

## **New records of terrestrial isopods (Isopoda; Oniscidea) from Iran**

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During the last few years, some contributions have been published on terrestrial isopod fauna of Iran (Khalaji-Pirbalouti & Wägele 2010; Kashani *et al.* 2010, 2013; Kashani & Sari 2012); however, currently our knowledge on this taxon is very poor. Since 1885 that Budde-Lund described the first species, more than 30 terrestrial species are reported from Iran. Nevertheless, some cosmopolitan or broadly distributed species, expected to be present in this region, are not recorded yet.

In the following paragraphs, five species of terrestrial isopods are reported from Iran for the first time. Recently, Kashani *et al.* (2014) reported two cosmopolitan species, namely *Porcellionides pruinosus* (Brandt, 1833) and *Agabiformius lentus* (Budde-Lund, 1885) from Gakal cave, southwestern Iran, while these two species have broad distribution in Iran (unpublished data).

The specimens of the present study were collected in many localities throughout Iran mainly by the author. The specimens were collected by hand and preserved in 96% ethanol. The species were identified based on comparison with original descriptions and confirmed mostly by Dr H. Schmalfuss (Stuttgart). For synonymies, only the original name is presented for each species. Detailed synonymies and distributional data are provided in Schmalfuss (2003). The specimens are deposited in Iranian Research Institute of Plant Protection (IRIPP). Some more specimens are kept in personal collection of the author.

**Family Olibrinidae** Budde-Lund, 1913

*Olibrinus antennatus* (Budde-Lund, 1902)

*Trichoniscus antennatus* Budde-Lund, 1902

**Material examined.** **Khuzestan**, 1♀, Imam Khomeini port, Sarbandar, coastal park, 30° 28' N, 49° 04' E, 28.9.2007, leg. H. Salehi, det. H. Schmalfuss (Iso1001-IRIPP).

**Comments.** This species, like the only other species of *Olibrinus*, has an amphibious way of life (Taiti and Ferrara 2004). Schmidt (2002) presented geographical distribution of the genus *Olibrinus*, in which there was no records from the Persian Gulf to India. Though it is reported from one locality, the presence of this species in some other parts of the Persian Gulf is confirmed (Khalaji-Pirbalouty, unpublished data). The identification of this species was based on the illustration presented by Ferrara (1972: p.301; Figs. 23-50).

**Family Philosciidae** Kinahan, 1857

*Chaetophiloscia hastata* Verhoeff, 1929

**Material examined.** **Kermanshah**, 1♀, Gilanegharb, 34° 09' N, 45° 53' E, 30.5.2008, leg. G. M. Kashani, det. H. Schmalfuss (Iso1002-IRIPP); **Zanjan**, 3♀, Taham Dam, leg. E. Jazimagh, 13.11.2010 (Iso1003-IRIPP).

**Comments.** This species was found in association with river sides in western Iran, expanding the eastern geographical distribution of the species to this region. Identification of the species was verified based on illustrations and description presented in Schmalfuss (1990: p.181; Figs. 30-34).

**Family Eubelidae Budde-Lund, 1899**

*Koweitoniscus tamei* (Omer-Cooper, 1923)

*Periscyphis tamei* Omer-Cooper, 1923

**Material examined.** **Khouzastan**, 2♂2♀, Dezful to Andimeshk, 32° 35' N, 48° 17' E, 3.3.2008, leg. H. Salehi (Iso1004-IRIPP); 2♀, Shoosh, Safarabad village, 32° 16' N, 48° 24' E, leg. H. Salehi, det. H. Schmalzfuss, 4.5.2009 (Iso1010-IRIPP); **Bushehr**, 1♀, 20 km to Bushehr, 29° 02' N, 51° 03' E, leg. G. M. Kashani, 14.5.2008 (Iso1005-IRIPP); **Kohgiluyeh and Boyerahmad**, 1♀, Sough, leg. M. Rezaei, 30.4.2002 (Iso1006-IRIPP); **Ilam**, 1♂1♀, Poldokhtar, 33° 07' N, 47° 43' E, leg. G. M. Kashani, 11.11.2008 (Iso1007-IRIPP); 1♂7♀, Poldokhtar to Andimeshk, Chamgerdab village, 32° 56' N, 42° 52' E, leg. G. M. Kashani, 11.11.2008 (Iso1008-IRIPP); **Kerman**, 1♀, 10 km to Jiroft, 28° 45' N, 57° 45' E, leg. G. M. Kashani, 25.2.2009 (Iso1009-IRIPP); **Fars**, 1♂1♀, Parishan Lake, leg. S. Hoseini, 29.10.2012 (Iso1011-IRIPP).

**Comments.** This species has a broad distribution in south and southwestern Iran. The identification of the species was made based on comparison with the original description and illustration presented by Omer-Cooper (1923: p.96; Figs 1-16).

**Family Agnaridae Schmidt, 2003**

*Protracheoniscus major* (Dollfus, 1903)

*Metoponorthus major* Dollfus, 1903

**Material examined.** **Markazi**, 1♂2♀, Arak, Amir-Kabir Park, leg. G. M. Kashani, det. H. Schmalzfuss, 15.9.2004 (Iso1012-IRIPP); **Khorasan-Razavi**, 1♀, 10 km to Mashhad, leg. O. Mirshamsi, 13.12.2007 (Iso1013-IRIPP); **Sabzevar**, 1♂2♀, 36° 09'

N, 57° 42' E, leg. G. M. Kashani, 5.2.2009 (Iso1022-IRIPP); **Isfahan**, 1♂2♀, Shahrreza, leg. M. Tarahomi, 10.5.2008 (Iso1014-IRIPP); 1♂4♀, Shahrreza, leg. G. M. Kashani, 23.4.2003 (Iso1017-IRIPP); 1♀, Varzaneh, Jashoughan village, 32° 41' N, 52° 43' E, leg. G. M. Kashani, 8.12.2008 (Iso1021-IRIPP); **Fars**, 1♀, Neyriz to Arsanjan, 29° 16' N, 54° 17' E, leg. G. M. Kashani, 13.2.2009 (Iso1015-IRIPP); **Azarbajjane Sharghi**, 2♀, Tabriz to Khajeh, 38° 08' N, 46° 35' E, leg. G. M. Kashani, 18.6.2008 (Iso1016-IRIPP); **Lorestan**, 1♀, Boroujerd, leg. G. M. Kashani, 25.3.2004 (Iso1018-IRIPP); **Golestan**, 1♀, Maravetapeh to Bojnourd, Garmab village, 37° 43' N, 56° 27' E, leg. G. M. Kashani, 11.9.2008 (Iso1019-IRIPP); **Zanjan**, 1♂2♀, Zanjan to Bijar, 10 km to Halab, 36° 18' N, 48° 07' E, leg. G. M. Kashani & E. Entezari, 29.9.2008 (Iso1020-IRIPP); 1♂3♀, Khoramdarreh, leg. N. Hoseinkhani, 14.6.2011 (Iso1027-IRIPP); **Kerman**, 1♂2♀, Anar to Bahraman, 25° 02' N, 31° 00' E, leg. G. M. Kashani, 25.2.2009 (Iso1023-IRIPP); 2♂2♀, Bahraman to Rafsanjan, 30° 29' N, 55° 58' E, leg. G. M. Kashani, 25.2.2009 (Iso1024-IRIPP); 1♂, Mahan to Jiroft, Jebalbarez Mt., 29° 05' N, 57° 55' E, leg. G. M. Kashani, 26.2.2009 (Iso1025-IRIPP); 1♂4♀, Kerman, Shahid Bahonar University campus, leg. G. M. Kashani, 6.10.2012 (Iso1028-IRIPP); **Sistan and Balouchestan**, 3♀, Zahedan to Khash, Chan Ali village, 28° 51' N, 60° 41' E, leg. G. M. Kashani, 1.3.2009 (Iso1026-IRIPP).

**Comments.** This species has a broad geographical range in northern half of Iran from east to west. This is the most abundant species in some habitats and can be observed in extreme numbers in some cultivated areas. Identification of species was based on illustration presented by Gruner (1966a: p.284-285; Figs.221A-H; 1966b: p.313; Figs.1-2).

**Family Armadillidiidae** Brandt, 1833

*Armadillidium vulgare* (Latreille, 1804)

*Armadillo vulgaris* Latreille, 1804

**Material examined.** **Khorasane-Razavi**, 2♀, Mashhad, Toos, leg. G. M. Kashani, 24.7.2003 (Iso1029-IRIPP); 2♀, Mashhad, Ghaleno village, 36° 47' N, 59° 57' E, leg. G. M. Kashani, 8.5.2008 (Iso1036-IRIPP); 1♂, Daregaz to Kalat, 37° 15' N, 59° 16' E, leg. G. M. Kashani, 8.5.2008 (Iso1037-IRIPP); **Mazandaran**, 1♂2♀, Babolsar, leg.?, 28.7.2003 (Iso1030-IRIPP); **Ardabil**, 5♀, 35 km to Meshkinshahr, leg. G. M. Kashani and K. Tavakoli, 27.7.2007 (Iso1031-IRIPP); **Zanjan**, 1♂2♀, 40 km to Takestan, leg. G. M. Kashani and K. Tavakoli, 28.7.2007 (Iso1032-IRIPP); 4♀, Tarom, Kouhkan village, leg. A. Ayoubi, 24.3.2012 (Iso1043-IRIPP); **Markazi**, 3♂3♀, Arak, Amir-Kabir park, leg. G. M. Kashani, 15.9.2004 (Iso1033-IRIPP); 3♂1♀, Shazand, Astaneh, leg. G. M. Kashani, 20.10.2004 (Iso1034-IRIPP); **Isfahan**, 1♂2♀, Kashan, Ghamsar, leg. G. M. Kashani, 12.5.2005 (Iso1035-IRIPP); 1♀, Kashan, Abyaneh village, leg. O. Mirshamsi, 9.9.2008 (Iso1042-IRIPP); 2♂2♀, Kashan, Abyaneh village, leg. G. M. Kashani, 30.3.2012 (Iso1044-IRIPP); **Kermanshah**, 1♀, Taghe-Bostan, 34° 23' N, 47° 07' E, leg. G. M. Kashani, 30.5.2008 (Iso1038-IRIPP); **Tehran**, 1♀, Abali, leg. ?, 15.4.2008 (Iso1039-IRIPP); **Gilan**, 2♂3♀, Rasht, leg. ?, 10.5.2003 (Iso1040-IRIPP); **Golestan**, 2♀, Gonbade-Kavoos, 37° 13' N, 55° 09' E, leg. G. M. Kashani, 10.10.2008 (Iso1041-IRIPP); **Ghazvin**, 2♀, Farsajin, 36° 01' N, 49° 25' E, leg. G. M. Kashani and B. Eshaghi, 18.7.2013 (Iso1045-IRIPP).

**Comments.** This cosmopolitan species as an introduced species can be found throughout Iran, especially in cultivated areas in huge numbers. The species identification was verified based on description and illustrations presented by Schmalfuss (2006: p.90; Figs. 194-210).

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