Almaty (= Alma-Ata)). Ash Fujayrah (= Fujairah) Emirate: 1 juv. (AGC), E slope of Al Hajar Al Gharbi Mts., Wadi Safad Canyon, c. 2.3 km SSW of Qurayya (= Qurayyah), 25°13'08.0"N, 56°19'46.3"E, c. 80 m a.s.l., oasis, farm, 19 April 2007, A. V. Gromov, K. Mahmood leg.

Material cited: ISRAEL: 1♂ 1♀ (HUJ), HaDarom (= Southern) District, Be'er Sheva (= Beersheba) Subdistrict: Negev Desert, N part of Holot Halutza Sands, environs of Ze'elim (= Tzeelim), c. 31°12'13.2"N, 34°32'05.9"E, c. 146 m a.s.l.; Negev Desert, Makhtesh Gadol (= HaMakhtesh HaGadol, Hamachtsh Hagadol) Crater, c. 30°57'04.6"N, 35°01'31.9"E, c. 303 m a.s.l. (Levy & Amitai 1983; Levy 1998). SYRIA: Dimashq (= Damascus) Governorate: 1♀ (NMW), Golan Heights, c. 14 km NNE of El Qunaitra (= Al Qunaytirah, Quneitra), Faouar UNDOF-Camp, c. 33°14'09.1"N, 35°55'16.5"E, c. 956 m a.s.l., 15 January 1976, P. H. Schneider & K. Kollnberger leg. (Knoflach & van Harten 2002). SAUDI ARABIA: Ar Riyad (= Riyadh) Province: 1♀ (NHMB), Najd (= Nejd) Plateau, c. 35 km NE of Dawadimi (= Ad Dawadimi, Al-Dawadimi), c. 24°42'54.1"N, 44°44'59.7"E, c. 810 m a.s.l., March 1983, W. Büttiker leg. 1♀ (NHMB), Najd (= Nejd) Plateau, environs of Ar Riyad (= Riyadh), c. 24°43'39.2"N, 46°39'52.9"E, c. 625 m a.s.l., October 1976, W. Büttiker leg. 1♀ (NHMB), Najd (= Nejd) Plateau, al-Khyardji (= Al Khardji), c. 24°09'30.0"N, 47°19'39.4"E, c. 430 m a.s.l., 19

January 1980, A. M. Talhouk leg. (Knoflach & van Harten 2002). YEMEN: Shabwah (= Shabwah, Ataq) Governorate: 1♀ (CTH), Rub' Al Khali Desert, As Sawda Sands, environs of Ataq (= Attaq), c. 14°33'04.4"N, 46°48'11.9"E, c. 1126 m a.s.l., 5 May 1998, A. van Harten leg. (Knoflach & van Harten, 2002). Aden Governorate: 1♀? (MCZ?), Sokotra Isl., environs of Tamarida (= Hadiboh, Hadibo), c. 12°38'52.0"N, 54°01'17.7"E, c. 10 m a.s.l. (Levi, 1959). 1♀ (MHNG), Socotra Isl., E environs of Suq, W slope of Hawari Mt., c. 12°40'02.0"N, 54°03'48.1"E, c. 40 m a.s.l., 28 October 2000, A. van Harten leg.; 8♂ (KTH, MHNG, MNHN, MRAC, SMF 40001, NHMB, NHRS, NMW), same data (ex ovo in January–February 2001); 5♀ (KTH, MHNG, MRAC, SMF 40003, NMW), same data (ex ovo in March–April 2001). 1♀ (MHNG), Socotra Isl., N foothills of Haggier (= Hagher) Mt. Range, Wadi Daneghan Canyon, c. 12°37'26.2"N, 54°04'12.0"E, c. 90 m a.s.l., 13 February 2000, W. Wranik leg. 1♀ (SMF 40000), same locality and collector, 19 February 2000. 1 juv. ♀ (SMF 39999), Socotra Isl., SE foothills of Haggier (= Hagher) Mt. Range, Wadi Difaarhu Canyon, S foothills of Tuf Mt., 0.4 km SSW of Hasaant, 12°29'45.0"N, 54°08'38.4"E, c. 149 m a.s.l., 29 November 1999, W. Wranik leg. (Knoflach & van Harten 2002). AZERBAIJAN: Lerik District: 1♀ (ZISP), Talysh Mts, Zuvand Plateau, environs of Gosmalyan (= Gosmalijon), c. 38°40'21.5"N, 48°22'14.6"E, c. 1435 m a.s.l., 21 July 1983, D. V. Logunov leg. (Marusik & Tarabaev 1995). IRAN: Fars Province: 1♀ (NMW), Zagros Mts., environs of Schiraz, c. 29°35'48.2"N, 52°32'17.1"E, c. 1530 m a.s.l., April–May 1842, Th. Kotschy leg. (Knoflach & van Harten 2002). Razani Khorasan Province: 1♀ (ZMF), Gonabad (= Juymand) Subprovince, Iranian Plateau, N foothills of Kamar-e Lashkar Gah Mt. Range, environs of Zibad, c. 34°16'33.6"N, 58°29'00.6"E, c. 1500 m a.s.l. 1♀ (ZMF), Gonabad (= Juymand) Subprovince, Iranian Plateau, N foothills of Kamar-e Lashkar Gah Mt. Range, c. 5 km N of Kakhk, c. 34°11'40.4"N, 58°39'36.6"E, c. 1422 m a.s.l. 2♀ (ZMF), Gonabad (= Juymand) Sub-province, Iranian Plateau, N slope of Kamar-e Lashkar Gah Mt. Range, c. 3 km E of Kakhk, c. 34°09'02.6"N, 58°41'19.8"E, c. 1525 m a.s.l. South Khorasan Province: 1♀ (ZMF), Iranian Plateau, N foothills of Kuh-e Baqeran Mt. Range, environs of Birjand, c. 32°51'00.0"N, 59°13'00.0"E, c. 1500 m a.s.l. (Mirshamsi Kakhki 2005). KAZAKHSTAN: South Kazakhstan (= Chimkent, Shymkent) Area: 2♀ (IZA, probably lost), Chardara (= Shardara) District, Kyzylkum Desert, c. 74.6 km NW of Chardara (= Shardara), c. 17 km S of Karaozek Ruins, c. 41°45'24.2"N, 67°17'38.8"E, c. 276 m a.s.l., 5–6 June 1989, C. K. Tarabaev, A. A. Fyodorov & A. A. Zyuzin leg. (Tarabaev *et al.* 1993; Zyuzin *et al.* 1994; Marusik & Tarabaev 1995). UZBEKISTAN: ♀♀ (IZT): Navoi Area: Tamdy (= Tomdi) District, NW foothills of Tamdytau Mt. Range, c. 0.5 km SSE of Zarafshan (= Zarafshon), 41°33'33.9"N, 64°12'25.9"E, c. 423 m a.s.l.; Tamdy (= Tomdi) District, N foothills of Tamdytau Mt. Range, environs of Tamdy (= Tomdi, Tamdybulak), 41°44'45.0"N, 64°37'40.5"E, c. 260 m a.s.l. Dzhezak (= Zhizzakh) Area: Farish District, Kyzylkum Desert, c. 43.3 km NW of Yangikishlak (= Yangikishlok), environs of Farm No. 4, c. 40°46'17.4"N, 66°55'54.1"E, c. 258 m a.s.l. Zaamin (= Zomin) District, N foothills of



Figs. 1–2: *Latrodectus dahli* Levi, 1959. **1** Epigyne, ventral view; **2** Vulva, dorsal view.

Turkestan Mt. Range, environs of Ul'yanov (= Ul'yanovo, Obruchevo), c. 40(°07'14.0"N, 68°29'17.0"E, c. 405 m a.s.l. Kashkadarya (= Qashqadaryo) Area: Kasbi (= Kasby) District, Karshi Steppe, environs of Fazli (probably erroneously spelled as Fazagi (= Fazogi)), c. 38°49'11.1"N, 65°28'26.9"E, c. 329 m a.s.l.; Nishan (= Nishon) District, Karshi Steppe, environs of Charagyl (= Chor-Agil, Charagan), c. 38°43'25.0"N, 65°36'27.3"E, c. 338 m a.s.l. (Azimov 2003). Nishan (= Nishon) District, Karshi Steppe, NW environs of Nishan (= Nishon), c. 38°37'36.1"N, 65°40'28.6"E, c. 346 m a.s.l. (Tyschchenko & Ergashev 1974; Ergashev 1990; Tarabaev *et al.* 1993; Azimov 2003). Nishan (= Nishon) District, Alaudintau (= Alyaudintau, Oloviddintov) Hills, c. 38°27'06.4"N, 65°37'10.7"E, c. 445 m a.s.l. Guzar (= Guzor) District, environs of Guzar (= Guzor), c. 38°35'15.0"N, 66°17'09.0"E, c. 580 m a.s.l. (Azimov 2003). TAJIKISTAN: Khatlon (= Kurgan-Tyube) Area: 1♂ (ZMMU, paratype of *Latrodectus tadzhicus*), 1♀ (ZMMU, holotype of *Latrodectus tadzhicus*), Pyandzh (= Panj) District, Pyandzh Karatau Mt. Range, W slope of Astana Mt., c. 37°23'16.7"N, 69°14'08.6"E, c. 1500 m a.s.l., 24 April 1991, S. L. Zonstein leg. (Marusik & Tarabaev, 1995).

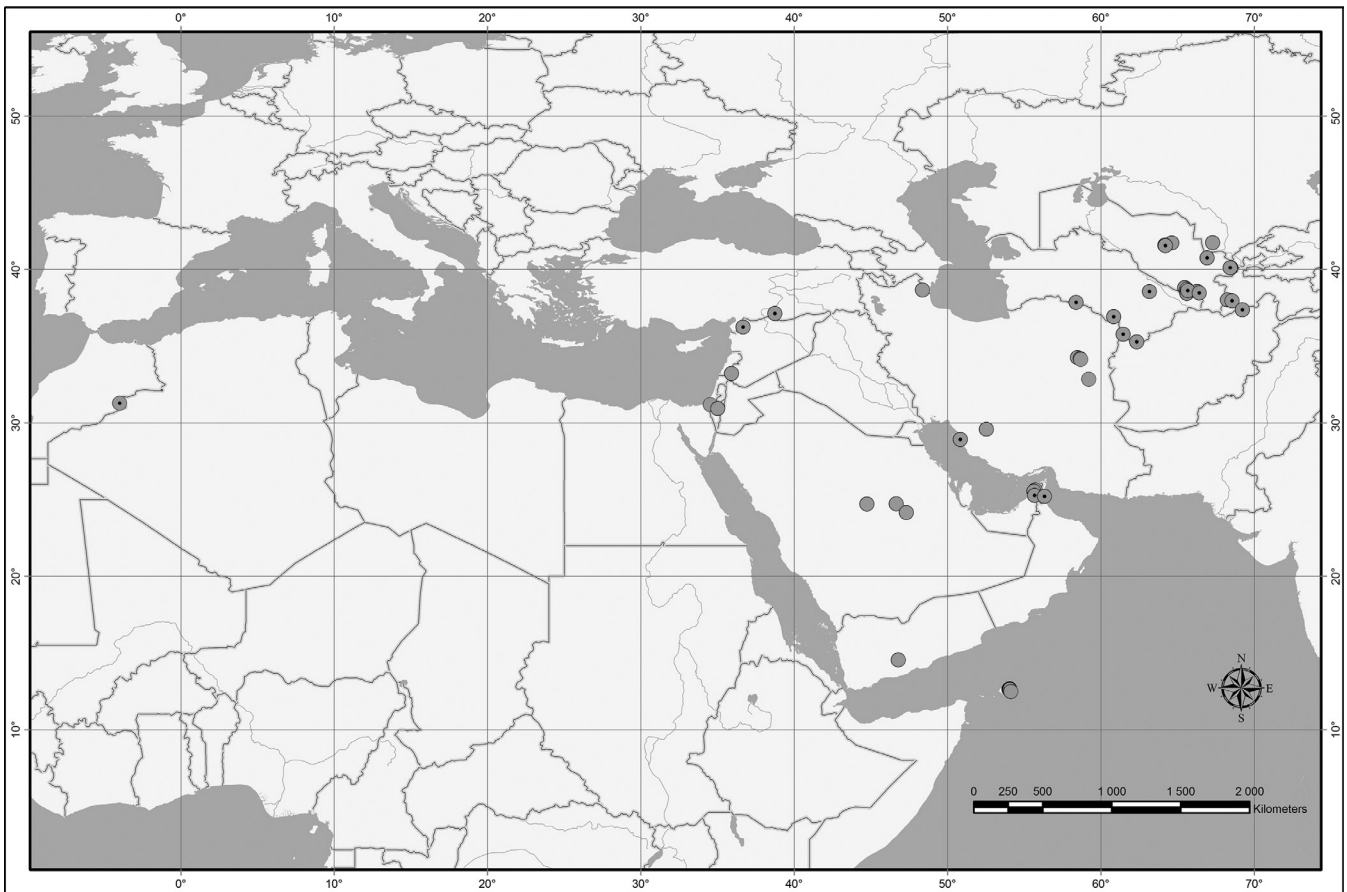


Fig. 3: Distribution records of *Latrodectus dahli* Levi, 1959. Circles with dots = localities of material examined; plain circles = localities of material cited. For detailed information on localities see lists of material in text.

Description of female from Morocco (SMF 59798): Prosomal dorsal shield length 5.5 mm, opisthosoma length 9.3 mm. Slightly larger than most other records (dorsal shield length 3.7–4.8 mm in Yemen (n = 7), Knoflach & van Harten 2002; 4.05 mm in Tajikistan, Marusik & Tarabaev 1995; 4.3 mm in Uzbekistan, Tyschchenko & Ergashev 1974; 4.4 mm in Iran, Levi 1959; 5.5 mm in Israel, Levi & Amitai 1983). Opisthosomal hair pattern as shown in Knoflach & van Harten (2002). Coloration also fits descriptions of Levi (1959) and Knoflach & van Harten (2002): no pattern on opisthosoma, colour uniformly black. Copulatory organ (Figs. 1–2): shape and course of internal duct system in accordance with illustrations of Levi (1959: figs. 11–12) and Marusik & Tarabaev (1995: figs. 1–2). Figures in Knoflach & van Harten (2002: figs. 16–19) and Mirshamsi Kakhki (2005: fig. 4C) show slightly shifted views, i.e. vulva shown slightly from posterior.

Based on the similarity of the female internal duct system *L. hystrix* Simon, 1890 is close to *L. dahli*, but clearly distinguished by the shape and coloration of the opisthosoma (Levi 1959: figs. 29–30; Knoflach & van Harten 2002: pl. 49–52). The currently known distribution range of *L. hystrix* is mainland Yemen and Socotra (Platnick 2010).

Note: The membranous part of the internal duct system contained six broken emboli, three on each side (see also Knoflach & van Harten 2002). Their position was changed by touching the membranous parts of the duct system with forceps. To avoid illustrating artificially induced positions of the emboli, they are omitted in the illustration.

Distribution: Middle East to Central Asia (Platnick 2010), Morocco (present paper) (Fig. 3). The new records for Turkey, Uzbekistan, Turkmenistan, Tajikistan and United Arab Emirates fit the previously known distribution range. However, the single female from Morocco was found about 3700 km from that range. It may represent evidence of a natural population in Morocco. In that case the gap in the known distribution could be explained by misidentifications of spiders in North Africa or by under-sampling in that region. Another reason may be a potential scarcity of this species, which in fact was suggested for this species in Israel (H. W. Levi via Y. Lubin, pers. comm.) and by total individual numbers given in Mirshamsi Kakhki (2005: 56) in contrast to two other *Latrodectus* species (*L. dahli*: n = 5, *L. tredecimguttatus* (Rossi, 1790): n = 20, *L. pallidus* O. P.-Cambridge, 1872: n = 22). Another explanation could be introduction by human activity as has been reported for other widow spiders (e.g. Nihei *et al.* 2004; Jäger 2009). Levi (1983) raised the question of whether known population fluctuations in *Latrodectus* species may contribute to the taxonomic confusion.

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