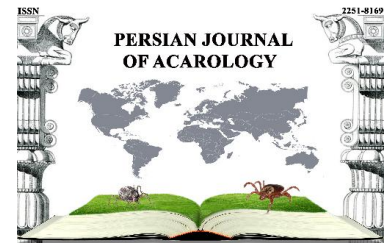




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***Eutetranychus palmatus* Attiah, 1967 (Acari: Tetranychidae), a newly recorded spider mite pest of date palm from Syria**

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Date palm, *Phoenix dactylifera* L. (Arecaceae) is attacked by several arthropod pests that frequently cause remarkable damage. El-Shafie *et al.* (2017) listed out 132 species of mites and insects in association with date palm trees. Eleven species of spider mites (Tetranychidae) have been so far reported from date palms, out of which two species, the Old World date mite, *Oligonychus afrasiaticus* (McGregor) and the Banks grass mite, *O. pratensis* (Banks) are considered as major pests (Bolland *et al.* 1998; Negm *et al.* 2015; Migeon and Dorkeld 2018). Faunistic studies of mites in Syria were neglected for long time as researchers give priorities to the biological and management aspects. Recently, several taxonomic works have been conducted describing new species and reporting new records of Syrian mite fauna. To date, more than 90 mite species have been reported, including 18 species of Tetranychidae (Zriki *et al.* 2015; Barbar 2016, 2018; Zeity 2017). Prior to this study, the genus *Eutetranychus* was represented in Syria by a single species, *E. orientalis* (Klein), which is considered as a serious pest of citrus at the coastal areas. The present study reports *Eutetranychus palmatus* for the first time in Syria from date palms and pygmy palms (*Phoenix roebelinii* O'Brien) (new host record). Females and males were briefly described and illustrated.

Eutetranychus palmatus was described for first time from Egypt (Attiah 1967), and later reported from other countries, Iran (Kamali 1990), Jordan, Palestine and Saudi Arabia (Al-Atawi 2011; Kamran *et al.* 2018). It seems to be limited in distribution to the Middle East region. This species was reported from six host plant species of two families, Arecaceae and Malvaceae (Migeon and Dorkeld 2018). In Saudi Arabia, specimens of *E. orientalis* associated with *Cucurbita moschata* (Cucurbitaceae) were misidentified as *E. palmatus* (Al-Atawi 2011), later identification of those specimens was revised to *E. orientalis* (Kamran *et al.* 2018). This species was briefly described by Attiah (1967) and the main taxonomic features were presented as the dorsal setae not set on tubercles and the first dorsocentral setae c_1 well beyond the first dorsolateral setae c_2 and humeral setae c_3 . Recently, this species was reported on *Washingtonia* sp. from Saudi Arabia and more details of morphological characters were provided by Kamran *et al.* (2018).

The collected mites were mounted on glass slides using Hoyer's medium and examined under research microscope. Measurements are represented by the range of three specimens of each sex (male and female) and provided in micrometres (μm).

Material examined

Seven females and five males; ex. date palm, *Phoenix dactylifera* (Arecaceae), Latakia city (N 35° 31' 34", E 35° 49' 20", 11 m a.s.l.), August 2018, col. M. Zeity. Three females and two males; ex. *Phoenix roebelinii* (Arecaceae) (new host record), Latakia city (N 35° 30' 30", E 35° 46' 23", 23 m a.s.l.), October 2018, col. M. Zeity.

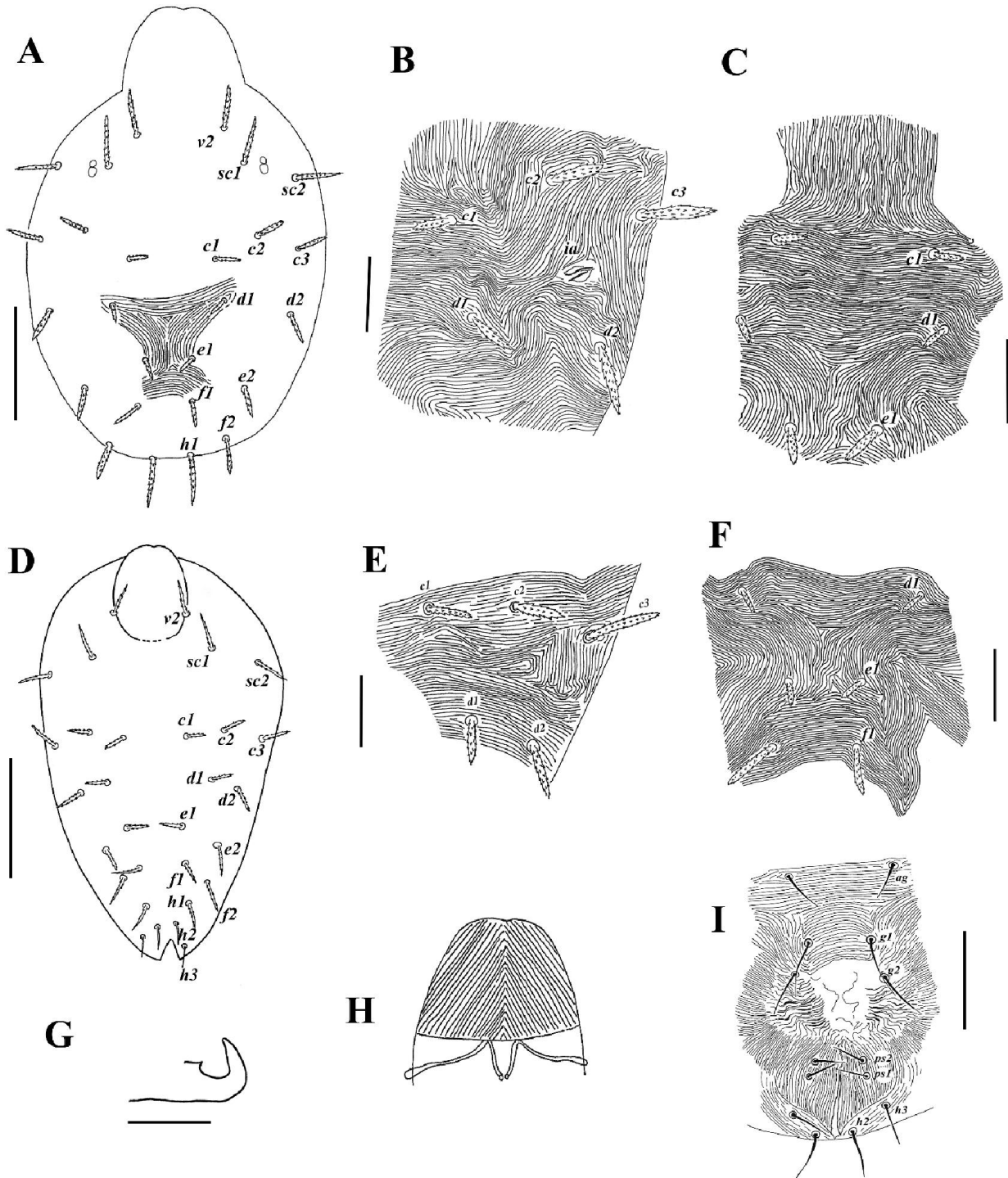


Figure 1. *Eutetranychus palmatus* Attiah – **A.** Dorsal view of an adult female; **B.** First and second lines of female hysterosomal setae; **C.** Striations pattern between first, second and third dorsocentral setae of female; **D.** Dorsal view of male; **E.** First and second lines of male hysterosomal setae; **F.** Striations pattern between second, third and fourth dorsocentral setae of female; **G.** Male aedeagus; **H.** Stylophore with peritremes of female; **I.** Genital and pre-genital area of female (scale bars: A, D, I = 100 µm; B, E = 25 µm; C, F = 30 µm; G = 5 µm).

Description of E. palmatus

Female – Body length including gnathosoma 410–444, body width 274–310 (Fig. 1A). Gnathosoma with peritremes simple, elongated and with bulb-shaped end (Fig. 1H). Dorsum with transverse striae between setae c_1 - d_1 and e_1 - f_1 and turned longitudinal between d_1 - e_1 (V-shaped) (Figs. 1C, F). Dorsal setae not set on tubercles, c_1 slightly shorter than c_2 & c_3 and located posteriorly beyond their level (Figs. 1A, B). Prodorsal setae (v_2 , sc_1 & sc_2) and hysterosomal setae f_2 and h_1 longer than other dorsal setae. One pair of lyrifissures (cupules) (ia) prominent and located anteriorly to d_2 setae of female (Fig. 1B). Length of the dorsal setae as follows: v_2 32–35, sc_1 30–36, sc_2 32–34, c_1 14–16, c_2 21–25, c_3 22–26, d_1 14–16, d_2 21–26, e_1 14–17, e_2 24–26, f_1 25–26, f_2 30–32, h_1 34–35. Distance between the dorsal setae bases: v_2 - v_2 76–79, sc_1 - sc_1 128–129, sc_2 - sc_2 221–233, c_1 - c_1 82–84, c_2 - c_2 165–166, c_3 - c_3 242–246, d_1 - d_1 105–109, d_2 - d_2 227–229, e_1 - e_1 33–44, e_2 - e_2 149–153, f_1 - f_1 48–50, f_2 - f_2 103–105, h_1 - h_1 33–35. Venter with two pairs of genital setae (g_1 & g_2), two pairs of pseudanal setae (ps_1 & ps_2) and two pairs of para-anal setae (h_2 & h_3). Pre-genital area with transverse striae (Fig. 1I). Length of legs (trochanter to pretarsus): leg I 328–330, leg II 293–326, leg III 290–300, leg IV 330–336. Setal counts on each leg segment as follow (solenidia in parentheses): leg I 2-1-8-5-9(1 ϕ)-15(3 ω); leg II 1-1-7-5-6-13(1 ω); leg III 1-1-3 or 4-2-6-10(1 ω); leg IV 1-1-1-2-7-10(1 ω).

Male – body length including gnathosoma 371–386, body width 215–221, setae c_1 almost at same level with dorsolateral setae c_2 and humeral setae c_3 (Figs. 1D, E). Gnathosoma with peritremes as in female. Length of dorsal setae as follows: v_2 31–32, sc_1 30–32, sc_2 22–24, c_1 12–13, c_2 18–20, c_3 24–25, d_1 11–13, d_2 18–23, e_1 14–15, e_2 20–22, f_1 16–19, f_2 25–27, h_1 23–24, h_2 10–13, h_3 16–17. Distance between the dorsal setae bases: v_2 - v_2 63–65, sc_1 - sc_1 100–103, sc_2 - sc_2 164–166, c_1 - c_1 58–65, c_2 - c_2 108–111, c_3 - c_3 160–164, d_1 - d_1 86–88, d_2 - d_2 132–135, e_1 - e_1 49–51, e_2 - e_2 94–97, f_1 - f_1 36–38, f_2 - f_2 68–71, h_1 - h_1 30–32, h_2 - h_2 12–14, h_3 - h_3 38–40. Venter with five pairs of genito-anal setae, two pairs of genital setae (g_1 & g_2), two pairs of pseudanal setae (ps_{1-2}) and one pair of aggenital setae (ag). Male aedeagus bent dorsad with acute tip (Fig. 1G). Legs of male are much longer than body length. Length of legs: leg I 470–498, leg II 382–398, leg III 410–435, leg IV 412–420. Setal counts on each leg segment as follow (solenidia in parentheses): leg I 2-1-8-5-9(3 ϕ)-15(3 ω); leg II 1-1-7-5-6(2 ϕ)-13(2 ω); leg III 1-1 or 2-5-2-6(1 ϕ)-10(1 ω); leg IV 1-1-1 or 2-2-6 or 7-10(1 ω).

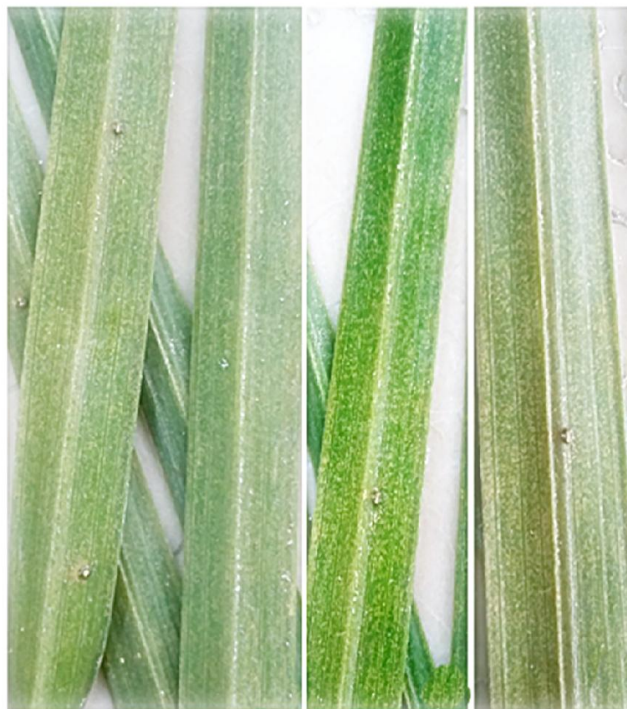


Figure 2. *Eutetranychus palmatus* Attiah – Symptoms on the fronds of date palm trees.

Eutetranychus palmatus is a phytophagous pest attacks date palm leaves and fruits. It sucks the plant sap from the tissue cells and destroys the chlorophylls leaving irregular chlorotic yellow scars (Fig. 2). Leaves sample was collected from a male tree after the reproduction season, so no damage on the fruit was reported in this study. Damage symptoms were very high on the old fronds.

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REFERENCES

- Al-Atawi, F.J. (2011) Phytophagous and predaceous mites associated with vegetable crops from Riyadh, Saudi Arabia. *Saudi Journal of Biological Sciences*, 18(3): 239–246.
- Attiah, H.H. (1967) The genus *Eutetranychus* in U.A.R., with description of three new species. *Bulletin de la Societe Entomologique D Egypte*, 51: 11–16.
- Barbar, Z. (2016) The mite fauna (Acari) of two Syrian citrus orchards, with notes on their morphology and economic importance. *Systematic and Applied Acarology*, 21(8): 991–1008.
- Barbar, Z. (2018) New mite records (Acari: Mesostigmata, Trombidiformes) from soil and vegetation of some Syrian citrus agrosystems. *Acarologia*, 58(4): 919–927.
- Bolland, H.R., Gutierrez, J. & Flechtmann, C.H.W. (1998) *World catalogue of the spider mite family (Acari: Tetranychidae)*. Leiden: Koninklijke Brill NV., 392 pp.
- El-Shafie, H.A.F., Abdel-Banat, B.M.A. & Al-Hajhoj, M.R. (2017) Arthropod pests of date palm and their management. *CAB Reviews*, 12: 1–18.
- Kamali, K. (1990) A checklist of plant mites (Acari) of Khuzestan, Southwestern Iran. *Scientific Journal of Agriculture*, 13: 73–83 (In Persian with English abstract).
- Kamran, M., Khan, E.M. & Alatawi, F.J. (2018) The spider mites of the genus *Eutetranychus* Banks (Acari, Trombidiformes, Tetranychidae) from Saudi Arabia: two new species, a re-description, and a key to the world species. *ZooKeys*, 799: 47–88.
- Migeon, A. & Dorkeld, F. (2018) Spider Mites Web: a comprehensive database for Tetranychidae. Available from: <http://www.montpellier.inra.fr/CBGP/spmweb> (accessed on 15 September 2018).
- Negm, M.W., De Moraes, G.J. & Perring, T.M. (2015) Mite Pests of Date Palms. In: Wakil, W., Romeno Faleiro, J. & Miller, T.A. (Eds.), *Sustainable Pest Management in Date Palm: Current Status and Emerging Challenges*. Springer International Publishing, pp. 347–389.
- Zeity, M. (2017) Some new records of spider mites (Acari, Tetranychidae) from Syria. *Acarologia*, 57(3): 651–654.
- Zriki, G., Shaabo, A. & Boubou, A. (2015) A preliminary survey of the spider mites (Acari: Tetranychidae) in Latakia governorate of Syria. *Acarologia*, 55(3): 303–309.

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