



Oribatid mites (Acari, Sarcoptiformes) of Hormozgan province, southern Iran, with new records

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ABSTRACT. This study was carried out to determine the fauna of oribatid mites (Oribatida) in Hormozgan province (southern Iran). Berlese funnel was used to obtain specimens from soil and leaf litter samples in various habitats in the province during the months of February to October 2021. Forty-three species belonging to 30 genera from 20 families of oribatid mites were collected from Bandar Abbas, Minab, Rudan and Hajiabad counties and identified. The species *Javacarus* (J.) *porosus* Hammer, 1979, *Hoplophorella* (H.) *hamata* (Ewing, 1909) and *Lamellobates* (L.) *molecula molecula* (Berlese, 1916) are recorded for the first time from Iran.

Keywords: Armored mites, distribution, fauna, Persian Gulf, taxonomy

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INTRODUCTION

As an important and prevalent group of arthropods in forest soils, oribatid mites are essential for breaking down organic detritus, in a similar manner to earthworms and distributing fungi (Baker & Wharton, 1952). They feed on living and dead plants, fungi and lichens and some are predator (Walter & Proctor, 2013). The Oribatida (formerly Cryptostigmata) are of economic importance as hosts of various tapeworm species (Denegri, 1993; Akrami et al., 2007, 2018). Although many species of oribatid species prefer the moist forest floor and its accompanying litter, some are especially suited to dry conditions, or on bare lichen-covered rocks (Schatz, 2020). The suborder Oribatida comprises a number of over 11,600 described species and subspecies throughout the world, mainly distributed in the Palaearctic (almost 4,000) and Oriental (almost 2,700) regions (Subías, 2004 - update 2024).

Hormozgan province (25°24'–28°57'N, 53°41'– 59°15'E) is in the south of the country, bordering the Persian Gulf and Oman Sea, a large territory with a highly complex climatic condition. Its area is 70,697 square kilometres, and its provincial capital is Bandar Abbas. The natural vegetation comprises the forests, rangelands, and the deserts. Coastal deserts constitute 54% of this province which is equivalent to 16% of the deserts in Iran. The province has 14 islands in the Persian Gulf 1,000 km of coastline, 13 counties and 2,046 villages. The province is primarily mountainous, and more than 70% of the province is covered by mountains and hills, consisting of the southern tip of the Zagros Range. The province experiences a very hot and humid climate, with temperatures sometimes exceeding 49°C in summer. There is very little precipitation year-round and the annual mean precipitation is 215.8 mm. A small amount of rainfall with hot weather resulted in the domination of some native plants, which are adapted to the hot and arid climate, and to the saline soils, as well (Ameri et al., 2014; Bazrafshan et al., 2016; Bazrafshan & Gerkani Nezhad Moshizi, 2018). The province has an active agriculture sector in Iran in lime and date production. In 2019, about 123,000 tons of lime from 8,000 hectares and about 150,000 tons

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of dates from 35,000 hectares of gardens were harvested in the province (Ahmadi et al., 2019). The counties of Rudan, Minab and Bandar Abbas are important lime and date production areas in the province.

Oribatida have been taxonomically and faunistic investigated in several parts of Iran and the last updated list of oribatid mites of Iran (Akrami, 2015) includes 380 species belonging to 191 genera, excluding Astigmata and some doubtful records and unidentified taxa. Despite the studies in many parts of the country, the area of southern Iran is yet insufficiently studied and no attempts have been made on the fauna of Oribatida in Hormozgan province and no information was available on the oribatid fauna of the province before this research, other than a work was conducted by Alikhani et al. (2013). They reported following genera and species from western Hormozgan province (Bandar Lengeh county): *Heptacarus* sp., *Damaeolus asperatus* (Berlese, 1904), *Lamellobates* sp., *Oribatula* (*Zygoribatula*) *undulata* Berlese, 1916, *Scheloribates praeincisus* (Berlese, 1910), *Scheloribates fimbriatus* Thor, 1930 and *Hypozetes translamellatus* Wallwork, 1965. Therefore, we aimed to investigate the oribatid fauna of the Bandar Abbas, Minab, Rudan and Hajiabad counties in the south of Iran, to have a better understanding of the major representative elements of the southern borders.

MATERIAL AND METHODS

Soil and litter samples were collected from different locations in Bandar Abbas, Minab, Rudan and Hajiabad counties (Fig. 1), from February to October 2021, by Z. Eskandari-Nasab (The second author). Extracting the mites was conducted using a Berlese funnel, clearing in lactophenol solution and mounting in Hoyer's medium on glass microscope slides. The slides were finally placed in an oven (45 °C) for a month to dry. The specimens were examined using a Zeiss® Standard 20 binocular microscope and then labelled. Images of the newly recorded species were obtained using an Olympus® BX-53 microscope equipped with an Olympus® DP-27 camera. Taxonomic classification follows Subías (2004, update 2024). Mites identification was conducted by the first author, an Iranian specialist in oribatid mites, by use of available keys (Balogh & Mahunka, 1983; Balogh & Balogh, 1992; Krantz & Walter, 2009; Akrami & Saboori, 2021). Data on locals and general regions were compiled from the relevant records (Akrami, 2015; Akrami & Saboori, 2021; Subías, 2004 - update 2024). All specimens are deposited in the Acarological collection of the Department of Plant Protection, School of Agriculture, Shiraz University, Shiraz, Iran.

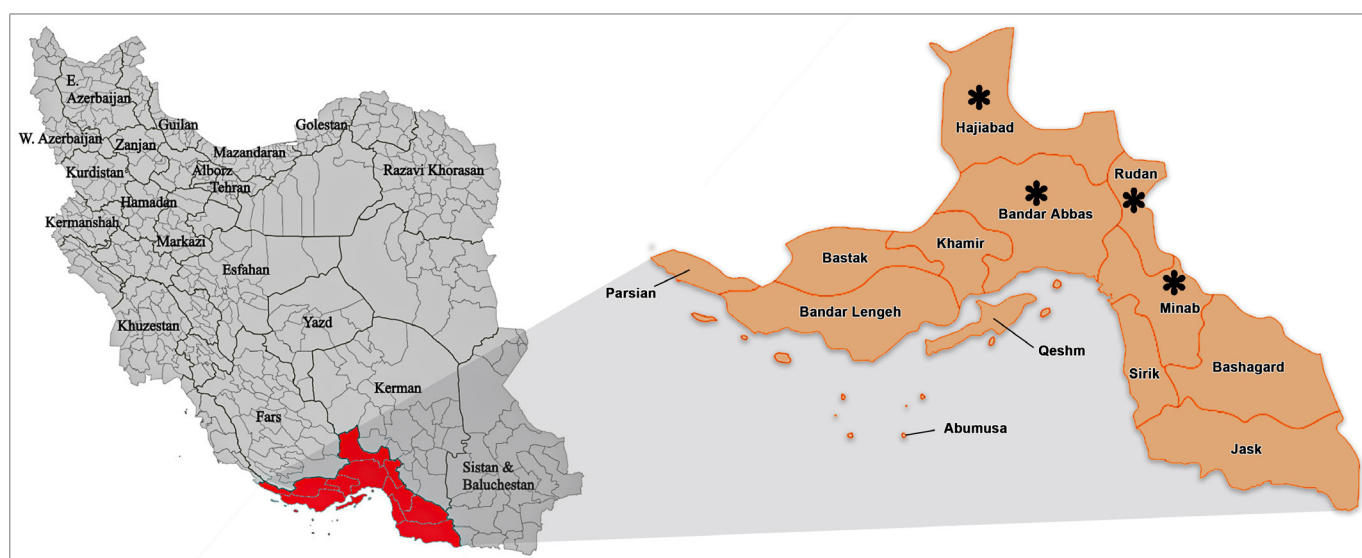


Figure 1. Map of Iran (provinces that have already been sampled are named), specifying Hormozgan province (marked by red colour), and its counties, showing sampling ones (marked by stars).

RESULTS

Forty three species of oribatid mites belonging to 30 genera and 20 families were collected and identified from various regions of Hormozgan province (four counties including Bandar Abbas, Minab, Rudan and Haji Abad), of which species *Javacarus* (J.) *porosus*, *Hoplophorella* (H.) *hamata* and *Lamellobates* (L.) *molecula* are recorded for the first time from Iran. Since most of the known species reported here are well recognizable, we do not intend to give redescriptions of them. Short diagnosis for new records and notes on geographic distribution in the world and Iran for each species are provided. List of species according to their families, with sampling data, General (as per Subías, 2004, update 2024) and Iranian (as per Akrami & Saboori, 2021) distributions are as follows:

Taxonomic hierarchy

Phylum Arthropoda von Siebold, 1848

Order Sarcoptiformes Reuter, 1909

Suborder Oribatida Dugès, 1834

Family Sphaerochthoniidae Grandjean, 1947

Genus *Sphaerochthonius* Berlese, 1910

***Sphaerochthonius splendidus* (Berlese, 1904)**

Material examined. Seven specimens. Iran, Hormozgan province, Bandar Abbas, Isin (27°19'8.93"N, 56°16'54.83"E, 65 m a.s.l.), soil of red mulberry (*Morus rubra* L., Moraceae), 29-III-2021; Bandar Abbas, Kuhe (27°43'44.63"N, 56°19'55.58"E, 571 m a.s.l), soil of common guava (*Psidium guajava* L., Myrtaceae), 09-IV-2021; Bandar Abbas, Zakin (27°51'11.21"N, 56°19'3.08"E, 1272 m a.s.l), soil of grape (*Vitis vinifera* L., Vitaceae), 21-V-2021.

Distribution in Iran. East Azerbaijan, Fars, Guilan, Hamadan, Kerman, Kermanshah, Khorasan-e Razavi, Markazi, Mazandaran, West Azerbaijan, Yazd, Sistan & Baluchestan, and Zanjan provinces.

General distribution. Ethiopian, Neotropical, Pantropical: Oriental, Australian (Australia and Polynesia) and Subtropical (southern Holarctic).

Family Cosmochthoniidae Grandjean, 1947

Genus *Cosmochthonius* Berlese, 1910

Subgenus *Cosmochthonius* Berlese, 1910

***Cosmochthonius reticulatus* Grandjean, 1947**

Material examined. Two specimens. Iran, Hormozgan province, Bandar Abbas, Tale-Gerdu (27°48'39.60"N, 56°25'29.60"E, 847 m a.s.l.), soil of *Mangifera indica*, 23-IV-2021; Bandar Abbas, Zakin (27°43'27.13"N, 57°30'81.05"E, 1248 m a.s.l), soil of almond (*Prunus amygdalus* Batsch, Rosaceae), 30-IV-2021.

Distribution in Iran. East Azerbaijan, Fars, Kerman, Kermanshah, Khorasan-e Razavi, Sistan & Baluchestan, and Yazd provinces.

General distribution. Neotropical, Oriental (South-east China; India: west Bengal) and Southern Palaearctic.

Genus *Phyllozetes* Gordeeva, 1978

***Phyllozetes tauricus* Gordeeva, 1978**

Material examined. One specimen. Iran, Hormozgan province, Bandar Abbas, Takht (27°30'8.74"N, 56°38'23.70"E, 49 m a.s.l.), soil of *Morus rubra*, 03-IX-2021.

Distribution in Iran. Fars and Guilan provinces.

General distribution. Southern Palaearctic (Mediterranean and Western and Central Asia).

Family Phthiracaridae Perty, 1841

Genus *Hoplophorella* Berlese, 1923

Subgenus *Hoplophorella* Berlese, 1923

Hoplophorella hamata (Ewing, 1909) (Fig. 2A)

Material examined. 43 specimens. Iran, Hormozgan province, Bandar Abbas, Isin (27°19'25.67"N, 56°13'29.73"E, 76 m a.s.l.), soil of jambolan or java plum (*Eugenia jambolana* Lam., Myrtaceae), 29-III-2021; Bandar Abbas, Kuhe (27°43'42.46"N, 56°19'57.15"E, 572 m a.s.l.), soil of assyrian plum (sepistan) (*Cordia myxa* L., Boraginaceae), 09-IV-2021; Bandar Abbas, Dasht Emam (27°24'57.41"N, 56°20'12.11"E, 154 m a.s.l.), soil of date palm (*Phoenix dactylifera* L., Arecaceae), common fig (*Ficus carica* L., Moraceae), christ's thorn jujube (*Ziziphus spina-christi* (L.), Rhamnaceae), *Psidium guajava*, *Citrus limon*, 21-V-2021; Bandar Abbas, Zakin (27°50'32.59"N, 56°18'7.47"E, 1184 m a.s.l.), soil of mandarin orange (*Citrus nobilis* Loureiro, Rutaceae), 21-V-2021; Bandar Abbas (27°12'36.14"N, 56°21'27.62"E, 5 m a.s.l.), soil of *Citrus limon*, *Phoenix dactylifera*, 23-07-2021; Rudan (27°27'8.97"N, 56°8'25.65"E, 227 m a.s.l.), soil of sweet orange (*Citrus sinensis* (L.), Rutaceae), soil of banana (*Musa sapientum* L., Musaceae), *Mangifera indica*, *Citrus limon*, 13-II-2021; Minab (27°16'6.41"N, 57°1'46.42"E, 39 m a.s.l.), soil of *Mangifera indica*, *Cordia myxa*, 27-II-2021; Hajiabad (28°14'4.28"N, 55°50'40.88"E, 778 m a.s.l.), soil of *Citrus limon*, 17-IX-2021.

Diagnosis. Prodorsum: length 178–200 (192) μ m, notogaster: length 333–383 (366) μ m, height 206–250 (226) μ m (n = 5). Body colour very light brownish yellow. Surface of body covered with concavities. Prodorsum with posterior furrows present; median sigillar field of prodorsum longer than laterals and enlarging towards rostral setae; median carina weak; lateral carinae short, not reach sinus. Sensilli long, narrow, sickle-shaped with narrow pedicel and broad head, covered with thin spines. Interlamellar setae phylliform, similar to notogastral setae; lamellar setae spiniform, smooth; in > ro > le, exobothridial setae vestigial. Notogaster with setae spoon-shaped, short ($c_1 < c_1-d_1$), covered with small spines; vestigial setae f_1 posteriorly of h_1 setae. Formula of genital setae 6: 3; anoadanal plates with setae ad_2 spoon-shaped, the remaining setae spiniform; setae ad_3 shorter than anal setae and ad_1 setae.

Distribution in Iran. Hormozgan province (New record for Iran).

General distribution. Pantropical and Subtropical.

Hoplophorella vitrina (Berlese, 1913)

Material examined. 18 specimens. Iran, Hormozgan province, Bandar Abbas, Kuhe (27°43'44.29"N, 56°19'55.85"E, 572 m a.s.l.), soil of *Mangifera indica*, *Citrus limon*, *Citrus sinensis*, *Morus rubra*, 09-IV-2021; Bandar Abbas, Forkhorj (27°43'42.46"N, 56°19'57.15"E, 572 m a.s.l.), soil of Indian almond (*Terminalia catapa* L., Combretaceae), *Citrus limon*, *Citrus nobilis*, *Mangifera indica*, *Psidium guajava*, 16-IV-2021; Bandar Abbas, Zakin (27°43'11.45"N, 56°30'79.91"E, 1168 m a.s.l.), soil of *Citrus nobilis*, *Citrus limon*, 30-IV-2021; Bandar Abbas, Bikh (27°51'6.14"N, 56°28'22.11"E, 1048 m a.s.l.), soil of apple trees (*Malus domestica* Borkh., Rosaceae), pomegranate (*Punica granatum* L., Lythraceae), *Prunus amygdalus*, 28-V-2021; Bandar Abbas, Takht (27°36'9.35"N, 56°38'23.14"E, 50 m a.s.l.), soil of weeds near stream, 03-IX-2021; Hajiabad (28°19'1.47"N, 55°57'40.19"E, 778 m a.s.l.), soil of *Citrus limon*, *Phoenix dactylifera*, 17-IX-2021.

Distribution in Iran. Sistan & Baluchestan province.

General distribution. Pantropical and Subtropical.

Genus *Phthiracarus* Balogh & Mahunka, 1979

Subgenus *Archiphthiracarus* Balogh & Mahunka, 1979

Phthiracarus (A.) *furvus* Niedbala, 1983

Material examined. One specimen. Iran, Hormozgan province, Haji Abad, Kashkoie (28°36'28.44"N, 55°48'47.99"E, 1462 m a.s.l.), soil of *Punica granatum*, 09-X-2021.

Distribution in Iran. East Azerbaijan, Esfahan, Fars, Khorasan-e Razavi, Guilan, Mazandaran, and Zanján provinces.

General distribution. Southern Palearctic (Eastern Mediterranean and Iran).

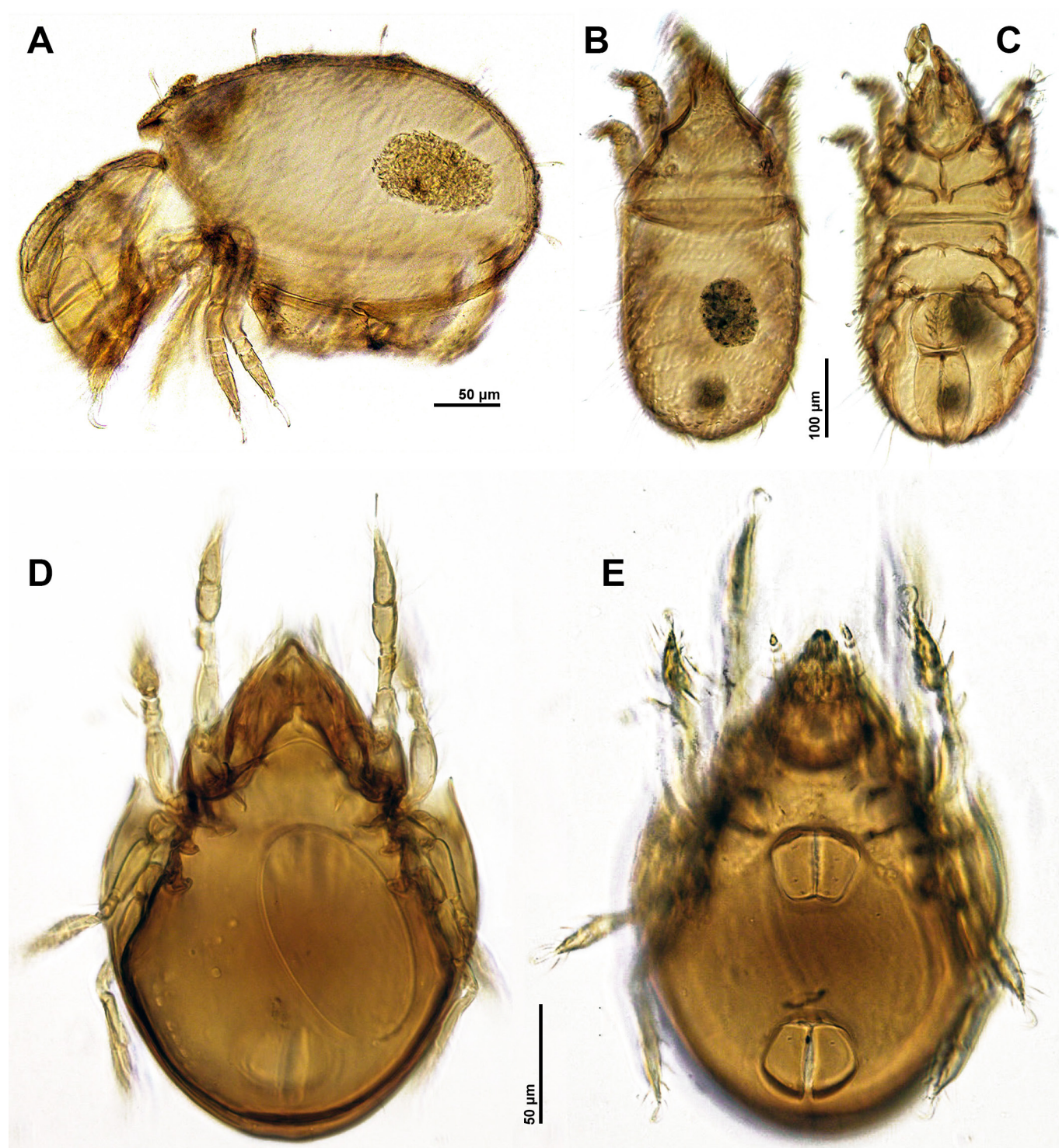


Figure 2. Newly recorded oribatid mites from Hormozgan province. **A.** *Hoplophorella hamata*, Lateral view of body; **B-C.** *Javacarus porosus*; **D-E.** *Lamellobates molecula molecula*. (B., D. Dorsal view, C., E., Ventral view of body).

Family Euphthiracaridae Jacot, 1930

Genus *Acrotritia* Jacot, 1923

Acrotritia ardua ardua (Koch, 1841)

Material examined. One specimen. Iran, Hormozgan province, Bandar Abbas, Dehno (27°20'48.3"N, 56°32'6.51"E, 17 m a.s.l.), soil of *Cordia mayxa*, 23-III-2021.

Distribution in Iran. Alborz, Ardabil, East Azerbaijan, Esfahan, Fars, Golestan, Guilan, Hamadan, Khorasan-e Razavi, Kurdistan, Khuzestan, Markazi, Mazandaran, Sistan & Baluchestan, Tehran, West Azerbaijan, Yazd, and Zanjan provinces.

General distribution. Cosmopolitan.

Acrotritia penicillata (Pérez-Íñigo, 1969)

Syn. *Acrotritia pirovaci* Niedbala, 2006

Material examined. 42 specimens. Iran, Hormozgan province, Bandar Abbas, Ghale ghazi (27°27'8.43"N, 56°35'1.56"E, 59 m a.s.l.), soil of *Ziziphus spina-christi*, 23-III-2021; Bandar Abbas, Kuhe (27°43'44.77"N, 56°19'55.27"E, 569 m a.s.l.), soil of *Citrus limon*, 09-IV-2021; Bandar Abbas, Forkhorj (27°49'9.00"N, 56°25'18.82"E, 651 m a.s.l.), soil of *Punica granatum*, *Phoenix dactylifera*, 16-IV-2021; Bandar Abbas, Sikhuran (27°49'57.74"N, 56°28'25.83"E, 887 m a.s.l.), soil of *Citrus limon*, 23-IV-2021; Bandar Abbas, Zakin (28°43'26.52"N, 55°30'81.20"E, 1269 m a.s.l.), soil of *Citrus sinensis*, 30-IV-2021; Bandar Abbas, Zakin (27°51'11.81"N, 56°18'59.28"E, 1267 m a.s.l.), soil of Persian walnut (*Juglans regia* L., Juglandaceae), *Citrus limon*, *Citrus nobilis*, 21-V-2021; Bandar Abbas, Bikh (27°51'5.70"N, 56°28'19.88"E, 1062 m a.s.l.), soil of alfalfa (*Medicago sativa* L., Fabaceae), *Citrus nobilis*, *Prunus amygdalus*, *Malus domestica*, *Punica granatum*, *Citrus limon*, 28-V-2021; Minab (27°15'19.34"N, 57°2'26.23"E, 31 m a.s.l.), soil of *Cordia myxa*, 27-IIX-2021; Hajiabad (28°19'7.73"N, 55°52'59.25"E, 917 m a.s.l.), soil of sour orange (*Citrus aurantium* L., Rutaceae), 17-IX-2021; Rudan (27°27'10.45"N, 57°7'57.64"E, 234 m a.s.l.), soil of *Mangifera indica*, 24-IX-2021; Haji Abad, Kashkoie (28°36'26.65"N, 55°48'51.66"E, 473 m a.s.l.), soil of *Punica granatum*, *Phoenix dactylifera*, 09-X-2021.

Distribution in Iran. East Azerbaijan, Fars, Guilan, Kerman, Kermanshah, Sistan & Baluchestan, and Yazd provinces.

General distribution. Southern Palaearctic.

Acrotritia wallworki (Lee, 1981)

Syn. *Acrotritia simile* Mahunka, 1982

Material examined. Five specimens. Iran, Hormozgan province, Bandar Abbas, Kuhe (27°43'44.84"N, 56°19'53.72"E, 566 m a.s.l.), soil of *Mangifera indica*, 09-IV-2021; Bandar Abbas, Forkhorj (27°46'1.29"N, 56°25'17.82"E, 645 m a.s.l.), soil of *Phoenix dactylifera*, 16-IV-2021; Bandar Abbas, Bikh (27°51'6.39"N, 56°28'19.38"E, 1049 m a.s.l.), soil of *Prunus amygdalus*, *Medicago sativa*, 28-V-2021.

Distribution in Iran. Yazd and Sistan & Baluchestan provinces.

General distribution. Holarctic: Southern Palaearctic (Turkey and Eastern Palaearctic) and southeastern U.S.A.; Pantropical (Australian: Australia and New Guinea).

Family Lohmanniidae Berlese, 1916

Genus *Javacarus* Balogh, 1961

Subgenus *Javacarus* Balogh, 1961

Javacarus porosus Hammer, 1979 (Fig. 2B–C)

Material examined. Eight specimens. Iran, Hormozgan province, Minab (27°20'45.28"N, 56°58'35.11"E, 50 m a.s.l.), soil of *Phoenix dactylifera*, *Mangifera indica*, 27-IIX-2021; Hajiabad (28°14'4.25"N, 55°50'40.85"E, 780 m a.s.l.), soil of *Phoenix dactylifera*, *Citrus limon*, 16-IV-2021.

Diagnosis. Body length 622–650 (639) μm , width of notogaster 300–317 (310) μm ($n = 6$). Colour light brown. The integument covered with tubercles. The setae of the prodorsum lanceolate and slightly dentate; posterior exobothridial setae falcated. Sensillus with 10 thin branches. The most of the notogastral setae (16 pairs) are lanceolate and dentate, dorsal ones have a short, more or less dull tip, whereas the marginal ones (c_3 , d_3 , h_3 , ps_2 and ps_3) are thinner at the tip and the setae longer. The formula of epimeral setae is 3,1,3,4, most of these setae are rather thick. On the genital plate there are six rather short paraxial setae and four antiaxial setae. The preanal plate is as broad as the genital field. The adanal and anal plate are fused without a suture. No anal setae. Four pairs of adanal setae present, three anterior pairs are long, lanceolate, thin with a marginal edging, the posterior pair is thicker, curved and slightly dentate.

Distribution in Iran. Hormozgan province (**New record** for Iran).

General distribution. Pantropical (except Australian).

Genus *Lohmannia* Michael, 1898

Subgenus *Lohmannia* Michael, 1898

***Lohmannia paradoxa* (Haller, 1884)**

Syn. *Lohmannia loebli* Mahunka, 1974

Material examined. Five specimens. Iran, Hormozgan province, Bandar Abbas, Bikh (27°51'3.08"N, 56°28'21.52"E, 1037 m a.s.l.), soil of *Citrus nobilis*, 28-V-2021; Haji Abad, Kashkoie (26°36'28.44"N, 55°48'47.99"E, 1462 m a.s.l.), soil of *Punica granatum*, *Phoenix dactylifera*, 09-X-2021; Hajiabad (28°14'4.25"N, 55°50'40.92"E, 776 m a.s.l.), soil of *Citrus limon*, 17-IX-2021.

Distribution in Iran. East Azerbaijan, Esfahan, Fars, Kerman, Khorasan-e Razavi, Lorestan, and Yazd provinces.

General distribution. Holarctic: Southern Palaearctic (Mediterranean and Iran) and U.S.A.: Georgia.

***Lohmannia turcmenica* Bulanova-Zachvatkina, 1960**

Material examined. Two specimens. Iran, Hormozgan province, Bandar Abbas, Bikh (27°51'3.08"N, 56°28'21.52"E, 1037 m a.s.l.), soil of *Citrus nobilis*, 28-V-2021.

Distribution in Iran. East Azerbaijan, Fars, Guilan, Hamadan, Khorasan-e Razavi, Khuzestan, Kurdistan, Markazi, Mazandaran, West Azerbaijan, and Zanzan provinces.

General distribution. Neotropical (Argentina); Subtropical (Southern Palaearctic); Tropical: Oriental (Southeastern China).

Family Epilohmanniidae Oudemans, 1923

Genus *Epilohmannia* Berlese, 1916

Subgenus *Epilohmannia* Berlese, 1916

***Epilohmannia cylindrica cylindrica* (Berlese, 1904)**

Material examined. 70 specimens. Iran, Hormozgan province, Bandar Abbas, Isin (27°19'4.29"N, 56°13'4.87"E, 73 m a.s.l.), soil of Indian banyan fig (*Ficus benghalensis* L., Moraceae), 29-IX-2021; Bandar Abbas, Dehno (27°20'9.78"N, 56°33'0.85"E, 70 m a.s.l.), soil of *Cordia myxa*, *Ficus benghalensis*, 05-II-2021; Bandar Abbas, Takht (27°29'7.91"N, 56°38'2.88"E, 45 m a.s.l.), soil of common field bean (*Vicia faba* L., Fabaceae), 05-II-2021.

Distribution in Iran. Alborz, East Azerbaijan, Esfahan, Fars, Golestan, Guilan, Kerman, Kermanshah, Khorasan-e Razavi, Khuzestan, Kurdistan, Markazi, Mazandaran, Sistan & Baluchestan, Tehran, West Azerbaijan, Yazd, and Zanzan provinces.

General distribution. Cosmopolitan (Australian: Hawaii, Ethiopian: Chad and Yemen, Nearctic, Neotropical, Oriental, and Palaearctic).

***Epilohmannia minuta aegyptica* Bayoumi & Mahunka, 1976**

Syn. *Epilohmannia pallida aegyptica* Bayoumi & Mahunka, 1976

Material examined. Three specimens. Iran, Hormozgan province, Bandar Abbas, Isin (27°19'4.43"N, 56°13'5.02"E, 75 m a.s.l.), soil of siris trees (*Albizia lebbeck* (L.), Fabaceae), *Terminalia catapa*, *Phoenix dactylifera*, 29-III-2021; Bandar Abbas, Kuhe (27°43'44.84"N, 56°19'53.72"E, 1566 m a.s.l.), soil of *Mangifera indica*, *Citrus sinensis*, 09-IV-2021; Bandar Abbas, Dasht Emam (27°24'57.41"N, 56°20'12.11"E, 157 m a.s.l.), soil of *Psidium guajava*, 08-V-2021.

Distribution in Iran. Fars, Guilan, Hamedan, and Sistan & Baluchestan provinces.

General distribution. Southern Palaearctic (Eastern Mediterranean and Iran), and Vietnam.

***Epilohmannia styriaca* Schuster, 1960**

Material examined. One specimen. Iran, Hormozgan province, Bandar Abbas, Takht (27°29'7.91"N, 56°38'2.88"E, 45 m a.s.l.), soil of *Vicia faba*, 05-II-2021.

Distribution in Iran. Kerman and Fars provinces.

General distribution. Southern Palaearctic (Southern Europe and Iran), and Venezuela.

Family Nothridae Berlese, 1896**Genus *Nothrus* Koch, 1835*****Nothrus anauniensis* Canestrini & Fanzago, 1877**

Material examined. 66 specimens. Iran, Hormozgan province, Bandar Abbas, Kuhe (27°43'44.63"N, 56°19'55.58"E, 571 m a.s.l.), soil of *Psidium guajava*, *Mangifera indica*, *Punica granatum*, 09-IV-2021; Bandar Abbas, Forkhorj (27°46'9.00"N, 56°25'18.82"E, 651 m a.s.l.), soil of *Punica granatum*, *Citrus limon*, *Psidium guajava*, 16-IV-2021; Bandar Abbas, Sikhuran (27°49'58.46" N, 56°27'53.15" E, 994 m a.s.l.), soil of *Ficus carica*, *Mangifera indica*, *Citrus limon*, 23-IV-2021; Bandar Abbas, Tale-Gerdu (27°48'39.60"N, 56°25'29.60"E, 847 m a.s.l.), soil of *Mangifera indica*, 23-IV-2021; Bandar Abbas, Zakin (27°43'27.59"N, 56°30'81.55"E, 1241 m a.s.l.), soil of *Juglans regia*, 30-IV-2021; Bandar Abbas, Bikh (27°5'13.57"N, 56°28'21.40"E, 1043 m a.s.l.), soil of mount atlas pistache (*Pistacia atlantica* Desf., Anacardiaceae), 28-V-2021; Rudan (27°27'9.39"N, 57°7'57.65"E, 234 m a.s.l.), soil of *Citrus limon*, 24-IX-2021; Haji Abad, Kashkoie (28°36'28.43"N, 55°48'47.58"E, 1472 m a.s.l.), soil of *Ficus carica*, *Phoenix dactylifera*, 09-X-2021.

Distribution in Iran. East Azerbaijan, Fars, Guilan, Hamadan, Kerman, Kermanshah, Khuzestan, Kurdistan, Lorestan, Markazi, Mazandaran, Tehran, West Azerbaijan, Yazd, Sistan & Baluchestan, and Zanzan provinces.

General distribution. Cosmopolitan (except Antarctic).

Family Gymnodamaeidae Grandjean, 1954**Genus *Jacotella* Banks, 1947*****Jacotella frondeus* (Kulijev, 1979)**

Syn. *Plesiodamaeus ornatus* Mahunka, 1979

Material examined. Eight specimens. Iran, Hormozgan province, Bandar Abbas, Zakin (27°51'11.21"N, 56°19'3.08"E, 1272 m a.s.l.), soil of *Juglans regia*, *Vitis vinifera*, *Pistacia atlantica*, 21-V-2021.

Distribution in Iran. Yazd, Mazandaran, Markazi, Kermanshah, Fars, Zanzan, East Azerbaijan, Khorasan-e Razavi, Kurdistan, Kerman, West Azerbaijan, and Hamadan provinces.

General distribution. Palaearctic (Eastern Palaearctic and Iran), and Ethiopia.

Family Eremulidae Grandjean, 1965**Genus *Eremulus* Berlese, 1908*****Eremulus avenifer* Berlese, 1913**

Material examined. Four specimens. Iran, Hormozgan province, Bandar Abbas, Zakin (27°51'87.7"N, 56°19'12.4"E, 1281 m a.s.l.), soil of *Juglans regia*, 21-V-2021.

Distribution in Iran. Yazd, Mazandaran, Zanzan, Guilan, Markazi, Golestan, Fars, and Khorasan-e Razavi provinces.

General distribution. Semicosmopolitan: Southern Palaearctic (Italy and southern Eastern Palaearctic), Oriental, Polynesia (Tahiti), Ethiopia and Mexico.

Family Oppiidae Sellnick, 1937**Genus *Anomaloppia* Subías, 1978*****Anomaloppia ozkani* Ayyildiz, 1989**

Syn. *Anomaloppia iranica* Bayartogtokh & Akrami, 2000

Material examined. One specimen. Iran, Hormozgan province, Haji Abad, Kashkoie (26°36'28.44"N, 55°48'47.99"E, 1462 m a.s.l.), soil of *Punica granatum*, 09-X-2021.

Distribution in Iran. Alborz, East Azerbaijan, Kerman, Lorestan, Khorasan-e Razavi, West Azerbaijan, Yazd, Sistan & Baluchestan, and Zanjan provinces.

General distribution. Southern Palearctic (Eastern Mediterranean and Iran).

Genus *Discoppia* Balogh, 1983

Subgenus *Cylindroppia* Subías & Rodríguez, 1986

Discoppia (C.) *cylindrica rostroincisa* Subías & Rodríguez, 1986

Material examined. Ten specimens. Iran, Hormozgan province, Rudan (27°25'57.90"N, 57°9'31.60"E, 188 m a.s.l.), soil of *Citrus limon*, 13-III-2021; Bandar Abbas, Takht (27°30'8.74"N, 56°38'23.70"E, 49 m a.s.l.), soil of *Morus rubra*, 03-IX-2021; Rudan (27°27'10.59"N, 57°7'59.37"E, 237 m a.s.l.), soil of *Mangifera indica*, 24-IX-2021; Rudan (27°27'8.81"N, 57°7'59.22"E, 231 m a.s.l.), soil of *Citrus limon*, 24-IX-2021.

Distribution in Iran. Bushehr, Khuzestan and Sistan & Baluchestan provinces.

General distribution. Western and Central Europe, Hispaniola (Dominican Republic), and Tanzania.

Genus *Multioppia* Hammer, 1961

Subgenus *Hammeroppia* Vasiliu & Ivan, 2009

Multioppia (H.) *wilsoni laniseta* Moritz, 1966

Material examined. Four specimens. Iran, Hormozgan province, Bandar Abbas, Tazian (27°18'30.99"N, 56°84'8.04"E, 72 m a.s.l.), soil of weeds near stream, 02-IV-2021.

Distribution in Iran. Alborz, East Azerbaijan, Fars, Guilan, Kerman, Kermanshah, Markazi, Mazandaran, Zanjan, and Sistan & Baluchestan provinces.

General distribution. Holarctic: Western Palearctic (common), Eastern Palearctic, U.S.A., Neotropical: Venezuela, and Cuba.

Multioppia (H.) *wilsoni wilsoni* Aoki, 1964

Material examined. Six specimens. Iran, Hormozgan province, Bandar Abbas, Bikh (27°51'6.19"N, 56°28'23.87"E, 1048 m a.s.l.), soil of *Mangifera indica*, 05-VI-2021; Hajiabad (28°19'15.15"N, 55°54'7.08"E, 929 m a.s.l.), soil of *Citrus aurantium*, 17-IX-2021.

Distribution in Iran. Khuzestan, West Azerbaijan, Fars, Khorasan-e Razavi, Mazandaran, and Sistan & Baluchestan provinces.

General distribution. Cosmopolitan (except Neotropical and Antarctic).

Genus *Oppia* Koch, 1835

Subgenus *Lasiobelba* Aoki, 1959

Oppia (L.) *kuehneli* Csiszár, 1961

Syn. *Cilioppia pori* Vasiliu & Ivan, 1995

Material examined. 60 specimens. Iran, Hormozgan province, Bandar Abbas, Isin (27°19'4.43"N, 56°13'5.02"E, 75 m a.s.l.), soil of *Terminalia catapa*, *Acacia nilotica*, *Morus rubra*, 29-III-2021; Iran, Hormozgan province, Bandar Abbas, Kuhe (27°43'42.64"N, 56°19'58.23"E, 576 m a.s.l.), soil of *Olea europaea*, *Punica granatum*, *Cordia myxa*, *Tamarix* sp., weeds near stream, 09-IV-2021; Iran, Hormozgan province, Bandar Abbas, Sikhuran (27°49'58.25"N, 56°28'26.60"E, 878 m a.s.l.), soil of *Ficus carica*, 23-IV-2021; Iran, Hormozgan province, Bandar Abbas, Dasht Emam (27°24'57.52" N, 56°20'12.24" E, 158 m a.s.l.), soil of *Phoenix dactylifera*, soil of lime (*Citrus aurantifolia* (Christm.), Rutaceae), 08-V-2021; Iran, Hormozgan province, Bandar Abbas, Zakin (27°50'32.59"N, 56°18'7.47"E, 1184 m a.s.l.), soil of *Citrus nobilis*, 21-V-2021; Iran, Hormozgan province, Bandar Abbas, Bikh (27°51'5.68"N, 56°28'21.81"E, 1052 m a.s.l.), soil of *Mangifera indica*, *Ficus carica*, *Vitis vinifera*, *Prunus armeniaca*, 28-V-2021; Iran, Hormozgan province, Rudan (27°25'57.90"N, 56°9'31.60"E, 188 m a.s.l.), soil of *Citrus limon*, *Mangifera indica*, *Citrus aurantifolia*, 28-V-2021; Iran, Hormozgan province, Hajiabad (28°19'15.15"N, 56°54'7.08"E, 929 m a.s.l.), soil of *Citrus aurantium*, *Citrus limon*, *Phoenix dactylifera*, 17-IX-2021.

Distribution in Iran. East Azerbaijan, Khuzestan, and Sistan & Baluchestan provinces.

General distribution. Australian, Ethiopian, Southern Palaearctic: Eastern Mediterranean and Iran, Tropical (Oriental).

Genus *Oppiella* Jacot, 1937

***Oppiella nova nova* (Oudemans, 1902)**

Material examined. One specimen. Iran, Hormozgan province, Bandar Abbas, Bikh (27°50'52.46"N, 56°27'57.22"E, 1072 m a.s.l.), soil of *Medicago sativa*, 28-V-2021.

Distribution in Iran. Alborz, East Azerbaijan, Fars, Guilan, Kerman, Khorasan-e Razavi, Markazi, Mazandaran, West Azerbaijan, Yazd, Zanjan, and Sistan & Baluchestan provinces.

General distribution. Cosmopolitan.

Genus *Ramusella* Hammer, 1962

Subgenus *Ramusella* Hammer, 1962

***Ramusella puertomonttensis* Hammer, 1962**

Material examined. One specimen. Iran, Hormozgan province, Minab (27°20'27.56"N, 56°59'3.28"E, 44 m a.s.l.), soil of *Mangifera indica*, 27-IX-2021.

Distribution in Iran. Alborz, East Azerbaijan, Fars, Guilan, Kerman, Khorasan-e Razavi, Markazi, Mazandaran, West Azerbaijan, Yazd, Zanjan, and Kermanshah provinces.

General distribution. Pantropical: Oriental (India: West Bengal, and Vietnam), Australian (Melanesia: I. Fiji, and I. of Easter [I. Easter]), Neotropical and Ethiopian (Equatorial Guinea: I. Bioko [Fernando Poo]), and, subtropical (Southern Palaearctic).

Family Tectocepheidae Grandjean, 1954

Genus *Tectocepheus* Berlese, 1896

***Tectocepheus velatus* (Michael, 1880)**

Material examined. 23 specimens. Iran, Hormozgan province, Bandar Abbas, Forkhorj (27°46'8.52"N, 56°25'19.36"E, 647 m a.s.l.), soil of *Citrus nobilis*, *Morus rubra*, 16-IV-2021; Bandar Abbas, Sikhuran (27°49'57.74"N, 57°28'25.83"E, 887 m a.s.l.), soil of *Citrus limon*, 27-IX-2021; Bandar Abbas, Tale-Gerdu (27°48'39.60"N, 56°25'29.60"E, 847 m a.s.l.), soil of *Mangifera indica*, 23-IV-2021; Bandar Abbas, Segh (27°47'33.77"N, 56°23'8.84"E, 794 m a.s.l.), soil of *Citrus nobilis*, 23-IV-2021; Bandar Abbas, Zakin (27°43'11.45"N, 56°30'79.18"E, 1168 m a.s.l.), soil of *Citrus nobilis*, *Mangifera indica*, *Citrus limon*, 30-IV-2021; Bandar Abbas, Bikh (27°51'6.39"N, 56°28'19.38"E, 1049 m a.s.l.), soil of *Citrus limon*, *Mangifera indica*, *Prunus amygdalus*, *Vitis vinifera*, 24-IX-2021; Hajiabad (28°14'4.28"N, 55°50'40.88"E, 778 m a.s.l.), soil of *Citrus limon*, *Mangifera indica*, 17-IX-2021; Haji Abad, Kashkoie (28°19'2.23"N, 55°56'59.15"E, 958 m a.s.l.), soil of *Punica granatum*, *Phoenix dactylifera*, *Morus rubra*, *Ficus carica*, 09-X-2021.

Distribution in Iran. Alborz, East Azerbaijan, Fars, Guilan, Hamadan, Kerman, Kermanshah, Khuzestan, Kurdistan, Markazi, Mazandaran, Khorasan-e Razavi, Sistan & Baluchestan, Tehran, West Azerbaijan, Yazd, and Zanjan provinces.

General distribution. Cosmopolitan.

Family Passalozetidae Grandjean, 1954

Genus *Passalozetes* Grandjean, 1932

***Passalozetes africanus* Grandjean, 1932**

Material examined. Four specimens. Iran, Hormozgan province, Haji Abad, Kashkoie (28°36'29.69"N, 55°48'47.38"E, 1470 m a.s.l.), soil of *Morus rubra*, 09-X-2021; Haji Abad, Kashkoie (28°36'28.18"N, 55°48'47.12"E, 1473 m a.s.l.), soil of *Ficus carica*, 09-X-2021.

Distribution in Iran. East Azerbaijan, Fars, Kerman, Mazandaran, West Azerbaijan, Yazd and Zanjan provinces.

General distribution. Central-southern Palaearctic and Equatorial Guinea.

Family Oribatulidae Thor, 1929**Genus Oribatula Berlese, 1896****Subgenus Zygoribatula Berlese, 1916****Oribatula (Z.) connexa connexa Berlese, 1904**

Material examined. 13 specimens. Iran, Hormozgan province, Bandar Abbas, Tale-Gerdu (27°48'38.83"N, 56°25'29.44"E, 831 m a.s.l.), soil of *Punica granatum*, 23-IV-2021; Bandar Abbas, Zakin (27°43'25.80"N, 56°30'81.7"E, 1256 m a.s.l.), soil of *Eugenia jambolana*, *Citrus nobilis*, 23-IV-2021; Bandar Abbas, Bikh (27°51'1.08"N, 56°28'16.17"E, 1010 m a.s.l.), soil of *Ficus carica*, *Medicago sativa*, 28-V-2021.

Distribution in Iran. Alborz, Ardabil, East Azerbaijan, Fars, Hamadan, Golestan, Khorasan-e Razavi, Kerman, Kermanshah, Khuzestan, Mazandaran, Tehran, West Azerbaijan, Sistan & Baluchestan, Yazd, and Zanj provinces.

General distribution. Mediterranean and Iran.

Oribatula (Z.) exarata Berlese, 1916

Material examined. 14 specimens. Iran, Hormozgan province, Bandar Abbas, Kuhe (27°19'10.68"N, 56°16'55.78"E, 65 m a.s.l.), soil of Indian jujube (*Ziziphus mauritiana* Lam., Rhamnaceae), soil of tamarisk (*Tamarix* sp., Tamaricaceae), 29-III-2021; Bandar Abbas, Zakin (27°51'9.27"N, 56°18'59.51"E, 1275 m a.s.l.), soil of *Citrus nobilis*, 23-IV-2021; Bandar Abbas, Bikh (27°51'3.48"N, 56°28'15.60"E, 1036 m a.s.l.), soil of *Mangifera indica*, *Morus rubra*, *Prunus amygdalus*, 05-VI-2021; Rudan (27°27'10.28"N, 57°7'8.54"E, 235 m a.s.l.), soil of *Citrus limon*, *Psidium guajava*, 20-IX-2021; Bandar Abbas, Takht (27°30'16.49"N, 56°38'29.58"E, 39 m a.s.l.), soil of *Phoenix dactylifera*, 03-IX-2021; Minab (27°16'06.42"N, 57°1'45.90"E, 37 m a.s.l.), soil of *Phoenix dactylifera*, 27-IX-2021.

Distribution in Iran. East Azerbaijan, Kerman, Khorasan-e Razavi, Mazandaran, West Azerbaijan, and Guilan provinces.

General distribution. Southern Palaearctic.

Oribatula (Z.) undulata Berlese, 1916

Material examined. Nine specimens. Iran, Hormozgan province, Bandar Abbas, Isin (27°19'10.68"N, 56°16'55.78"E, 65 m a.s.l.), soil of *Carpinus orientalis*, 29-III-2021; Bandar Abbas (27°11'15.57"N, 56°18'12.27"E, 6 m a.s.l.), soil of *Citrus aurantium*, 11-VI-2021; Minab (27°16'6.42"N, 57°1'45.90"E, 37 m a.s.l.), soil of *Phoenix dactylifera*, *Ziziphus spina-christi*; 27-IX-2021.

Distribution in Iran. East Azerbaijan, Fars, Guilan, Hamadan, Hormozgan, Kerman, Khorasan-e Razavi, Markazi, Mazandaran, Sistan & Baluchestan, Tehran, West Azerbaijan, Yazd and Zanj provinces.

General distribution. Pantropical (except Neotropical) and Subtropical.

Family Scheloribatidae Grandjean, 1933**Genus Scheloribates Berlese, 1908****Scheloribates fimbriatus Thor, 1930**

Material examined. 57 specimens. Iran, Hormozgan province, Bandar Abbas, Sarkhun (27°24'7.61"N, 56°25'9.22"E, 74 m a.s.l.), soil of *Citrus limon*, 06-III-2021; Bandar Abbas, Ghale-Ghazi (27°27'8.43"N, 56°35'15.6"E, 6 m a.s.l.), soil of *Ziziphus spina-christi*, 23-III-2021; Bandar Abbas, Kuhe (27°43'40.60"N, 57°19'54.31"E, 568 m a.s.l.), soil of *Morus rubra*, 09-IV-2021; Bandar Abbas, Forkhorj (27°46'9.00"N, 56°25'18.82"E, 651 m a.s.l.), soil of *Psidium guajava*, *Citrus limon*, 16-IV-2021; Bandar Abbas, Bikh (27°50'52.04"N, 56°27'57.86"E, 1080 m a.s.l.), soil of *Pistacia atlantica*, *Prunus amygdalus*, 28-V-2021; Bandar Abbas, Tale-Gerdu (27°48'39.60"N, 56°25'29.60"E, 847 m a.s.l.), soil of *Mangifera indica*, 23-IV-2021; Bandar Abbas, Dasht Emam (27°24'57.02"N, 57°20'12.00"E, 158 m a.s.l.), soil of *Citrus aurantifolia*, *Ziziphus spina-christi*, 08-V-2021; Bandar Abbas (27°11'15.57"N, 56°18'12.27"E, 6 m a.s.l.), soil of *Citrus aurantium*, *Cordia*

myxa, *Phoenix dactylifera*, *Eugenia jambolana*, *Punica granatum*, 23-VII-2021; Rudan (27°27'6.10"N, 56°7'17.81"E, 236 m a.s.l.), soil of *Citrus limon*, *Phoenix dactylifera*, *Mangifera indica*, *Citrus sinensis*, *Citrus aurantifolia*, 13-IIX-2021; Minab (27°15'19.34"N, 57°2'26.23"E, 34 m a.s.l.), soil of *Cordia myxa*, *Citrus limon*, *Mangifera indica*, *Ziziphus spina-christi*, 27-IIX-2021; Minab, Goorband (27°20'45.28"N, 57°58'35.11"E, 50 m a.s.l.), soil of *Phoenix dactylifera*, 27-IIX-2021; Bandar Abbas, Takht (27°30'16.22"N, 56°38'29.65"E, 43 m a.s.l.), soil of *Citrus limon*, 23-VII-2021; Hajiabad (28°19'2.23"N, 55°56'59.15"E, 965 m a.s.l.), soil of *Citrus aurantium*, *Citrus limon*, *Phoenix dactylifera*, 17-IX-2021; Haji Abad, Kashkoie (28°36'25.27"N, 55°48'52.61"E, 1466 m a.s.l.), soil of *Medicago sativa*, 09-X-2021.

Distribution in Iran. East Azerbaijan, Fars, Guilan, Hormozgan Mazandaran, Khorasan-e Razavi, Kerman, Kermanshah, Khuzestan, West Azerbaijan, Sistan & Baluchestan, Yazd and Zanzan provinces.

General distribution. Pantropical and Subtropical.

Scheloribates laevigatus (Koch, 1835)

Material examined. Nine specimens. Iran, Hormozgan province, Bandar Abbas, Sikhuran (27°49'58.46"N, 56°27'53.15"E, 994 m a.s.l.), soil of *Ficus carica*, 23-IV-2021; Bandar Abbas, Dasht Emam (27°24'56.97"N, 56°20'12.69"E, 154 m a.s.l.), soil of *Citrus limon*, 08-V-2021; Bandar Abbas, Zakin (27°51'9.65"N, 57°19'1.24"E, 1281 m a.s.l.), soil of *Juglans regia*, 21-V-2021; Bandar Abbas (27°10'47.89"N, 56°17'27.76"E, 8 m a.s.l.), soil of rough meadow-grass (*Poa trivialis* L., Poaceae), *Punica granatum*, 21-V-2021; Rudan (27°27'5.65"N, 56°7'20.19"E, 235 m a.s.l.), soil of *Citrus limon*, 13-IIX-2021; Minab (27°13'55.19"N, 57°2'57.24"E, 39 m a.s.l.), soil of *Mangifera indica*, 27-IIX-2021.

Distribution in Iran. East Azerbaijan, Fars, Mazandaran, Kermanshah, Khorasan-e Razavi, Khuzestan, Kurdistan, and West Azerbaijan provinces.

General distribution. Semicosmopolitan (Nearctic and Paleotropical).

Scheloribates praeincisus (Berlese, 1910)

Material examined. 16 specimens. Iran, Hormozgan province, Bandar Abbas, Kuhe (27°43'42.35"N, 56°19'52.47"E, 572 m a.s.l.), soil of *Eugenia jambolana*, 09-IV-2021; Bandar Abbas, Sikhuran (27°49'59.56"N, 56°27'50.40"E, 1009 m a.s.l.), soil of *Citrus sinensis*, 23-IV-2021; Bandar Abbas, Dasht Emam (27°24'57.02"N, 57°20'12.00"E, 158 m a.s.l.), soil of *Citrus aurantifolia*, *Terminalia catapa*, 08-V-2021; Bandar Abbas, Bikh (27°51'6.39"N, 56°28'19.38"E, 1049 m a.s.l.), soil of *Prunus amygdalus*, *Punica granatum*, *Mangifera indica*, *Citrus limon*, *Ficus carica*, *Phoenix dactylifera*, *Morus rubra*, 28-V-2021.

Distribution in Iran. East Azerbaijan, Fars, Guilan, Hormozgan, Kerman, Mazandaran, Sistan & Baluchestan, Yazd, and Zanzan provinces.

General distribution. Pantropical: Oriental, Australian (Pacific Islands and New Caledonia), Ethiopian and Neotropical, and southern Holarctic (Egypt and U.S.A.: Texas).

Family Hemileiidae Balogh & P. Balogh, 1984

Genus *Hemileius* Berlese, 1916

Subgenus *Simkinia* Krivolutsky, 1966

Hemileius (S.) *ovalis* Kulijev, 1968

Syn. *Turcibates parvus* Ayyildiz & Luxton, 1989

Material examined. One specimen. Iran, Hormozgan province, Bandar Abbas, Dehno (27°20'9.72"N, 56°53'0.85"E, 17 m a.s.l.), soil of *Cordia myxa*, 05-II-2021.

Distribution in Iran. East Azerbaijan, West Azerbaijan, Kermanshah, Khorasan-e Razavi, and Mazandaran provinces.

General distribution. Southern Palaearctic.

Family Protoribatidae J. & P. Balogh, 1984**Genus Protoribates Berlese, 1908*****Protoribates paracapucinus* (Mahunka, 1988)**

Material examined. 114 specimens. Iran, Hormozgan province, Bandar Abbas, Sarkhun (27°24'7.61"N, 56°25'92.2"E, 74 m a.s.l.), soil of *Citrus limon*, 16-III-2021; Bandar Abbas, Dehno (27°21'8.55"N, 56°32'9.23"E, 37 m a.s.l.), soil of *Phoenix dactylifera*, 23-III-2021; Bandar Abbas, Isin (27°19'32.24"N, 56°13'36.43"E, 67 m a.s.l.), soil of *Phoenix dactylifera*, *Cordia myxa*, 29-III-2021; Bandar Abbas, Sikhuran (27°49'57.74"N, 56°28'25.83"E, 887 m a.s.l.), soil of *Citrus limon*, 23-IV-2021; Bandar Abbas, Dasht Emam (27°26'26.28"N, 56°19'42.81"E, 161 m a.s.l.), soil of *Terminalia catapa*, soil of weeds near stream, 08-V-2021; Bandar Abbas, Bikh (27°51'3.08"N, 56°28'21.52"E, 1037 m a.s.l.), soil of *Citrus nobilis*, *Prunus amygdalus*, 28-V-2021; Bandar Abbas (27°10'8.97"N, 56°15'47.2"E, 20 m a.s.l.), soil of *Citrus limon*, 23-VII-2021; Rudan (27°27'6.10"N, 57°7'17.81"E, 236 m a.s.l.), soil of *Citrus limon*, *Mangifera indica*, *Phoenix dactylifera*, *Citrus aurantium*, *Morus rubra*, 23-III-2021; Minab (27°20'27.21"N, 56°59'3.98"E, 44 m a.s.l.), soil of *Morus rubra*, *Phoenix dactylifera*, *Citrus limon*, *Ziziphus spina-christi*, 27-III-2021; Bandar Abbas, Takht (27°30'8.43"N, 56°38'23.21"E, 43 m a.s.l.), soil of *Citrus aurantifolia*, *Psidium guajava*, *Phoenix dactylifera*, *Eugenia jambolana*, 03-IX-2021; Hajiabad (28°14'4.25"N, 55°50'40.85"E, 780 m a.s.l.), soil of *Phoenix dactylifera*, *Citrus limon*, 17-IX-2021; Rudan (27°27'10.59"N, 57°7'59.37"E, 237 m a.s.l.), soil of *Mangifera indica*, *Citrus limon*, *Phoenix dactylifera*, 24-IX-2021; Haji Abad, Kashkoie (28°36'29.62"N, 55°48'47.38"E, 1470 m a.s.l.), soil of *Morus rubra*, *Ficus carica*, 09-X-2021.

Distribution in Iran. Alborz, East Azerbaijan, Fars, Guilan, Kerman, Kermanshah, Khorasan-e Razavi, Kurdistan, Lorestan, Markazi, Mazandaran, Sistan & Baluchestan, Tehran, West Azerbaijan, Yazd, and Zanzan provinces.

General distribution. Subtropical: Eastern Palaearctic (Iran); Tropical: Paleotropical, Neotropical and Australian.

Family Haplozetidae Grandjean, 1936**Genus Indoribates Jacot, 1929****Subgenus Haplozetes Willmann, 1935*****Indoribates* (H.) *fusifera* (Berlese, 1908)**

Material examined. Four specimens. Iran, Hormozgan province, Bandar Abbas, Zakin (27°51'8.77"N, 56°19'1.24"E, 1281 m a.s.l.), soil of *Juglans regia*, *Vitis vinifera*, 21-V-2021.

Distribution in Iran. East Azerbaijan, Fars, Hamadan, Kerman, Yazd, Zanzan provinces and an unknown area in the west of Iran.

General distribution. Southern Palaearctic (Mediterranean and Iran) and India (Tripura).

Genus Baloghiella Bulanov-Zachvatkina, 1972***Baloghiella granulata* Bayartogtokh and Akrami, 2000**

Material examined. One specimen. Iran, Hormozgan province, Rudan (27°27'12.18"N, 57°7'10.68"E, 247 m a.s.l.), soil of *Mangifera indica*, 20-III-2021.

Distribution in Iran. East Azerbaijan, Fars, Khorasan-e Razavi, Sistan & Baluchestan, and Yazd provinces.

General distribution. Iran.

Family Oribatellidae Jacot, 1925**Genus Lamellobates Hammer 1958****Subgenus Lamellobates Hammer, 1958*****Lamellobates molecula molecula* (Berlese, 1916) (Fig. 2D–E)**

Syn. *Lamellobates hauseri* Mahunka 1977

Material examined. 47 specimens. Iran, Hormozgan province, Bandar Abbas, Forkhorj (27°45'39.91"N, 56°25'21.40"E, 635 m a.s.l.), soil of *Morus rubra*, 16-IV-2021; Bandar Abbas, Dasht Emam (27°24'57.52"N, 56°20'12.24"E, 158 m a.s.l.), soil of *Phoenix dactylifera*, *Ficus carica*, *Psidium guajava*, *Citrus limon*, 08-V-2021; Bandar Abbas, Bikh (27°50'52.04"N, 56°27'57.82"E, 1085 m a.s.l.), soil of *Mangifera indica*, *Medicago sativa*, 08-V-2021; Bandar Abbas (27°12'36.07"N, 56°21'16.87"E, 17 m a.s.l.), soil of *Eugenia jambolana*, *Cordia myxa*, *Morus rubra*, 23-VII-2021; Rudan (27°27'9.34"N, 56°8'46.88"E, 215 m a.s.l.), soil of *Citrus limon*, *Citrus sinensis*, *Musa sapientum*, 13-IX-2021; Minab (27°20'27.21"N, 56°59'3.98"E, 44 m a.s.l.), soil of *Morus rubra*, *Cordia myxa*, *Citrus limon*, soil of weeds near stream, 27-IX-2021; Bandar Abbas, Takht (27°30'8.68"N, 56°38'23.21"E, 44 m a.s.l.), soil of *Citrus limon*, *Psidium guajava*, *Phoenix dactylifera*, 03-IX-2021; Hajiabad (28°14'4.28"N, 55°50'40.88"E, 778 m a.s.l.), soil of *Citrus limon*, 17-IX-2021; Rudan (27°27'8.81"N, 57°7'59.22"E, 231 m a.s.l.), soil of *Citrus limon*, *Mangifera indica*, 24-IX-2021.

Diagnosis. Body length 267–289 (276) μm , width of notogaster 178–211 (195) μm ($n = 5$). Body colour brown. Rostrum tripartite, the two lateral teeth slightly longer than the median tooth. Inner cuspides of lamellae convexly rounded, outer ones extremely long and narrow. Lamellar setae obtuse; interlamellars attenuating, both setae heavily ciliate. Sensillus spatulate, densely ciliate. Nine pairs of diversely long notogastral setae present. Epimeral region with a weak polygonal sculpture. Six pairs of genital etae, first three pairs situated along a transverse line, near anterior margin; one pair of aggenital seta; two pairs of anal, and two pairs of adanal setae present.

Distribution in Iran. Hormozgan province (New record for Iran).

General distribution. Pantropical and Subtropical.

Comment. Balogh & Balogh (1992) and Behan-Pelletier (1998) placed the genus *Lamellobates* in the Family Austrachipteriidae.

Subgenus *Paralamellobates* Bhaduri & Raychaudhuri, 1968

Lamellobates (P.) *misella* (Berlese, 1910)

Material examined. One specimen. Iran, Hormozgan province, Rudan (27°25'57.90"N, 57°9'32.45"E, 169 m a.s.l.), soil of *Citrus aurantium*, 13-IX-2021.

Distribution in Iran. Sistan & Baluchestan province.

General distribution. Pantropical and Southern Palaearctic.

Family Tegeribatidae Grandjean, 1954

Genus *Hypozetes* Balogh, 1959

Hypozetes translamellatus Wallwork, 1965

Material examined. Two specimens. Iran, Hormozgan province, Bandar Abbas (27°10'47.89"N, 56°17'27.76"E, 8 m a.s.l.), soil of *Poa trivialis*, 23-VII-2021.

Distribution in Iran. Hormozgan province.

General distribution. Ethiopian, Saudi Arabia and Iran.

Family Galumnidae Jacot, 1925

Genus *Galumna* Heyden, 1826

Subgenus *Galumna* Heyden, 1826

Galumna flabellifera Hammer, 1958

Material examined. 50 specimens. Iran, Hormozgan province, Bandar Abbas, Dehno (27°21'8.55"N, 56°32'9.23"E, 37 m a.s.l.), soil of *Phoenix dactylifera*, 23-III-2021; Bandar Abbas, Ghale ghazi (27°26'5.30"N, 56°32'0.44"E, 50 m a.s.l.), soil of *Cordia mayxa*, 23-III-2021; Bandar Abbas, Isin (27°19'4.05"N, 56°13'4.89"E, 72 m a.s.l.), soil of *Capsicum annuum*, 29-III-2021; Bandar Abbas, Kuhe (27°43'43.68"N, 56°19'56.72"E, 560 m

a.s.l.), soil of *Punica granatum*, 09-IV-2021; Bandar Abbas, Sikhuran (27°49'58.25"N, 56°28'26.60"E, 878 m a.s.l.), soil of *Ficus carica*, 23-IV-2021; Bandar Abbas, Zakin (27°51'9.27"N, 56°18'59.51"E, 1275 m a.s.l.), soil of *Citrus nobilis*, 21-V-2021; Bandar Abbas (27°10'6.96"N, 56°15'2.19"E, 2 m a.s.l.), soil of *Morus rubra*, 23-VII-2021; Rudan (27°27'7.73"N, 57°7'17.74"E, 261 m a.s.l.), soil of *Citrus sinensis*, 13-08-2021; Rudan (27°27'9.04"N, 57°8'26.37"E, 228 m a.s.l.), soil of *Phoenix dactylifera* 13-IIIX-2021; Rudan (27°27'14.13"N, 57°6'45.72"E, 248 m a.s.l.), soil of *Citrus limon*, 20-IIIX-2021; Minab (27°15'19.17"N, 52°2'26.42"E, 31 m a.s.l.), soil of *Ziziphus spina-christi*, 27-IIIX-2021; Minab (27°13'55.19"N, 57°2'57.24"E, 39 m a.s.l.), soil of *Mangifera indica*, 27-IIIX-2021; Rudan (27°27'9.90"N, 57°7'57.84"E, 233 m a.s.l.), soil of *Mangifera indica*, 24-IX-2021.

Distribution in Iran. Alborz, Fars, Kerman, Kermanshah, Yazd, and Sistan & Baluchestan provinces.

General distribution. Pantropical and Subtropical.

Galumna iranensis Mahunka & Akrami, 2001

Material examined. 18 specimens. Iran, Hormozgan province, Bandar Abbas, Ghale ghazi (27°26'5.30"N, 56°32'0.44"E, 50 m a.s.l.), soil of *Cordia mayxa*, 23-III-2021; Rudan (27°27'9.04"N, 57°8'26.37"E, 228 m a.s.l.), soil of *Phoenix dactylifera*, 13-IIIX-2021; Haji Abad, Kashkoie (26°36'28.44"N, 55°48'47.99"E, 1462 m a.s.l.), soil of *Punica granatum*, 09-X-2021; Haji Abad, Kashkoie (28°36'28.43"N, 55°48'47.58"E, 1472 m a.s.l.), soil of *Phoenix dactylifera*, 09-X-2021; Haji Abad, Kashkoie (28°36'28.18"N, 55°48'47.12"E, 1473 m a.s.l.), soil of *Ficus carica*, 09-X-2021.

Distribution in Iran. Yazd, Alborz, East Azerbaijan, Fars, s, Kermanshah, Khuzestan, Mazandaran, West Azerbaijan, and Zanjan provinces.

General distribution. Iran.

Genus *Pergalumna* Grandjean, 1936

Subgenus *Pergalumna* Grandjean, 1936

Pergalumna sistanbaluchestanica Akrami, 2021

Material examined. Nine specimens. Iran, Hormozgan province, Rudan (27°27'5.65"N, 57°72'0.19"E, 235 m a.s.l.), soil of *Citrus aurantifolia*, *Citrus limon*, 13-IIIX-2021; Hajiabad (28°19'8.61"N, 55°52'58.74"E, 941 m a.s.l.), soil of *Citrus aurantium*, 17-IX-2021.

Distribution in Iran. Sistan & Baluchestan province.

General distribution. Iran.

DISCUSSION

Inventories of known species from certain areas are important tools for further scientific studies such as biogeography and ecology and as argumentation in applied assessments (Schatz, 2018). A first brief work on provincial oribatid mites from Hormozgan province was published more than 10 years ago by Alikhani et al. (2013) which listed only seven species from the western part of the province (Bandar Lengeh). The present study is the first comprehensive taxonomic work of the suborder Oribatida in Hormozgan province. The oribatid fauna in this region (including Bandar Abbas, Minab, Rudan and Hajiabad counties) consists of 43 species belonging to 30 genera and 20 families. Among them, the species *Javacarus* (J.) *porosus*, *Hoplophorella* (H.) *hamata* and *Lamellobates* (L.) *molecula molecula* are represented as new records for mite fauna of Iran. Based on our results, Oppiidae (with seven species), Galumnidae, Oribatulula, Scheloribates, Epilohmannia and Acrotrititia (each with three species) are the families and genera with the highest number of species. From the recorded species, 10 species are widely distributed in the Palaearctic region (of which, three species are known only from Iran), nine species are distributed in the Tropical (Pantropical and Subtropical), 10 are cosmopolitan and semi-cosmopolitan, four species are distributed in the Palaearctic and Tropical, four species Palaearctic and Ethiopian, three species Palaearctic and Oriental, one species Palaearctic and Neotropical and also one species distributed in Holarctic region.

From the east, Hormozgan province has a border with Sistan & Baluchestan and Kerman provinces, on the north and west, it borders with Fars province. This province is one of the unexplored provinces of Iran in relation to the oribatid mite fauna. Out of 44 oribatid species collected from Hormozgan province, 29 species ($\approx 66\%$), 24 species ($\approx 55\%$) and 22 species (50%) are similar to oribatid fauna of Fars, Sistan & Baluchestan and Kerman provinces respectively and 14 species are common in all four provinces. Although our results contribute to the enrichment of knowledge of the regional mite fauna, some areas still remain unexplored in the Hormozgan province and Iranian islands of the Persian Gulf and further faunistic research is necessary to reveal the diversity and distribution of oribatid mites in this province.

AUTHOR'S CONTRIBUTION

The authors confirm their contribution to the paper as follows: Z. Eskandari-Nasab: collecting, preparation and preliminary sorting of the material; M.A. Akrami: identification of specimens, writing and revising the manuscript. Both authors participated in writing the paper. The authors read and approved the final version of the manuscript.

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AVAILABILITY OF DATA AND MATERIAL

The specimens listed in this study are deposited in the Acarological collection of the Department of Plant Protection, School of Agriculture, Shiraz University, Shiraz, Iran, and are available from the curator, upon request.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This study only included arthropod material, and all required ethical guidelines for the treatment and use of animals were strictly adhered to in accordance with international, national, and institutional regulations. No human participants were involved in any studies conducted by the authors for this article.

CONSENT FOR PUBLICATION

Not applicable.

CONFLICT OF INTERESTS

The authors declare that there is no conflict of interest regarding the publication of this paper.

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مطالعه کنه‌های اریباتید (Acari, Sarcoptiformes) استان هرمزگان، جنوب ایران، همراه با گزارش‌های جدید

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چکیده: این مطالعه به منظور تعیین فون کنه‌های اریباتید (Oribatida) در استان هرمزگان (جنوب ایران) انجام شد. طی بهمن ۱۳۹۹ تا آبان ۱۴۰۰ با استفاده از کیف برلیز نمونه‌ها از خاک و لاش‌برگ در رویشگاه‌های مختلف استان جمع‌آوری شدند. در مجموع ۴۳ گونه کنه اریباتید متعلق به ۳۰ جنس از ۲۰ خانواده از شهرستان‌های بندرعباس، میناب، رودان و حاجی‌آباد جمع‌آوری و شناسایی شدند، که در بین آنها گونه‌های *Lamellobates* (L.) و *Hoplophorella* (H.) *hamata* (Ewing, 1909)، *Javacarus* (J.) *porosus* Hammer, 1979 و *molecula molecula* (Berlese, 1916) برای اولین بار از ایران ثبت شدند.

واژگان کلیدی: کنه‌های زره‌پوش، فون، تاکسونومی، پراکنش، خلیج فارس