



Persian J. Acarol., 2019, Vol. 8, No. 2, pp. 165–168.
<http://dx.doi.org/10.22073/pja.v8i2.45159>
 Journal homepage: <http://www.biotaxa.org/pja>



Correspondence

Plegadognathus bonariensis (Acari: Halacaridae): First halacarid mite report from Qatar

Furkan Durucan^{1*}, Pedro Range² and Radhouane Ben-Hamadou³

1. Işıklar Caddesi No 16, 17 TR-07100 Antalya, Turkey; E-mail: f_durucan@hotmail.com

2. Environmental Science Center, Qatar University, P.O. Box 2713 Doha, Qatar; E-mail: Prange@qu.edu.qa

3. Department of Biological and Environmental Sciences, College of Arts and Sciences, Qatar University, P.O. Box: 2713 Doha, Qatar; E-mail: benhamadou@qu.edu.qa

* Corresponding author

PAPER INFO.: Received: 24 January 2019, Accepted: 18 February 2019, Published: 15 April 2019

Plegadognathus Morselli, 1981 has recently been re-established as a genus of the family Halacaridae. At present, only six species are known worldwide and have only been reported from seawaters (Bartsch 2016). On 5 November, 2017, three female specimens of *P. bonariensis* (Viets, 1936) were collected from steel settlement plates deployed offshore in Qatar, Persian Gulf (26.765222, 51.444944), at a depth of 18 m. Coll. P. Range and R. Ben-Hamadou. The specimens were cleared in lactic acid, mounted in Hoyer's medium and deposited in the first author's personal collection. Females 225 µm long, 125 µm wide. Anterior dorsal plate 90 µm long, 63 µm wide. Ocular plate 78 µm long, 26 µm wide. Posterior dorsal plate 135 µm long, 90 µm wide. All ventral plates fused with several porose panels. Genital opening 50 µm long, 25 µm wide with 2 pairs of pgs. Gnathosoma 65 µm long, distinctly 4-segmented, palp length of the specimen (µm); P-1 to P-4; 5/18/4/16. P-2 with single long dorsal seta, P-3 without seta. P-4 with 3 setae. The chaetotaxy of leg I as follows (from basifemur to tarsus); 2, 3, 3, 5, 6.

The morphological characteristics and habitat preferences of the specimens reported here are in agreement with the previously given records (Fig. 1, Table 1). The colour of the idiosoma is light yellow (Fig. 2).

Plegadognathus bonariensis was described for the first time in 1936 by Viets from Bonaire (Caribbean Sea) and subsequently recorded from different places around the world. This is the first halacarid record from Qatar and constitutes the sixth record of this species from the world seas (Fig. 3).

Marine halacarid mite fauna of Persian Gulf is poorly known. So far, only four studies have been conducted on halacarid mites, including this study, Bartsch (1983, 2004, 2012), and Abé and Etemadi (2014). As a result of these studies, 6 species (*Actacarus arabius* Bartsch, 2004, *Isobactrus scutatus* Bartsch, 2012, *Plegadognathus bonariensis* Viets, 1936, *Rhombognathus iranius* Abé & Etemadi, 2014, *Rhombognathus scutulatus* Bartsch, 1983, *Scaptognathides delicatulus* Bartsch, 2004) belonging to five genera have been recorded from Persian Gulf.

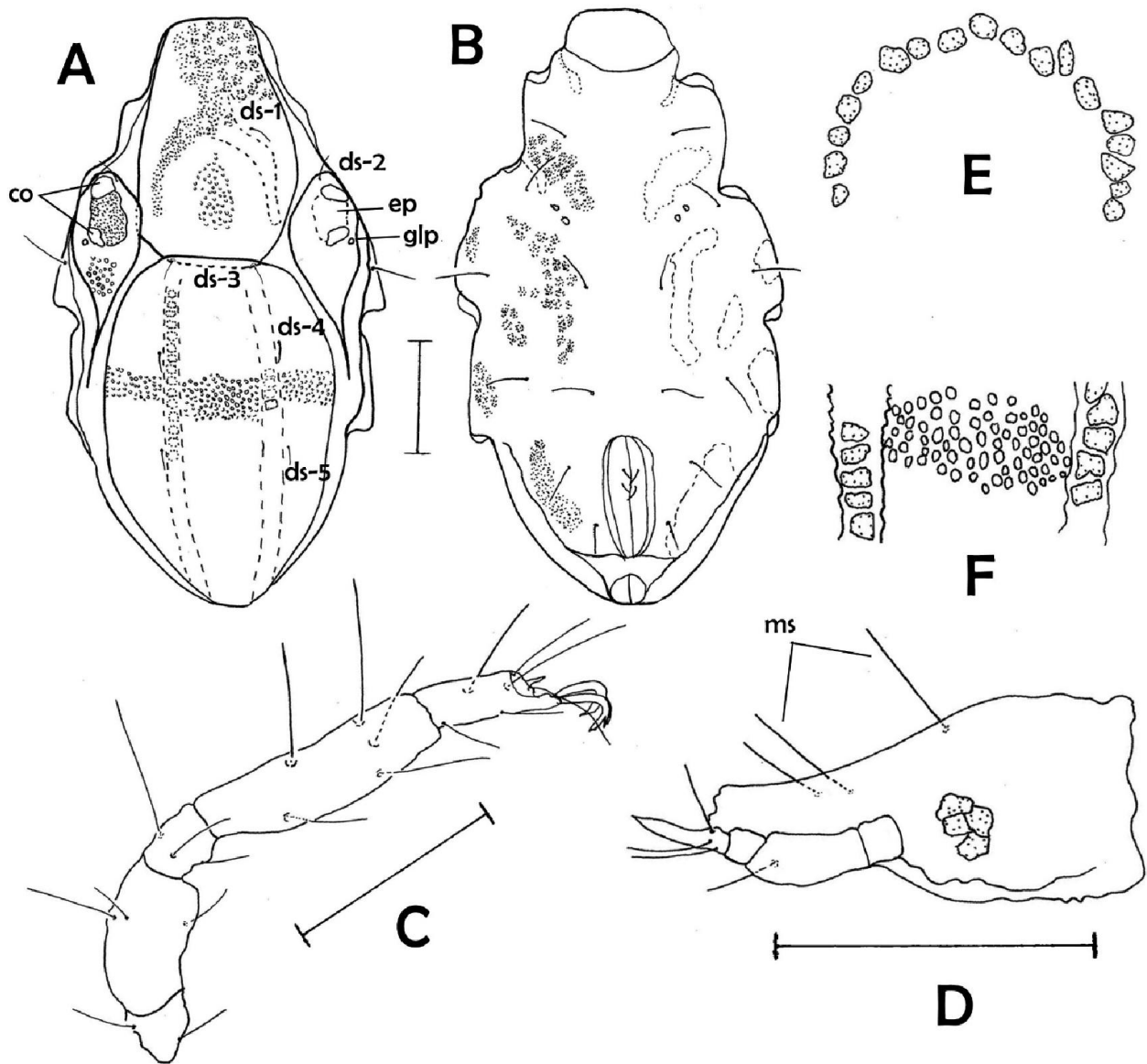


Figure 1. *Plegadognathus bonariensis* (Viets, 1936) (female) – A. idiosoma, dorsal view; B. idiosoma, ventral view; C. leg I, lateral view; D. gnathosoma, lateral view; E. detail ornamentation of anterior dorsal plate; F. details of posterior dorsal plate (ds-1 to ds-5: dorsal setae; co: cornea; ep: eye pigment; glp: gland pore; ms: maxillary setae) Scale bars: 100 μ m.



Figure 2. *Plegadognathus bonariensis* (Viets, 1936) – Dorsal habitus.

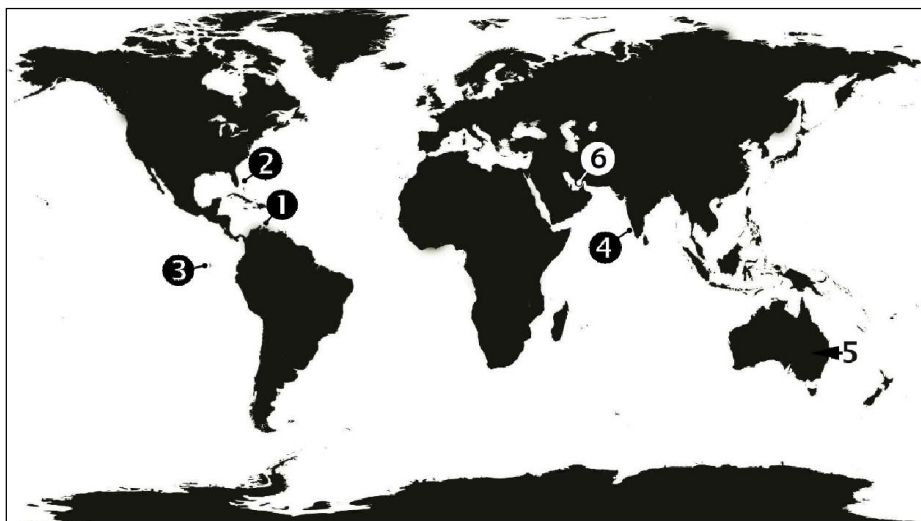


Figure 3. Worldwide records of *Plegadognathus bonariensis* – 1. Viets (1936) - Caribbean Sea, Bonaire; 2. Newell (1947) - Biscayne Bay and Soldier Key, Florida-USA; 3. Bartsch (1977) - Galapagos Islands, Equador; 4. Sarma and Chatterjee (1993) - Kovalam and Goa, Arabian Sea, India; 5. Otto (2000) - Great Barrier Reef and off Brisbane, Australia; 6. Present study (2019) - Persian/ Gulf, Qatar.

Table 1. List of all globally recorded *Plegadognathus bonariensis* with additional information.

Reference	Location	Length of idiosoma (μm)	Habitat
Viets (1936)	Bonaire, Caribbean Sea (1)	Female: 228	intertidal
Newell (1947)	Biscayne Bay and Soldier Key, Florida-United States of America (2)	Female: 225	upper subtidal
Bartsch (1977)	Galapagos Islands, Equador (3)	Female: 210–236 Male: 225	interstitial sands
Sarma and Chatterjee (1993)	Kovalam and Goa, Arabian Sea-India (4)	Female: 208–216 Male: 190–221	<i>Halimeda opuntia</i> ; <i>Spangomorpha</i> sp.
Otto (2000)	Kelso, Myrmidon, Loadstone, Elizabeth, Yonge and Pandora Reef, Australia (5)	Female: 218–242	various sand habitats (1–6 m); coral rubble (3–26 m)
Present study	Qatar, Persian Gulf (6)	Female: 225	offshore settlement plates (18 m)

ACKNOWLEDGMENTS

This work has been conducted under the framework of the project NPRP7-1129-1-201, funded by the Qatar National Research Fund (a member of The Qatar Foundation). The statements made herein are solely the responsibility of the authors.

REFERENCES

- Abé, H. & Etemadi, I. (2014) Two rhombognathine mites (Acari: Halacaridae) from the Gulf of Oman, Iran. *Persian Journal of Acarology*, 3(2): 107–119.
- Bartsch, I. (1977) Interstitielle Fauna von Galapagos. XX. Halacaridae (Acari). *Mikrofauna des Meeresbodens*, 65: 1–108.
- Bartsch, I. (1983) Zur Halacaridenfauna der Philippinen. Beschreibung von fünf Arten der Gattung *Rhombognathus* (Acari, Halacaridae). *Entomologische Mitteilungen aus dem Zoologischen Museum Hamburg*, 7: 399–416.
- Bartsch, I. (2004) Psammophilous halacarid mites from Kuwait: Description of species of the genera *Actacarus* and *Scaptognathides* (Acari: Halacaridae). *Zootaxa*, 755: 1–8.
- Bartsch, I. (2012) A new *Isobactrus* species (Acari: Halacaridae) from southern Iran. *Entomologische Mitteilungen aus dem Zoologischen Museum Hamburg*, 16(188): 49–55.
- Bartsch, I. (2016) *Arhodeoporus*, *Camactognathus*, *Plegadognathus*, and *Winlundia* (Acari: Halacaridae), re-evaluation and geographical distribution. *Acarologia*, 56(4): 553–571.
- Newell, I.N. (1947) A systematic and ecological study of the Halacaridae of eastern North America. *Bulletin of the Bingham Oceanographic Collection*, 10: 1–232.
- Otto, J.C. (2000) Seven new species of *Arhodeoporus* (Acarina: Halacaridae) from the Great Barrier Reef and Coral Sea. *Hydrobiologia*, 436: 1–16.
- Sarma, A.L.N. & Chatterjee, T. (1993) Occurrence of *Arhodeoporus bonariensis* (Viets, 1936) (Halacaridae: Acari) from Indian Ocean with zoogeographical remarks on the genus *Arhodeoporus* Newell. *The Journal of the Bombay Natural History Society*, 90: 417–422.
- Viets, K. (1936) Zoologische Ergebnisse einer Reise nach Bonaire, Curaçao und Aruba im Jahre 1930. No. 18. Halacariden aus Westindien. *Zoologische Jahrbücher, Abteilung für Systematik, Ökologie und Geographie der Tiere*, 67: 389–424.

COPYRIGHT



Durucan et al. Persian Journal of Acarology is under a free license. This open-access article is distributed under the terms of the Creative Commons-BY-NC-ND which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original author and source are credited.