



Eutetranychus orientalis (Acari: Tetranychidae): a new host record from *Glycyrrhiza glabra* (Fabaceae)

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Glycyrrhiza glabra L. (Fabaceae), commonly known as licorice, is a medicinally valuable and economically important plant cultivated in many regions of the world (Sishu *et al.* 2024). Its roots and rhizomes have long been used in traditional medicine due to their diverse bioactive compounds and pharmaceutical applications (Wang *et al.* 2015; Wahab *et al.* 2021). Despite the economic importance of this plant, its associated spider mite fauna remains poorly known.

Eutetranychus orientalis (Klein) (Figs 1a, b)

Diagnosis and redescription – See Khanjani *et al.* (2017).

The genus *Eutetranychus* is one of the economically important genera of the family Tetranychidae, and six species of this genus have so far been reported from Iran (Mahdavi *et al.* 2025). Among them, the brown citrus mite, *Eutetranychus orientalis* (Klein) is an economically important pest that can cause serious damage to citrus crops worldwide (Chouikhi *et al.* 2025). It feeds mainly on the upper leaf surface, where individuals are usually aggregated along the midrib and lateral veins. Feeding results in diffuse chlorosis, while females lay their eggs mainly along the leaf veins and produce only sparse webbing. Although this mite has been recorded from a wide range of host plants. Its occurrence on medicinal plants, particularly *G. glabra*, has not been documented previously.

This study presents the first worldwide record of *Eutetranychus orientalis* on licorice, *Glycyrrhiza glabra*, and the second tetranychoid mite species known from this host plant and the second tetranychoid mite species known from this host plant. Previously, *Tetranychus turkestanii* (Ugarov & Nikolskii) was the only tetranychoid mite reported from *G. glabra* (Migeon and Dorkeld 2026).

The study was conducted in Khabr National Park, Baft County, Kerman Province, Iran. This protected area covers approximately 169,200 hectares, with elevations ranging from 1,000 to 3,845 m above sea level. Due to its location at the junction of the Irano-Turanian and Saharo-Sindian phytogeographical regions, Khabr National Park harbors a rich and diverse flora comprising approximately 750 plant species, including about 120 endemic species (UNESCO 2007).

Leaves and sheaths of *G. glabra* (Figure 1c) were collected and examined for mites. Specimens were extracted using the dipping–washing–filtering method (Boller 1984), filtered through a 400-mesh sieve, preserved in 70% ethanol, and mounted in Hoyer's medium under a stereomicroscope. Mites were identified with an Olympus® BX51 phase-contrast compound microscope.



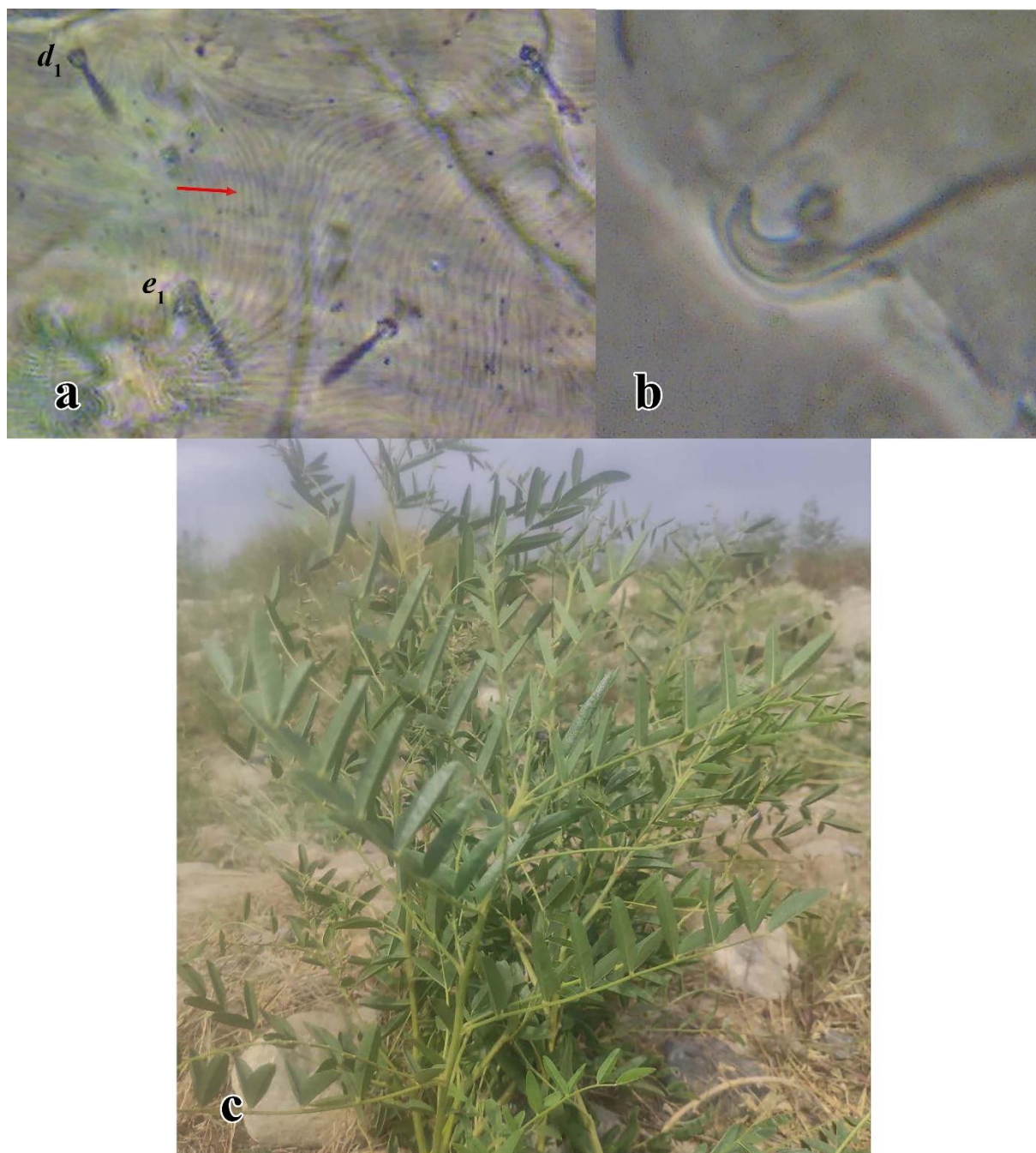


Figure 1. a. Opisthosomal striae between setae d_1 – e_1 with longitudinal to forming V or U pattern; b. Aedeagus; c. Infested *Glycyrrhiza glabra* L. in Khabr National Park (sampling site).

Ten females, 3 males, ex. *Glycyrrhiza glabra* L., Khabr National Park, Kerman Province, Iran, 28° 48' 28.2" N, 56° 20' 03.5" E. 03 Jan. 2025, coll. M. Khanamani.

Previously, *E. orientalis* had been recorded from more than 40 host plants belonging to various plant families in Iran; however, it had not been reported from *G. glabra* (Fabaceae) before (Mahdavi *et al.* 2025). The present study provides the first record of *E. orientalis* from *G. glabra* worldwide and represents the second record of a tetranychoid mite species from this host plant. *Tetranychus turkestanii* was the only species previously reported from *G. glabra*.

Given the wide host range of tetranychoid mites, only one species has previously been reported from *G. glabra*, indicating that the diversity of these mites associated with licorice is still poorly known. The present record of *E. orientalis* not only expands the known host range of this species and highlights the need for further studies on tetranychoid mites associated with this medicinal plant. Whether this limited number of records reflects actual ecological patterns or insufficient sampling remains unclear and

requires further investigation.

The presence of *E. orientalis* on *G. glabra* in Khabr National Park, a protected area, raises questions about the mite's occurrence in natural ecosystems and its potential to spread to cultivated licorice fields. Given the increasing interest in licorice cultivation for pharmaceutical purposes, monitoring this mite on *G. glabra* may become economically relevant in the future. Further studies are needed to assess the damage potential of *E. orientalis* on licorice and to understand the ecological factors influencing its host range expansion. Our findings highlight the need for further surveys to better understand the diversity and ecological significance of spider mites on medicinal plants in Iran, particularly in natural and protected areas.

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Data availability: JU — Collection of the Acarology Laboratory, Jiroft University, Iran. Specimens are available under request.

Ethics approval: 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: All study participants, or their legal guardian, provided informed written consent prior to study enrollment.

Conflict of interest: The authors declare no conflict of interest.

Generative AI statement: The authors declare no use of Gen AI in the creation of this manuscript.

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