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Oribatid mites (Acari: Oribatida) associated with pastures of Shiraz township, Fars province, Iran

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A b s t r a c t : In the faunistic survey of oribatid mites (Acari: Oribatida) in pastures of Shiraz township, Fars province, southern Iran, conducted during 2011-2013, totally 64 species from 45 genera and 32 families were collected and identified. Among them, 2 genera and 6 species were first records for Iran. Mites were extracted by means of Berlese funnels, cleared in lactophenol and mounted in Hoyer's medium on microscopic slides.

K e y w o r d s : Acari, Oribatida, Fars, Iran, pasture, fauna.

Introduction

Oribatid mites (suborder Oribatida or Cryptostigmata), also called "moss mites" or "beetle mites" are one of the numerically dominant arthropod groups in most soils (NORTON & BEHAN-PELLETIER 2009). These mites are among the most abundant soil-living microarthropods reaching densities of up to 500.000 individuals per square meter in forest soil (SCHATZ & BEHAN-PELLETIER 2008). Some oribatid mites act as intermediate hosts of tapeworms of the Anoplocephalidae (STUNKARD 1937; AKRAMI et al. 2007). Oribatid mites have different feeding guilds such as phyllophage, xylophage, mycophage, bacteriophage, phycophage, zoophage, coprophage and necrophage (PANDE & BERTHET 1973). Shiraz township is located in the south of Iran and the northwest of Fars province. It is built in a green plain at the foot of the Zagros mountains 1,500 metres (4,900 feet) above sea level. In the not too distant past, we had very little information on the oribatid mites of Iran, and Iran was one of the few completely uninvestigated countries of the world in relation to the taxonomic study on its oribatid mite fauna, but in the past decade, our information and knowledge of Iranian oribatid mites has increased. Some of studies on Iranian oribatid mite fauna are BAYARTOGTOKH & AKRAMI 2000a,b 2014; HADDAD IRANI-NEJAD et al. 2000, 2003; MAHUNKA & AKRAMI 2001; AKRAMI & SABOORI 2001, 2004; AKRAMI 2007, 2008; AKRAMI & COETZEE 2007; AKRAMI & SUBIAS 2007, 2008, 2009; AKRAMI et al. 2009, 2011; AKRAMI & EBRAHIMI 2013a,b and AKRAMI & BEHMANESH 2013a,b.

Materials and methods

During 2011-2013, in the course of a faunistic survey of oribatid mites in pastures of Shiraz township, Fars province, Iran, soil samples were taken from different locations and were transferred to the Acarological laboratory of Shiraz University. The mites were extracted by Berlese funnel. Oribatid mites were removed, cleared in lactophenol and mounted in Hoyer's medium on glass microscopic slides for identification. The slides were placed in an oven at 45°C for 10 days and then the specimens were examined using a light microscope (Zeiss Standard 20). All specimens deposited in the Acarological Collection of the Department of Plant Protection, College of Agriculture, Shiraz University, Iran.

Results

During this study, 64 species belonging to 45 genera and 32 families of oribatid mites from pastures of Shiraz township were collected and identified, of which 2 genera and 6 species are reported for the first time from Iran (marked by one asterisk), two species have described for the first time (marked by two asterisks) and 11 species are reported for the first time from Fars province (marked by three asterisks).

H y p o c h t h o n i i d a e BERLESE, 1910

***Hypochthonius luteus* OUDEMANS, 1917**

M a t e r i a l e x a m i n e d : Fars, Bajgah, 10.IV.2011, (N: 29°32'; E: 52°35'; 1810 m), soil under safflower (*Carthamus* sp.), leg. F. EBRAHIMI.

D i s t r i b u t i o n : Holarctic region, northeast of Oriental region, New Zealand (SUBIAS 2014) and Iran (BAYARTOGTOKH & AKRAMI 2000a).

C o s m o c h t h o n i i d a e GRANDJEAN, 1947

Cosmochthonius (C.) ponticus* GORDEEVA, 1980**

M a t e r i a l e x a m i n e d : Fars, Kaftarak, 14.VIII.2011, (N: 29°33'; E: 52°42'; 1427 m), soil and litter under knotweed plants (*Polygonum* sp.), leg. F. EBRAHIMI.

D i s t r i b u t i o n : Mediterranean oriental (SUBIAS 2014) and Iran (AKRAMI & SABOORI 2012).

***Cosmochthonius (C.) reticulatus** GRANDJEAN, 1947**

M a t e r i a l e x a m i n e d : Fars, Dasht Arjan, 16.I.2012, (N: 29°34'; E: 52°57'; 2042 m), forest, soil under oak trees (*Quercus* sp.), leg. F. EBRAHIMI.

D i s t r i b u t i o n : Mediterranean and Brazil (SUBIAS 2014).

N o t e s : This is the first record of this species for Iran.

H a p l o c h t h o n i i d a e HAMMEN, 1959

***Haplochthonius (H.) chamela* MAHUNKA & MEJIA-RECAMIER, 1998**

M a t e r i a l e x a m i n e d : Fars, Dasht Arjan, 16.I.2012, (N: 29°34'; E: 52°57'; 2042 m), soil under safflower, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Mexico (SUBIAS 2014); Iran (AKRAMI & BEHMANESH unpublished data).

***Haplochthonius (H.) sanctaeluciae* BERNINI, 1973**

M a t e r i a l e x a m i n e d : Fars, Sarvestan, 21.V.2011, (N: 29°24'; E: 52°47'; 1556 m), soil under alfaalfa (*Medicago sativa* L.), leg. F. EBRAHIMI.

D i s t r i b u t i o n : Southern Palaearctic region (Mediterranean and west central Asia), Senegal, Neotropical region (Galapagos and Chile) (SUBIAS 2014) and Iran (AKRAMI & SABOORI 2012).

***Haplochthonius (H.) simplex* (WILLMANN, 1930)**

M a t e r i a l e x a m i n e d : Fars, Shiraz, 21.V.2011, (N: 29°40'; E: 52°29'; 1601 m), soil under camel's thorn (*Alhagi camelorum* FISCH.), leg. F. EBRAHIMI.

D i s t r i b u t i o n : Semicosmopolitan: Holarctic, Ethiopian (Senegal and Congo) and Oriental regions (SUBIAS 2014); Iran (AKRAMI & SABOORI 2012).

S p h a e r o c h t h o n i i d a e GRANDJEAN, 1947

***Sphaerochthonius splendidus* (BERLESE, 1904)**

M a t e r i a l e x a m i n e d : Fars, Kaftarak, 14.VIII.2011, (N: 29°33'; E: 52°42'; 1427 m), soil and litter under knotweed plants, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Pantropical, Neotropical and subtropical regions and Iran (SUBIAS 2014; BAYARTOGTOKH & AKRAMI, 2000a).

E p i l o h m a n n i i d a e OUDEMANS, 1923

***Epilohmannia cylindrica cylindrica* (BERLESE, 1904)**

M a t e r i a l e x a m i n e d : Fars, Shiraz, 17.IV.2011, (N: 29°40'; E: 52°29'; 1601 m), soil under alfalfa, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Cosmopolitan (SUBIAS 2014); Iran (AKRAMI & SABOORI 2004).

L o h m a n n i i d a e BERLESE, 1916

***Heptacarus supertrichus** PIFFL, 1967**

M a t e r i a l e x a m i n e d : Fars, Ghalat, 10.VIII.2011, (N: 29°48'; E: 52°19'; 2072 m), soil under oriental plane trees (*Platanus orientalis* L.), leg. F. EBRAHIMI.

D i s t r i b u t i o n : Iraq and Mexico (SUBIAS 2014).

N o t e s : This is the first record of this species for Iran.

***Papillacarus aciculatus* (BERLESE, 1905)**

M a t e r i a l e x a m i n e d : Fars, Dasht Arjan, 16.I.2012, (N: 29°34'; E: 52°57'; 2042 m), soil under oak trees, leg. F. EBRAHIMI.

D i s t r i b u t i o n : West central Palaearctic region, Vietnam (SUBIAS 2014) and Iran (AKRAMI & SABOORI 2004).

***Lohmannia paradoxa* (HALLER 1884)= *L. loebli* MAHUNKA, 1974**

M a t e r i a l e x a m i n e d : Fars, Fathabad, 15.V.2011, (N: 29°17'; E: 52°39'; 1529 m), soil under alfalfa, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Western Palaearctic region (SUBIAS 2014) and Iran (AKRAMI & SABOORI 2004).

L o h m a n n i a sp.

M a t e r i a l e x a m i n e d : Fars, Shiraz, 12.I.2012, (N: 29°40'; E: 52°29'; 1601 m), soil under plane-tree maple (*Acer pseudoplatanus* L.), leg. F. EBRAHIMI.

***Thamnacarus* longisetosus** BULANOVA-ZACHVATKINA, 1987**

M a t e r i a l e x a m i n e d : Fars, Kaftarak, 22.VII.2010, (N: 29°30'; E: 52°50'; 1409 m), soil under oat plants (*Avena* sp.), leg. F. EBRAHIMI.

D i s t r i b u t i o n : Southern Palaearctic region (SUBIAS 2014).

N o t e s : This is the first record of this genus and species for Iran.

E u p h t h i r a c a r i d a e JACOT, 1930

***Acrotritia ardua* (KOCH, 1841)**

M a t e r i a l e x a m i n e d : Fars, Maharloo, 17.IV.2011, (N: 29°26'; E: 52°43'; 1479 m), soil under alfalfa, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Cosmopolitan (SUBIAS 2014); Iran (BAYARTOGTOKH & AKRAMI 2000a).

P h t h i r a c a r i d a e PERTY, 1841

Phthiracarus lentulus* (KOCH, 1841)**

M a t e r i a l e x a m i n e d : Fars, Bajgah, 19.VIII.2011, (N: 29°32'; E: 52°25'; 1810 m), soil and litter under alfalfa, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Holarctic region, Angola (SUBIAS 2014) and Iran (BAYARTOGTOKH & AKRAMI 2000a).

Phthiracarus furvus* NIEDBALA, 1983**

M a t e r i a l e x a m i n e d : Fars, Ghalat, 23.VII.2011, (N: 29°48'; E: 52°19'; 2072 m), soil under barley (*Hordeum* sp.), leg. F. EBRAHIMI.

D i s t r i b u t i o n : Eastern Mediterranean region (SUBIAS 2014) and Iran (AKRAMI & SABOORI 2004).

M a l a c o n o t h r i d a e BERLESE, 1916

***Malaconothrus* sp.**

M a t e r i a l e x a m i n e d : Fars, Ghalat, 10.II.2011, (N: 29°48'; E: 52°19'; 2072 m), soil and litter under oak trees, leg. F. EBRAHIMI.

N o t h r i d a e BERLESE, 1896

***Nothrus biciliatus* KOCH, 1841**

M a t e r i a l e x a m i n e d : Fars, Shiraz, 25.VI.2011, (N: 29°40'; E: 52°29'; 1601 m), soil and litter under knotweed plants, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Germany, Netherlands, Sweden, Austria, Denmark, Hungary, Italy, Japan, Ireland (BALOGH & MAHUNKA 1983) and Iran (AKRAMI & SABOORI 2012).

L i c n o d a m a e i d a e GRANDJEAN, 1954

***Licnodamaeus pulcherrimus* (PAOLI, 1908)**

M a t e r i a l e x a m i n e d : Fars, Ghalat, 10.IV.2011, (N: 29°32'; E: 52°35'; 1810 m), soil under safflower, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Palaearctic region (SUBIAS 2014); Iran (AKRAMI 2007).

G y m n o d a m a e i d a e GRANDJEAN, 1954

***Jacotella frondeus* (KULIJEV, 1979)=*Plesiodamaeus ornatus* MAHUNKA, 1979**

M a t e r i a l e x a m i n e d : Fars, Bajgah, 14.V.2011, (N: 29°32'; E: 52°35'; 1810 m), soil under wild oat (*Avena fatua* L.), leg. F. EBRAHIMI.

D i s t r i b u t i o n : Eastern Mediterranean (SUBIAS 2014) and Iran (AKRAMI & SABOORI 2012).

A l e u r o d a m a e i d a e PASCHOAL & JOHNSTON, 1985

***Aleurodamaeus setosus* (BERLESE, 1883)**

M a t e r i a l e x a m i n e d : Fars, Dasht Arjan, 25.VIII.2011, (N: 29°34'; E: 52°57'; 2042 m), soil under oak trees, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Southern Palaearctic (SUBIAS 2014) and Iran (AKRAMI 2007).

M i c r o z e t i d a e GRANDJEAN, 1936

***Berlesezetes aegypticus* (BAYOUMI, 1977)**

M a t e r i a l e x a m i n e d : Fars, Koohanjan, 27.IV.2012, (N: 29°18'; E: 52°53'; 1475 m), soil under bermuda grass (*Cynodon dactylon* (L.)), leg. F. EBRAHIMI.

D i s t r i b u t i o n : Egypt (SUBIAS 2014) and Iran (AKRAMI 2007).

D a m a e o l i d a e GRANDJEAN, 1965

***Fosseremus laciniatus* (BERLESE, 1905)= *F. quadripertitus* GRANDJEAN, 1965**

M a t e r i a l e x a m i n e d : Fars, Shiraz, 16.III.2012, (N: 29°40'; E: 52°29'; 1601 m), soil under Johnson grass (*Sorghum halepense* (L.)), leg. F. EBRAHIMI.

D i s t r i b u t i o n : Cosmopolitan (SUBIAS 2014); Iran (AKRAMI 2007).

O p p i i d a e SELLNICK, 1937

***Lasiobelba* (*Antennoppia*) *heterosa* (WALLWORK, 1964)**

M a t e r i a l e x a m i n e d : Fars, Fathabad, 18.VIII.2011, (N: 29°17'; E: 52°39'; 1529 m), soil under alfalfa, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Chad and Iran (SUBIAS 2014; AKRAMI & SUBIAS 2007).

Ramusella* (*Ramusella*) *sengbuschi* s. str. HAMMER, 1968**

M a t e r i a l e x a m i n e d : Fars, Ghalat, 25. V.2011, (N: 29°48'; E: 52°19'; 2072 m), soil under oriental plane trees, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Pantropical (except Ethiopian), subtropical (SUBIAS 2014) and Iran (AKRAMI & SUBIAS 2007).

***Ramusella* (*Insculptoppia*) *insculpta* (PAOLI, 1908)**

M a t e r i a l e x a m i n e d : Fars, Shiraz, 14.IV.2012, (N: 29°40'; E: 52°29'; 1601 m), soil under safflower, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Palaearctic region, Vietnam (SUBIAS 2014); Iran (AKRAMI & SUBIAS 2007).

***Ramusella* (*Insculptoppia*) *farsi* AKRAMI, SUBIAS & BEHMANESH, 2011**

M a t e r i a l e x a m i n e d : Fars, Shiraz, 14.IV.2012, (N: 29°32'; E: 52°35'; 1810 m), soil under safflower, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Iran (AKRAMI et al. 2011).

***Ramusella* (*Rectoppia*) *damavandica* AKRAMI & SUBIAS, 2008**

M a t e r i a l e x a m i n e d : Fars, Dasht Arjan, 19.II.2012, (N: 29°34'; E: 52°57'; 2042 m), soil under oak trees, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Iran (AKRAMI & SUBIAS 2008).

***Discoppia* (*Cylindroppia*) *cylindrica* (PEREZ-INIGO, 1965)**

M a t e r i a l e x a m i n e d : Fars, Dasht Arjan, 19. II.2012, (N: 29°34'; E: 52°57'; 2042 m), soil under oak trees, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Southern Palaearctic, Oriental and Central America (SUBIAS 2014) and Iran (AKRAMI & SUBIAS 2007).

Rhinoppia obsoleta (PAOLI, 1908)

M a t e r i a l e x a m i n e d : Fars, Shiraz, 18.IV.2011, (N: 29°40'; E: 52°29'; 1601 m), soil under lamb's quarters goosefoot (*Chenopodium album* L.), leg. F. EBRAHIMI.

D i s t r i b u t i o n : Palaearctic region, Greenland, New Zealand, Hawaii (SUBIAS 2014); Iran (AKRAMI & SUBIAS 2007).

C a r a b o d i d a e KOCH, 1837

***Astrocarabodes* sp.**

M a t e r i a l e x a m i n e d : Fars, Dasht Arjan, 16.VII.2011, (N: 29°34'; E: 52°57'; 2042 m), soil under oak trees, leg. F. EBRAHIMI.

Tectocephidae GRANDJEAN, 1954

***Tectocephus minor* BERLESE, 1903**

M a t e r i a l e x a m i n e d : Fars, Dasht Arjan, 16.VII.2011, (N: 29°34'; E: 52°57'; 2042 m), soil under oak trees, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Semicosmopolitan (SUBIAS 2014); Iran (BAYARTOGTOKH & AKRAMI 2000a).

***Tectocephus velatus* (MICHAEL, 1880)**

M a t e r i a l e x a m i n e d : Fars, Bajgah, 21.V.2012, (N: 29°32'; E: 52°35'; 1810 m), soil under safflower, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Cosmopolitan (SUBIAS 2014); Iran (BAYARTOGTOKH & AKRAMI 2000a).

D a m a e i d a e BERLESE, 1896

***Belba* sp.**

M a t e r i a l e x a m i n e d : Fars, Shiraz, 2.IV.2012, (N: 29°40'; E: 52°29'; 1601 m), soil under field bindweed (*Convolvulus arvensis* L.), leg. F. EBRAHIMI.

Passalozetidae GRANDJEAN, 1954

***Passalozetes (P.) africanus* GRANDJEAN, 1932**

M a t e r i a l e x a m i n e d : Fars, Shiraz, 14.V.2011, (N: 29°40'; E: 52°29'; 1601 m), soil under bermuda grass, leg. F. EBRAHIMI.

D i s t r i b u t i o n : South central Palaearctic region, Guinea (SUBIAS 2014) and Iran (BAYARTOGTOKH & AKRAMI 2000a).

S c u t o v e r t i c i d a e GRANDJEAN, 1954

***Scutovertex perforatus** SITNIKOVA, 1975**

M a t e r i a l e x a m i n e d : Fars, Dasht Arjan, 17.IV.2012, (N: 29°39'; E: 52°59'; 2042 m), soil under safflower, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Western Palaearctic region (SUBIAS 2014).

N o t e s : This is the first record of this species for Iran.

T e g o r i b a t i d a e GRANDJEAN, 1954

Tectoribates ornatus* (SCHUSTER, 1958)**

M a t e r i a l e x a m i n e d : Fars, Sarvestan, 8.VIII.2012, (N: 29°24'; E: 52°47'; 1623 m), soil under fig trees (*Ficus* sp.) and safflower, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Palaearctic and Neotropical regions (SUBIAS 2014); Iran (AKRAMI & BASTAN unpublished data).

A c h i p t e r i i d a e THOR, 1929

***Achipteria* sp.**

M a t e r i a l e x a m i n e d : Fars, Bajgah, 3.VII.2011, (N: 29°32'; E: 52°35'; 1810 m), soil under camel's thorn, leg. F. EBRAHIMI.

C e r a t o z e t i d a e JACOT, 1925

***Ceratozetes (C.) macromediocris* SHALDYBINA, 1970**

M a t e r i a l e x a m i n e d : Fars, Ghalat, 10.II.2013, (N: 29°48'; E: 52°19'; 2072 m), soil under barley, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Eastern Europe (SUBIAS 2014) and Iran (AKRAMI & SABOORI 2012).

P u n c t o r i b a t i d a e THOR, 1937

***Punctoribates (P.) liber* PAVLITCHENKO, 1991**

M a t e r i a l e x a m i n e d : Fars, Koohanjan, 1.V.2012, (N: 29°18'; E: 52°53'; 1475 m), soil under bermuda grass, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Mediterranean region and Iran (SUBIAS 2014).

Z e t o m o t r i c h i d a e GRANDJEAN, 1934

***Zetomotrichus persicus* AKRAMI & BEHMANESH, 2013**

M a t e r i a l e x a m i n e d : Fars, Dasht Arjan, 19.II.2012, (N: 29°34'; E: 52°57'; 2042 m), soil under oak trees, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Iran (AKRAMI & BEHMANESH 2013a).

Zetomotrichus lacrimans* GRANDJEAN, 1934**

M a t e r i a l e x a m i n e d : Fars, Dasht Arjan, 17.IV.2012, (N: 29°39'; E: 52°59'; 2042 m), soil under safflower, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Mediterranean, Ethiopian, Philippines (SUBIAS 2014) and Iran (AKRAMI & BASTAN 2012).

***Ghilarovus* hispanicus** SUBIAS & PEREZ-INIGO, 1977**

M a t e r i a l e x a m i n e d : Fars, Shiraz, 3.II.2011, (N: 29°40'; E: 52°29'; 1601 m), soil under hairy crab grass (*Digitaria sanguinalis* (L.)), leg. F. EBRAHIMI.

D i s t r i b u t i o n : Western Mediterranean (SUBIAS 2014).

Notes: This is the first record of this genus and species for Iran.

Oribatulidae THOR, 1929

***Oribatula (Oribatula) pallida* BANKS, 1906**

M a t e r i a l e x a m i n e d : Fars, Dasht Arjan, 19.II.2012, (N: 29°34'; E: 52°57'; 2042 m), soil under oak trees, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Holarctic region, India (SUBIAS 2014); Iran (AKRAMI et al. 2008).

***Oribatula (O.) tibialis* (NICOLET, 1855)**

M a t e r i a l e x a m i n e d : Fars, Fathabad, 19.VII.2012, (N: 29°17'; E: 52°39'; 1529 m), soil under alfalfa, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Holarctic region, India (SUBIAS 2014); Iran (AKRAMI et al. 2008).

***Oribatula (Zygoribatula) connexa* BERLESE, 1904**

M a t e r i a l e x a m i n e d : Fars, Ghalat, 4.IV.2011, (N: 29°48'; E: 52°19'; 2072 m), soil under wild oat, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Subtropical region (SUBIAS 2014) and Iran (BAYARTOGTOKH & AKRAMI 2000b).

***Oribatula (Z.) undulata* BERLESE, 1916**

M a t e r i a l e x a m i n e d : Fars, Ghalat, 4.IV.2011, (N: 29°48'; E: 52°19'; 2072 m), soil under wild oat, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Pantropical and subtropical regions (SUBIAS 2014) and Iran (AKRAMI & SABOORI 2012).

***Oribatula (Z.) sp. nr. skrjabini* (BULANOVA-ZACHVATKINA, 1967)**

M a t e r i a l e x a m i n e d : Fars, Kaftarak, 7.I.2011, (N: 29°33'; E: 52°43'; 1426 m), soil under cypress grass (*Cyperus* sp.), leg. F. EBRAHIMI.

D i s t r i b u t i o n : *Oribatula (Z.) skrjabini* is distributed in southern Palaearctic region (SUBIAS 2014).

S ch e l o r i b a t i d a e GRANDJEAN, 1933

Scheloribates fimbriatus THOR, 1930

M a t e r i a l e x a m i n e d : Fars, Bajgah, 4.VII.2011, (N: 29°32'; E: 52°35'; 1810 m), soil under alfalfa, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Cosmopolitan (SUBIAS 2014); Iran (BAYARTOGTOKH & AKRAMI 2000b).

*Scheloribates praeincisus**** (BERLESE, 1910)

M a t e r i a l e x a m i n e d : Fars, Sarvestan, 14.II.2011, (N: 29°24'; E: 52°47'; 1556 m), soil under oak trees, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Pantropical and subtropical regions (SUBIAS 2014) and Iran (BAYARTOGTOKH & AKRAMI 2000b).

P r o t o r i b a t i d a e J. & P. BALOGH, 1984

Protoribates (P.) paracapucinus (MAHUNKA, 1988)

M a t e r i a l e x a m i n e d : Fars, Maharloo, 18.VI.2011, (N: 29°20'; E: 52°48'; 1551 m), soil under safflower, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Oriental region, Congo, Ecuador and Iran (SUBIAS 2014; BAYARTOGTOKH & AKRAMI 2000b).

*Protoribates (Triaunguis) bipilis**** (HAMMER, 1972)

M a t e r i a l e x a m i n e d : Fars, Shiraz, 9.V.2011, (N: 29°40'; E: 52°29'; 1601 m), soil under lamb's quarters goosefoot, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Polynesia, Philippines (SUBIAS 2014) and Iran (AKRAMI & SABOORI 2012).

H a p l o z e t i d a e GRANDJEAN, 1936

*Baloghiella foveolata*** AKRAMI & EBRAHIMI, 2013

M a t e r i a l e x a m i n e d : Fars, Maharloo, 28.VIII.2011, (N: 29°21'; E: 52°48'; 1491 m), soil under knotweed plants, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Iran (AKRAMI & EBRAHIMI 2013b).

Peloribates sp.

M a t e r i a l e x a m i n e d : Fars, Dasht Arjan, 19.II.2012, (N: 29°34'; E: 52°57'; 2042 m), soil under oak trees, leg. F. EBRAHIMI.

Haplozetes fusifer (BERLESE, 1908)

M a t e r i a l e x a m i n e d : Fars, Dasht Arjan, 4.VI.2011, (N: 29°34'; E: 52°57'; 2042 m), soil under camel's thorn, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Mediterranean, India (SUBIAS 2014); Iran (AKRAMI & BEHMANESH 2013b).

P h e n o p e l o p i d a e PETRUNKEVITCH, 1955

***Eupelops* sp.**

M a t e r i a l e x a m i n e d : Fars, Ghalat, 25.V.2011, (N: $29^{\circ}48'$; E: $52^{\circ}19'$; 2072 m), soil under oriental plane trees, leg. F. EBRAHIMI.

G a l u m n i d a e JACOT, 1925

***Galumna iranensis* MAHUNKA & AKRAMI, 2001**

M a t e r i a l e x a m i n e d : Fars, Poshtepar, 18.I.2011, (N: $29^{\circ}19'$; E: $52^{\circ}50'$; 1476 m), soil under field bindweed, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Iran (MAHUNKA & AKRAMI 2001).

***Galumna karajica* MAHUNKA & AKRAMI, 2001**

M a t e r i a l e x a m i n e d : Fars, Bidzard, 12.V.2012, (N: $29^{\circ}17'$; E: $52^{\circ}39'$; 1509 m), soil under safflower, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Iran (MAHUNKA & AKRAMI 2001).

***Pilogalumna tenuiclava* (BERLESE, 1908)=*Allogalumna boevi* KRIVOLUTSKAJA, 1952**

M a t e r i a l e x a m i n e d : Fars, Shiraz, 18.IV.2011, (N: $29^{\circ}40'$; E: $52^{\circ}29'$; 1601 m), soil under lamb's quarters goosefoot, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Holarctic region (SUBIAS 2014); Iran (AKRAMI 2007).

Allogalumna dentirostrata* BAYARTOGTOKH & AKRAMI, 2014**

M a t e r i a l e x a m i n e d : Fars, Dasht Arjan, 19.II.2012, (N: $29^{\circ}34'$; E: $52^{\circ}57'$; 2042 m), soil under oak trees, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Iran (BAYARTOGTOKH & AKRAMI 2014).

***Allogalumna* sp. nr. *integer** (BERLESE, 1904)**

M a t e r i a l e x a m i n e d : Fars, Ghalat, 10.II.2013, (N: $29^{\circ}48'$; E: $52^{\circ}19'$; 2072 m), soil under barley, leg. F. EBRAHIMI.

D i s t r i b u t i o n : *Allogalumna integer* is distributed in south central Europe (SUBIAS 2014).

Acrogalumna lanceolata* BAYARTOGTOKH & AKRAMI, 2014**

M a t e r i a l e x a m i n e d : Fars, Khanezenyan, 7.IV.2011, (N: $29^{\circ}40'$; E: $52^{\circ}10'$; 1953 m), soil under camel's thorn, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Iran (BAYARTOGTOKH & AKRAMI 2014).

Pergalumna microtuberculata* BAYARTOGTOKH & AKRAMI, 2014**

M a t e r i a l e x a m i n e d : Fars, Shiraz, 14.IV.2012, (N: $29^{\circ}40'$; E: $52^{\circ}29'$; 1601 m), soil under safflower, leg. F. EBRAHIMI.

D i s t r i b u t i o n : Iran (BAYARTOGTOKH & AKRAMI 2014).

Pergalumna persica AKRAMI & EBRAHIMI, 2013**

Material examined: Fars, Sarvestan, 14.IV.2011, (N: 29°18'; E: 52°47'; 1623 m), soil under safflower, leg. F. EBRAHIMI.

Distribution: Iran (AKRAMI & EBRAHIMI 2013a).

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