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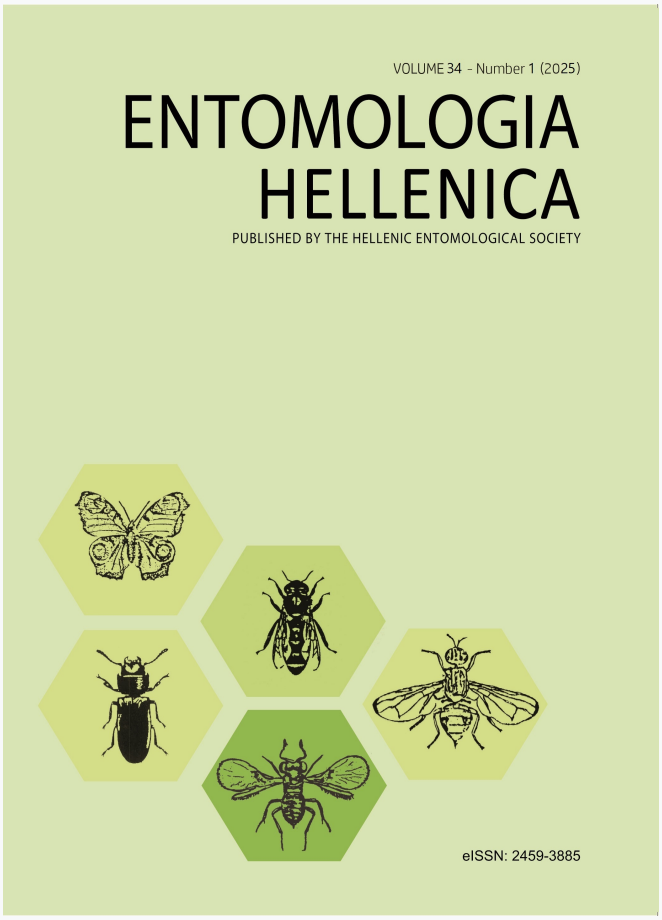

First report of Hemiberlesia cyanophylli (Signoret) (Hemiptera: Diaspididae) in Tunisia and North Africa

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First report of *Hemiberlesia cyanophylli* (Signoret) (Hemiptera: Diaspididae) in Tunisia and North Africa

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ABSTRACT

Hemiberlesia cyanophylli (Signoret, 1869) (Hemiptera: Coccomorpha: Diaspididae) was determined for the first time on *Opuntia triacanthos* Willd (Cactaceae) in a private garden at Akouda (Sousse, Tunisia) in 2022. The infestation was observed on the racket of *O. triacanthos*. This is the first record of *H. cyanophylli* in Tunisia, as well as for North Africa. Two other scale insects: *Parlatoria oleae* (Colvée, 1880) (Diaspididae) and *Planococcus citri* (Risso, 1813) (Hemiptera: Pseudococcidae) were also recorded on other ornamental plant species respectively, i.e. *Rosa indica* (Rosaceae) and *Kalanchoë* sp. (Crassulaceae).

KEY WORDS: *Coccomorpha, Opuntia triacanthos, Tunisia, North Africa*.

The observation of a scale insect (Fig. 1), a honeydew and a souty mould (Fig. 2), as well as unusual damage (Fig. 3) detected on an ornamental plant in a private garden in the region of Akouda (Sousse, Tunisia), led the authors to organize a survey for Coccomorpha species presence and identification. The survey revealed the presence of three such species: *Planococcus citri* (Risso, 1813) (Hemiptera: Pseudococcidae) (Fig. 1), *Parlatoria oleae* (Colvée, 1880) (Hemiptera: Diaspididae) (Fig. 3) and *Hemiberlesia cyanophylli* (Signoret, 1869) (Hemiptera: Diaspididae) (Fig. 5-6). The first two have previously been reported in Tunisia (Jarraya, 2003, Mansour et al., 2011a & 2011b).

Planococcus citri (Risso, 1813)

The citrus mealybug (Fig. 1) is one of the major pests of citrus and other tree crops. This pest is definitely recognized as a major citrus pest in Tunisia (Mahfoudhi & Dhouibi, 2009). The citrus mealybug is a common polyphagous species known from all zoogeographical regions (Ben-Dov et al., 2013).

Samples were collected during spring 2023 on *Kalanchoë* sp. (Crassulaceae) at Akouda (collected by the first author and identified as *P. citri* by the 3rd), after having observed an unusual damage, the presence of honeydew, sooty mould (Fig. 2) and cochineal colonies.

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FIG. 1: *P. citri* colony on *Kalanchoë*

FIG. 2: Damage of *P. citri* on *Kalanchoë*

***Parlatoria oleae* (Colvée, 1880)**

Insect samples were collected from *Rosa indica* (Rosaceae) during spring and summer 2023 during this study. Symptoms observed included unusual damage and stem drying. Different stages of armoured scale insects were detected (Fig. 3).

Interestingly, *P. oleae* is the least common armoured scale observed on olive trees in Tunisia comparatively to *Aspidiotus nerii* Bouché (Diaspididae) (Mansour et al, 2011a).

FIG. 3: Female and eggs of *P. oleae* on *Rosa indica*

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***Hemiberlesia cyanophylli* (Signoret, 1869)**

During the present study, *H. cyanophylli* was determined for the first time for Tunisia, having been collected in a private garden at Akouda (Sousse, Tunisia) from *Opuntia triacanthos* Willd (Cactaceae) plants, during 2022. This is the first record of *H. cyanophylli* from Tunisia and North Africa. The species was collected from *O. triacanthos* (Fig. 4) by the first author of this paper and identified by the last. All stages of *H. cyanophylli* were presented (Fig. 4). Symptoms included discolouration and covering by scales of the host plant racket (Fig. 4). Samples were stored in 75% ethanol and mounted on glass slides according to the methodology described by Kosztrab and Kozar (1988). Species identification was performed using the characteristics given by Gill (1988) and Miller & Davidson (2005). Sample specimens have been deposited in Çukurova University, Biotecnology Application and Research Center, Balcali, Adana, Turkey.

Hemiberlesia cyanophylli (cyanophyllum scale) is a highly polyphagous species that has been recorded from hosts belonging to 176 plant genera from 77 plant families. It is widely distributed in the tropical and subtropical regions (Scale Net, 2016, accessed 1 December 2024). It is a pest of bananas, worldwide, a known pest of tea in Taiwan (Chua and Wood, 1990), a common scale insect for avocado trees (Takumasa & Jazmín 2016), a pest of olive trees in Peru (Canales Canales and Valdivieso, 1999) and of high economic significance for olive trees in Chile (Claps et al., 2001). Moreover, Foldi (2001) listed this species as an occasional pest in France. It is similar to the latania scale (*Hemiberlesia lataniae* (Signoret, 1869), which is found in Tunisia, infesting grapevines. The latania scale is a rare species for vineyards (Mansour et al. 2011b), but has also been detected on other hosts in Tunisia (Balachowsky 1948).

FIG. 3: Racket discolored of O. triacanthos and infested by H cyanophylli (left), . H. cyanophylli colony on Opuntia triacanthos (middle), H. cyanophylli female on dorsal view (right).

In conclusion, during the present study, *H. cyanophylli* was observed for the first time in Tunisia on *O. triacanthos* plants and a severe damage of *R. indica* by *P. oleae* was observed. Other studies on economic crops such as olive trees or *Rosa* sp. are necessary to confirm the impact of the aforementioned species.

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Πρώτη αναφορά του *Hemiberlesia cyanophylli* (Signoret) (Hemiptera: Diaspididae) για την Τυνησία και τη Βόρειο Αφρική

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ΠΕΡΙΛΗΨΗ

Το *Hemiberlesia cyanophylli* (Signoret, 1869) (Hemiptera: Coccomorpha: Diaspididae) καταγράφηκε για πρώτη φορά σε φυτά του είδους *Opuntia triacanthos* Willd (Cactaceae), σε έναν ιδιωτικό κήπο στο Akouda (Sousse, Τυνησία), το 2022. Αυτή είναι η πρώτη καταγραφή του *H. cyanophylli* για την Τυνησία, καθώς και τη Βόρειο Αφρική γενικότερα. Δύο άλλα συγγενή είδη, το *Parlatoria oleae* (Colvée, 1880) (Diaspididae) και το *Planococcus citri* (Risso, 1813) (Hemiptera: Pseudococcidae) καταγράφηκαν επίσης σε άλλα είδη καλλωπιστικών φυτών, πιο συγκεκριμένα τα *Rosa indica* (Rosaceae) και *Kalanchoë* sp. (Crassulaceae).

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