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

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Abstract

Faunal study of oribatid mites (Acari: Oribatida) in Shiraz township (Fars province – southern Iran) was conducted during 2009-2010. Totally, 68 species belonging to 62 genera and 40 families were collected and identified. Of which one genus and 7 species are reported for the first time from Iran, and 9 families, 18 genera and 21 species are reported for the first time from Fars province.

Key words: Acari, Oribatida, Shiraz, Iran, fauna.

Zusammenfassung

Introduction

Oribatid mites (formerly Cryptostigmata), also known as moss mites or beetle mites, are a suborder of mites (Suborder Oribatida), in the superorder Acariformes, order Sarcoptiformes. They range in size from 0.2 to 1.4 millimetres. Oribatid mites generally have low metabolic rates, slow development and low fecundity. Species are iteroparous with adults living a relatively long time; for example, estimates of development time from egg to adult vary from several months to two years in temperate forest soils. Oribatid mites have six active instars: prelarva, larva, three nymphal instars and the adult. All these stages after the prelarva feed on a wide variety of material including living and dead plant and fungal material, lichens and carrion; some are predatory, but none is parasitic and feeding habits may differ between immatures and adults of the same species (HOY 2008; NORTON & BEHAN-PELLETIER 2009).

The Oribatida are of economic importance as hosts of various tapeworm species, and by increasing the breakdown of organic material in the soil, in a similar manner to earthworms (BAKER & WHARTON 1952).

During 2009-2010, oribatid mite fauna of Shiraz township, Fars province, Iran was studied. Shiraz is the fifth most populous city of Iran and the capital of Fars province. In 2009 the population of the city was 1,455,073, the majority of whom are Persian. Shiraz is located in the south of Iran and the northwest of Fars province, 919 kilometres (571 mi) south of Tehran. It is built in a green plain at the foot of the Zagros Mountains 1,500 metres (4,900 feet) above sea level. A seasonal river, Rudkhaneye Khoshk, flows through the northern part of the city and on into Maharloo Lake. As of 1920, the area had a large forest of oak trees. It has a moderate climate and has been a regional trade center for over a thousand years. It is regarded as one of the oldest cities of ancient Persia. Shiraz’s climate has distinct seasons, and is overall classed as a hot semi-arid climate, though it is only a little short of a hot-summer Mediterranean climate. Summers are hot, with a July average high of 37.8 °C (100.0 °F). Winters are cool, with average low temperatures below freezing in December and January. Around 300 mm (12 in) of rain falls each year, almost entirely in the winter months (Wikipedia site).

Materials and methods

Soil and litter samples were taken from different locations of Shiraz, during 2009-2010, 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. All specimens collected by junior author.
Results

During this study, 68 species belonging to 62 genera and 40 families of oribatid mites from various habitats of Shiraz township were collected and identified, of which one genus and 7 species are reported for the first time from Iran, and 9 families, 18 genera and 21 species are reported for the first time from Fars province. Also 2 families and 3 genera of this collection have previously reported and 6 species have described.

Ctenacaridae Grandjean 1954

Beklemishevia sp.
Sample code: D1, A13 (Refer to Table 1)
Notes: This is the first record of this genus for Fars province.

Ctenacarus araneola (Grandjean 1932)
Sample code: B7, B8
Distribution: Pantropical and Subtropical regions (Subias 2014); Iran (Bayartogtokh & Akrami 2000a).

Gilarovella sp.
Sample code: A2, A19, A13, B7, D1, D2, D4, D8, D20
Notes: This is the first record of this genus for Fars province.

Neoctenacarus hastilis Moritz 1974
Sample code: D7
Distribution: South central Europe (Subias 2014) and Iran (Akrami & Saboori 2012).
Notes: This is the first record of this genus and species for Fars province.

Aphelacaridae Grandjean 1954

Aphelacarus acarinus acarinus (Berlese 1910)
Sample code: A1, A9, A19, A23, B1, B7, D4, D11, D15, D20
Distribution: Semicosmopolitan (Holarctic, Ethiopian, Neotropical); Iran (Akrami & Saboori 2012).

Hypochthoniidae Berlese 1910

Hypochthonius luteus Oudemans 1917
Sample code: A13, A14, A17, A18, A20
Distribution: Holarctic region, northeast of Oriental region, New Zealand (SUBIAS 2014) and Iran (BAYARTOGTOKH & AKRAMI 2000a).

Cosmochthoniidae Grandjean 1947

Cosmochthonius sp.
Sample code: D6, D20, A19, D7, D11, D8, A18

Phyllozetes emmae (Berlese 1910)
Sample code: A23, D20, B7
Distribution: Pantropical (except Ethiopian) and Subtropical (SUBIAS 2014).
Notes: This is the first record of this genus and species for Fars province.

Haplochthoniidae Hammen 1959

Haplochthonius (H.) chamela Mahunka & Mejia-Recamier 1998
Sample code: A13, A19, D11, D20
Distribution: Mexico (SUBIAS 2014).
Notes: This is the first record of this species for Iran.

Haplochthonius (H.) sanctaeluciae Bernini 1973
Sample code: D4, D7, D8, D11, A16, B1, B7
Distribution: 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)
Sample code: A20, D7
Distribution: Semicosmopolitan: Holarctic, Ethiopian (Senegal and Congo) and Oriental (SUBIAS 2014); Iran (AKRAMI & SABOORI 2012).

Sphaerochthoniidae Grandjean 1947

Sphaerochthonius splendidus (Berlese 1904)
Sample code: A18, D8, B3, D11, A2, A13, A20, D21, D20, B7, A9, A12, D2
Distribution: Pantropical, Neotropical and Subtropical regions and Iran (SUBIAS 2014; BAYARTOGTOKH & AKRAMI, 2000a).
Brachychthoniidae Thor 1934

Brachychthonius sp.
Sample code: A18, D20, D21, D7, D8, A9, D21, B1, A12, A4, A14, D1, A17, A10, D5
Notes: This is the first record of this family for Fars province.

Eobrachychthonius sp.
Sample code: D20

Liochthonius sp.
Sample code: A18, D2, D20, A14, D4, D3

Poecilochthonius italicus (Berlese 1910)
Sample code: A14, A15
Distribution: Holarctic (Subias 2014); Iran (Akrami & Saboori 2004).

Synchthonius crenulatus (Jacot 1938)
Sample code: A14
Distribution: Holarctic (Subias 2014).
Notes: This is the first record of this genus and species for Iran.

Synchthonius elegans Forsslund 1957
Sample code: A13
Distribution: Holarctic (Subias 2014).
Notes: This is the first record of this species for Iran.

Epilohmanniidae Oudemans 1923

Epilohmannia cylindrica cylindrica (Berlese 1904)
Sample code: A8, A17
Distribution: Cosmopolitan (Subias 2014); Iran (Akrami & Saboori 2004).

Epilohmannia sp.
Sample code: A13

Lohmanniidae Berlese 1916

Cryptacarus promecus Grandjean 1950
Sample code: B1
D i s t r i b u t i o n : Southern Palaearctic (Mediterranean and west central Asia) and Ethiopian (SUBIAS 2014); Iran (AKRAMI & SABOORI 2012).

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

**Papillacarus aciculatus (BERLESE 1905)**
Sample code: A13
Distribution: West central Palaearctic region, Vietnam (SUBIAS 2014) and Iran (AKRAMI & SABOORI 2004).

**Papillacarus chamartinensis PEREZ-INIGO 1967**
Sample code: B3
Distribution: Spain and Iran (SUBIAS 2014).
Notes: This is the first record of this species for Fars province.

**Lohmannia turcmenica BULANOVA-ZACHVATKINA 1960**
Sample code: A17
Distribution: Southern Palaearctic, Southeastern China and Argentina (SUBIAS 2014) and Iran (AKRAMI & SABOORI 2012).

**Protoplopophoridae EWING 1917**

**Protoplopophora iranica AKRAMI & BEHMANESH 2012**
Sample code: A13, D20
Distribution: Iran (SUBIAS 2014).
Notes: This family reported for the first time from Iran and the species described (AKRAMI & BEHMANESH 2012).

**Euphtiracaridae JACOT 1930**

**Acrotritia ardua (KOCH 1841)**
Sample code: A12, A16, A15, A8, A7, A14
Distribution: Cosmopolitan (SUBIAS 2014); Iran (BAYARTOGTOKH & AKRAMI 2000a).

**Phthiracaridae PERTY 1841**

**Atropacarus echinodiscus (MAHUNKA 1982)**
Sample code: A20, A21
Distribution: Southern Palaearctic (Greece and Iran) (SUBIAS 2014; AKRAMI et al. 2006)
Notes: This is the first record of this genus and species for Fars province.

**Atropacarus striculus (Koch 1835)**

*Sample code:* A20, A21  
*Distribution:* Semicosmopolitan (Holarctic, Oriental, Central America and Australian) (Subias 2014); Iran (Akrami & Saboori 2012).  
*Notes:* This is the first record of this species for Fars province.

**Phthiracarus sp.**

*Sample code:* A14, A15, A21, D1

**Malaconothridae Berlese 1916**

**Malaconothrus (M.) monodactylus (Michael 1888)**

= **Malaconothrus (M.) egregious (Berlese 1904)**  
*Sample code:* A14  
*Distribution:* Holarctic and Neotropical (Subias 2014); Iran (Akrami et al. 2008).  
*Notes:* This is the first record of this species for Fars province.

**Malaconothrus (M.) processus Hammen 1952**

*Sample code:* A18  
*Distribution:* South central Europe (Subias 2014).  
*Notes:* This is the first record of this species for Iran.

**Nothridae Berlese 1896**

**Nothrus biciliatus Koch 1841**

*Sample code:* A7, A12, A13, A21  
*Distribution:* Germany, Netherlands, Sweden, Austria, Denmark, Hungary, Italy, Japan, Ireland (Balogh & Mahunka 1983) and Iran (Akrami & Saboori 2012).

**Crotoniidae Thorell 1876**

**Camisia (Camisia) borealis (Thorell 1871)**

*Sample code:* A13, A21  
*Distribution:* Borealpina (Eurosiberian, Caucasian and Greenland) (Subias 2014).  
*Notes:* This is the first record of this species for Iran and the family for Fars province.
Camisia (C.) horrida (HERMANN 1804)
Sample code: A18
Distribution: Holarctic, North of Oriental, Ethiopian and North of Neotropical (SUBIAS 2014) and Iran (AKRAMI & SABOORI 2004).
Notes: This is the first record of this species for Fars province.

Hermanniellidae GRANDJEAN 1934

Hermanniella dolosa GRANDJEAN 1931
Sample code: A13
Distribution: Palaearctic region (SUBIAS 2014); Iran (AKRAMI et al. 2008).
Notes: This is the first record of this family for Fars province.

Hermanniella picea (KOCH 1839)
= H. punctulata BERLESE 1908
Sample code: A18
Notes: This is the first record of this species for Iran.

Neolioididae SELNICK 1928

Neoliodes terrestris (WALLWORK 1963)
Sample code: A16
Distribution: Tropical: Ethiopian, Oriental (India) and Neotropical (Venezuela and Mexico), and southern Palaearctic (Caucasus and west-central Asia) (SUBIAS 2014).
Notes: This is the first record of this species for Iran and the family for Fars province.

Licnodamaeidae GRANDJEAN 1954

Licnodamaeus pulcherrimus (PAOLI 1908)
Sample code: A2, A13, D20
Distribution: Palaearctic region (SUBIAS 2014); Iran (AKRAMI 2007).

Licnobelbidae GRANDJEAN 1965

Licnobelba latiflabellata (PAOLI 1908)
= L. alestensis GRANDJEAN 1931
Sample code: A6, A13, A18
Distribution: Western Palaearctic (except North) and west of Siberia (SUBIAS 2014); Iran (AKRAMI 2007).

Notes: This is the first record of this family for Fars province.

Gymnodamaeidae Grandjean 1954

Jacotella frondeus (KULIEV 1979)  
= Plesiodamaeus ornatus MAHUNKA 1979  
Sample code: A20, A21, A18, A16, D8, A13, A6, B1  
Distribution: Eastern Mediterranean (SUBIAS 2014) and Iran (AKRAMI & SABOORI 2012).

Joshuella spp.  
Sample code: D2, D20, A2, B8, D8, A19, D6

Aleurodamaeidae Paschoal & Johnston 1985

Aleurodamaeus (Aleurodamaeus) setosus (BERLESE 1883)  
Sample code: A21, D11, D20, A2, A13, A16  
Distribution: Southern Palaearctic (SUBIAS 2014) and Iran (AKRAMI 2007).

Microzetidae Grandjean 1936

Berlesezetes aegypticus (BAYOUMI 1977)  
Sample code: A9, A13, D3  
Distribution: Egypt (SUBIAS 2014) and Iran (AKRAMI 2007).

Christovizetes iranensis AKRAMI & BEHMANESH 2011  
Sample code: H3, H5  
Distribution: Iran (SUBIAS 2014).  
Notes: This species described for the first time (AKRAMI & BEHMANESH 2011).

Zetorchestidae Michael 1898

Zetorchestes reticulatus Karppinen & Poltavskaja 1990  
Sample code: A13  
Distribution: Caucasus (SUBIAS 2014).  
Notes: This is the first record of species for Iran and the family for Fars province.
Eremaeidae Oudemans 1900

_Uureremaeus_ sp.
_Sample code:_ A21
_Notes:_ This is the first record of this family for Fars province.

Eremulidae Grandjean 1965

_Eremulus avenifer_ Berlese 1913
_Sample code:_ A15
_Distribution:_ Southern Palearctic (Italy and South Eastern Palearctic), Oriental and Polynesia (Tahiti) (Subias 2014); Iran (Akrami & Saboori 2001).
_Notes:_ This is the first record of this family for Fars province.

Damaeolidae Grandjean 1965

_Damaeolus asperatus_ (Berlese 1904)
_Sample code:_ A2, A18, A21, D6, D15, D20
_Notes:_ This is the first record of this species for Fars province.

Thyrisomidae Grandjean 1953

_Banksinoma exobothridialis_ Bayartogtokh 1997
_Sample code:_ B6
_Distribution:_ Mongolia (Subias 2014); Iran (Akrami & Behmanesh unpublished data).

Oppiidae Sellnick 1937

_Lasiobelba (Lasiobelba) neonominata_ Subias 2004
_Sample code:_ A13
_Distribution:_ Ethiopian (South Africa and Malagasy), Hawaii and southern Palearctic (Western Mediterranean and Iran) (Subias 2014; Akrami & Subias 2007).
_Notes:_ This is the first record of this species for Fars province.

Ramusella (Ramusella) persica Behmanesh, Akrami & Subias 2013

= _Ramusella (R.) iranica_ Behmanesh, Akrami & Subias 2012
_Sample code:_ A9, A24
_Distribution:_ Iran (Subias 2014).
Notes: This species described for the first time (Behmanesh et al. 2012).

**Ramusella (R.) puertomontensis** Hammer 1962  
**Sample code:** H2  
**Distribution:** Tropical (India: west Bengal, Melanesia: I. Fiji and Neotropical: Chile and Brazil) and southern Palaearctic (Mediterranean and Eastern Asiatic Russia) (Subias 2014); Iran (Akrami & Subias 2007).

Notes: This is the first record of this species for Fars province.

**Ramusella (Insculptoppia) insculpta** (Paoli 1908)  
**Sample code:** A3, A4, A14  
**Distribution:** Palaearctic region, Vietnam (Subias 2014); Iran (Akrami & Subias 2007).

**Ramusella (I.) farsi** Akrami, Subias & Behmanesh 2011  
**Sample code:** A4, H5  
**Distribution:** Iran (Subias 2014).  
Notes: This species described for the first time (Akrami et al. 2011).

**Ramusella (I.) iranica** Akrami & Subias 2008  
**Sample code:** B1  
**Distribution:** Iran (Akrami & Subias 2008; Subias 2014).  
Notes: This is the first record of this species for Fars province.

**Ramusella (Insculptoppiella) varians** (Wallwork 1961)  
**Sample code:** B1  
**Distribution:** Ethiopian (Ghana and I. St. Helena) and center of southern Palaearctic (Subias 2014); Iran (Akrami & Subias 2007).  
Notes: This is the first record of this species for Fars province.

**Ramusella (Rectoppia) damavandica** Akrami & Subias 2008  
**Sample code:** A13  
**Distribution:** Iran (Akrami & Subias 2008; Subias 2014).

**Discoppia (Cylindroppia) cylindrica** (Perez-Inigo 1965)  
**Sample code:** A13, B1  
**Distribution:** Southern Palaearctic, Oriental and Central America (Subias 2014) and Iran (Akrami & Subias 2007).
**Micropippia minus** (PAOLI 1908)
Sample code: A3, A4, A13, A14, A20, B1, B3
Distribution: Cosmopolitan (SUBIAS 2014); Iran (AKRAMI & SUBIAS 2007).
Notes: This is the first record of this species for Fars province.

**Rhinoppia obsoleta** (PAOLI 1908)
Sample code: A2, A13
Distribution: Palaeartic region, Greenland, New Zealand, Hawaii (SUBIAS 2014); Iran (AKRAMI & SUBIAS 2007).

**Oppiella (Oppiella) nova** (OUDEMANS 1902)
Sample code: A2, A3, A12, A14, A23, B2
Distribution: Cosmopolitan (SUBIAS 2014); Iran (AKRAMI & SUBIAS 2007).
Notes: This is the first record of this species for Fars province.

**Tectocephaeidae** GRANDJEAN 1954

**Tectocephus minor** BERLESE 1903
Sample code: A18, A20
Distribution: Semicosmopolitan (SUBIAS 2014); Iran (BAYARTOGTOKH & AKRAMI 2000a).

**Tectocephus velatus** (MICHAEL 1880)
Sample code: A2, A7, A13, A18, A24, D5
Distribution: Cosmopolitan (SUBIAS 2014); Iran (BAYARTOGTOKH & AKRAMI 2000a).

**Passalozetidae** GRANDJEAN 1954

**Passalozetes (Passalozetes) africanus** GRANDJEAN 1932
Sample code: A2, A22, A23, D7
Distribution: South central Palaeartic region, Guinea (SUBIAS 2014) and Iran (BAYARTOGTOKH & AKRAMI 2000a).

**Ceratozetidae** JACOT 1925

**Ceratozetes (Ceratozetes) cf. macromediocris** SHALDYBINA 1970
Sample code: A14, A16
Distribution: Ceratozetes (C.) macromediocris distributed in Eastern Europe (SUBIAS 2014) and Iran (AKRAMI & SABOORI 2012).
Punctoribatidae Thor 1937

Punctoribates (Punctoribates) liber Pavlichenco 1991
Sample code: A18, A21
Distribution: Mediterranean region and Iran (Subias 2014).

Oribatellidae Jacot 1925

Oribatella sp.
Sample code: A4, A17, A18
Notes: This is the first record of this family for Fars province.

Zetomotrichidae Grandjean 1934

Zetomotrichus persicus Akrami & Behmanesh 2013
Sample code: A2, A13
Distribution: Iran (Subias 2014).
Notes: This species described for the first time (Akrami & Behmanesh 2013a).

Ghilarovus sp.
Sample code: Unknown

Oribatulidae Thor 1929

Oribatula (O.) tibialis (Niclot 1855)
Sample code: A1, A6, A13, A16, A21, D1, D2
Distribution: Holarctic region, India (Subias 2014); Iran (Akrami et al. 2008).

Oribatula (Zygoribatula) connexa Berlese 1904
Sample code: A4, A9, A17
Distribution: Subtropical region (Subias 2014) and Iran (Bayartogtokh & Akrami 2000b).

Oribatula (Z.) undulata Berlese 1916
Sample code: A4, A7, A9, A10, A17
Distribution: Pantropical and subtropical regions (Subias 2014) and Iran (Akrami & Saboori 2012).

Oribatula (Z.) cf. skrjabini (Bulanova-Zachvatkina 1967)
Sample code: A6, A24, B7, B8, D1
Distribution: *Oribatula* (Z.) skrjabini distributed in southern Palaearctic region (SUBIAS 2014).

**Scheloribatidae** GRANDJEAN 1933

*Scheloribates fimbriatus* THOR 1930

Sample code: D4, D5

Distribution: Cosmopolitan (SUBIAS 2014); Iran (BAYARTOGтокh & AKRAMI 2000b).

**Protoribatidae** J. & P. BALOGH 1984

*Protoribates (P.) paracapucinus* (MAHUNKA 1988)

Sample code: A3, A7, A13, A17, A18, A20

Distribution: Oriental region, Congo, Ecuador and Iran (SUBIAS 2014; BAYARTOGтокh & AKRAMI 2000b).

*Protoribates (Triaunguis) obtusus* (MIELCIC 1956)

Sample code: A13


Notes: This is the first record of this species for Fars province.

**Haplozetidae** GRANDJEAN 1936

*Baloghiella granulata* BAYARTOGтокh & AKRAMI 2000

Sample code: D4

Distribution: Iran (BAYARTOGтокh & AKRAMI 2000b; SUBIAS 2014).

*Haplozetes fusifer* (BERLESE 1908)

Sample code: A10, A13, A19, D20

Distribution: Mediterranean, India (SUBIAS 2014); Iran (AKRAMI & BEHMANESH 2013b).

**Galumnidae** JACOT 1925

*Galumna iranensis* MAHUNKA & AKRAMI 2001

Sample code: A4, A9, A13, A19, A20, D20

Distribution: Iran (MAHUNKA & AKRAMI 2001; SUBIAS 2014).
**Galumna karajica** MAHUNKA & AKRAMI 2001  
**Sample code:** A18, D3, D15  
**Distribution:** Iran (MAHUNKA & AKRAMI 2001; SUBIAS 2014).

**Pilogalumna tenuiclava** (BERLESE 1908)  
= *Allogalumna boevi* KRIVOLUTSKAJA 1952  
**Sample code:** A7, A10, A13, A14, A16, A21  
**Distribution:** Holarctic region (SUBIAS 2014); Iran (AKRAMI 2007).

**Pergalumna sp.**  
**Sample code:** Unknown

**Parakalumidae** GRANDJEAN 1936

**Neoribates** (Neoribates) *granulatus* AKRAMI & BEHMANESH 2012  
**Sample code:** A13  
**Distribution:** Iran (SUBIAS 2014).  
**Notes:** This family reported for the first time from Iran and the species described (AKRAMI & BEHMANESH 2012)

**Acknowledgement**

This study was partly supported by the project "Fauna of oribatid mites of Shiraz, Fars province" funded by Shiraz University.

**Table 1:** Sampling information
<table>
<thead>
<tr>
<th>Code</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Altitude (m)</th>
<th>Habitat (soil of)</th>
<th>Sampling date</th>
<th>Sampling location</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>29 32</td>
<td>52 35</td>
<td>1810</td>
<td>Cotoneaster, Cotoneaster sp. (Rosaceae)</td>
<td>24.VII.2009</td>
<td>Hillside Bajgah</td>
</tr>
<tr>
<td>A2</td>
<td>29 32</td>
<td>52 35</td>
<td>1810</td>
<td>Locoweed, Astragalus sp. (Papilionaceae)</td>
<td>24.VII.2009</td>
<td>Hillside Bajgah</td>
</tr>
<tr>
<td>A2</td>
<td>29 32</td>
<td>52 35</td>
<td>1810</td>
<td>Prickly thrift, Acantholimon sp. (Plumbaginaceae)</td>
<td>24.VII.2009</td>
<td>Hillside Bajgah</td>
</tr>
<tr>
<td>A6</td>
<td>29 32</td>
<td>52 35</td>
<td>1810</td>
<td>Wild fig, Ficus johannis Boiss. (Moraceae)</td>
<td>1.IX.2009</td>
<td>Hillside Bajgah</td>
</tr>
<tr>
<td>A7</td>
<td>29 32</td>
<td>52 35</td>
<td>1810</td>
<td>Clover, Trifolium sp. (Papilionaceae)</td>
<td>1.IX.2009</td>
<td>Hillside Bajgah</td>
</tr>
<tr>
<td>A8</td>
<td>29 32</td>
<td>52 35</td>
<td>1810</td>
<td>Tamarisk, Tamarix sp. (Tamaricaceae)</td>
<td>5.IX.2009</td>
<td>College of Agriculture Bajgah</td>
</tr>
<tr>
<td>A8</td>
<td>29 32</td>
<td>52 35</td>
<td>1810</td>
<td>Wild mint, Mentha sp. (Labiatae)</td>
<td>5.IX.2009</td>
<td>College of Agriculture Bajgah</td>
</tr>
<tr>
<td>A9</td>
<td>29 32</td>
<td>52 35</td>
<td>1810</td>
<td>Bermuda grass, Cynodon dactylon (L.) (Gramineae)</td>
<td>5.IX.2009</td>
<td>College of Agriculture Bajgah</td>
</tr>
<tr>
<td>A12</td>
<td>29 32</td>
<td>52 35</td>
<td>1810</td>
<td>Alfalfa, Medicago sativa L. (Papilionaceae)</td>
<td>13.X.2009</td>
<td>College of Agriculture Bajgah</td>
</tr>
<tr>
<td>H4</td>
<td>29 32</td>
<td>52 35</td>
<td>1810</td>
<td>Common fig, Ficus carica L. (Moraceae)</td>
<td>5.VI.2010</td>
<td>Mount Bamoo Bajgah</td>
</tr>
<tr>
<td>H1</td>
<td>29 32</td>
<td>52 35</td>
<td>1810</td>
<td>Elm tree, Ulmus campestris L. (Ulmaceae)</td>
<td>10.VI.2010</td>
<td>College of Agriculture Bajgah</td>
</tr>
<tr>
<td>H2</td>
<td>29 32</td>
<td>52 35</td>
<td>1810</td>
<td>Rotten tree trunk of willow, Salix sp. (Salicaceae)</td>
<td>10.VI.2010</td>
<td>College of Agriculture Bajgah</td>
</tr>
<tr>
<td>H3</td>
<td>29 32</td>
<td>52 35</td>
<td>1810</td>
<td>Rotten tree trunk of willow</td>
<td>10.VI.2010</td>
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References


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