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New records of Chalcididae (Hymenoptera: Chalcidoidea) from Yemen

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ABSTRACT: The present study deals with the new country records and generic records of two genera of family Chalcididae, viz., *Epitranus clavatus* (Fabricius) and *Hockeria tamaricis* Bouèek. Both recorded species are detailed with diagnosis, host specificity and geographical distribution.

KEY WORDS: Chalcididae, *Hockeria*, *Epitranus*, new records, Yemen

Chalcididae (Hymenoptera: Chalcidoidea) is a family of small wasps parasitizing several insect pests of agricultural and medical importance. Despite their high economic importance, they are poorly known from Middle Eastern region of the world. Boucek (1956) reported the occurrence of the family Chalcididae and recorded *Dirhinus wohlfahrtiae* Ferrière from Yemen. Since then no any chalcidid species recorded from Yemen. However, chalcidid fauna were reported from other countries of the Middle East. Some of the recent works that deserve attention are as follows. Delvare (2017) indicated that at least 74 species of Chalcididae are present in UAE, representing about half of the described species in the Palaearctic region. Gul *et al.* (2018) altogether reported and described seven species of *Dirhinus* Dalman from different regions of Saudi Arabia. Moravvej *et al*. (2018) reported *Epitranus clavatus* from Iran for the first time. Gul *et al*. (2020) and Gadallah *et al*. (2020) reported the genus *Phasgonophora* Westwood and *Epitranus* Walker for the first time from the Kingdom of Saudi Arabia with the description of five and seven species respectively.

Here we report two genera *Epitranus* Walker (1834) and *Hockeria* Walker (1834) with species: *E. clavatus* (Fabricius) and *H. tamaricis* Bouèek for the first time from Yemen. These belong to subfamilies Epitraninae Burks and Haltichellinae Ashmead respectively.

Specimens were collected through sweep net on grasses by one of the authors (FSKA). The collected material were dried and mounted on small rectangular cards (Qamar, 2017). The specimens were examined using Nikon SMZ25 stereomicroscope and photographed later. The photographs were retouched using Adobe

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Photoshop® CS3. Identified specimens are deposited in the Insect collections, Department of Zoology, Aligarh Muslim University, Aligarh, India (ZDAMU).

List of Chalcididae from Yemen

I. Subfamily: Dirhininae

Dirhinus wohlfahrtiae Ferrière, 1935

II. Subfamily: Epitraninae (new record)

Epitranus clavatus (Fabricius, 1804)

III. Subfamily: Haltichellinae (new record)

Hockeria tamaricis Boucek, 1982b

***Epitranus clavata* (Fabricius, 1804)** (Fig. 1)

Chalcis clavata Fabricius, 1804: 162; Bouèek, 1982a: 594: lectotype designation.

Material examined: YEMEN: TAIZ: Wadi Dabab, 22.viii.2014, Coll. F.S.K. Amer; ♀ (on card), (ZDAMU).

Diagnosis: Female. Body largely testaceous brown (Fig. 1). Legs yellowish brown; tarsi yellow (Fig. 1a). Wings hyaline with minute pubescence. Head a little wider than its length and slightly over the width of thorax; scrobe striated, clypeus developed foreword in conical shape (with teeth like structure) (Fig. 1c). Antenna not reaching the front ocellus and, with seven segmented funicle (Fig. 1b). Thorax with close pits, posterior side margins of pronotum slightly emarginated, scutellum somewhat convex anteriorly, apex rounded; propodeum with pre-current median area delimited by distinct sub-median carinae, lateral teeth indistinct; wings hyaline with marginal vein faintly visible, pale yellow, a faint streak directed obliquely from stigma vein to basal region; ventral side of the hind coxa and outer disc of hind femora moderately pubescent; outer ventral margin of the hind femora with irregular nine teeth. Tooth of hind tibia crenulate formed by small five teeth, median tooth larger; tarsal sulcus not at all reaching tibial hump (Fig. 1d). Gaster with petiole slightly wider at base, with three carinae on dorsal side, gaster acuminate at apex (Figs. 1a, e).

Hosts: *Tinea antricola* Meyrick and *Crypsithyris* sp. (Bouèek, 1982a).

Distribution: Yemen **(new record)**. Worldwide (Bouèek, 1982a; Noyes, 2021; (Moravvej *et al*., 2018; Gadallah *et al*., 2020).

Hockeria tamaricis Boucek, 1982b (Figs. 2, 3)

Hockeria tamaricis Bouèek, 1982b: 49. Female, male. Holotype female, Israel, Michmoret (BMNH), not examined.

Material examined: YEMEN: TAIZ: Wadi Dabab, 22.viii.2014, Coll. F.S.K. Amer; ♀ (on card), (ZDAMU).

Diagnosis: Female. Body largely black; Pedicel, tegulae, and all legs except fore and mid tibiae as well as tarsi, reddish; gaster extensively to wholly red. Forewing with broad infuscation subdivided medially by two large hyaline spots (Fig. 3a). Head with markedly convex face; frons with numerous silver white hairs. Scrobal cavity shallow not reaching mid ocellus (Fig. 3c). Scape not reaching front ocellus; pedicel 1.8× as long as broad, subequal in length to second funicular segments. Thorax broadest across the pronotum, with puntuation, and almost globose-convex. Paraspidal furrows obliterated to indistinct thin lines. Popodeum with silvery white hairs. Hind femur about 2× as long as broad, with sharper tooth in the middle, hind tibia stout, distal tooth lobe-like, broad and low; comb starting on sharper tooth. Gaster ovate, pointed at apex, on a short petiole.

Host: Unknown for specimens from Yemen. For Saudi Arabia: lepidopterus gall maker on *Tamarix*. Elsewhere reared from pupae of *Amblypalpis olivierella* Ragonot (Bouèek, 1982b).

Distribution: Yemen **(new record)**. Israel, Pakistan, Saudi Arabia.

The study resulted the first record of two species as *Epitranus clavatus* (Fabricius) and *Hockeria tamaricis* Boucek from Yemen. Including these two species, the total number of known species in family chalcididae from Yemen now raised to three. The study also indicates the potential presence of

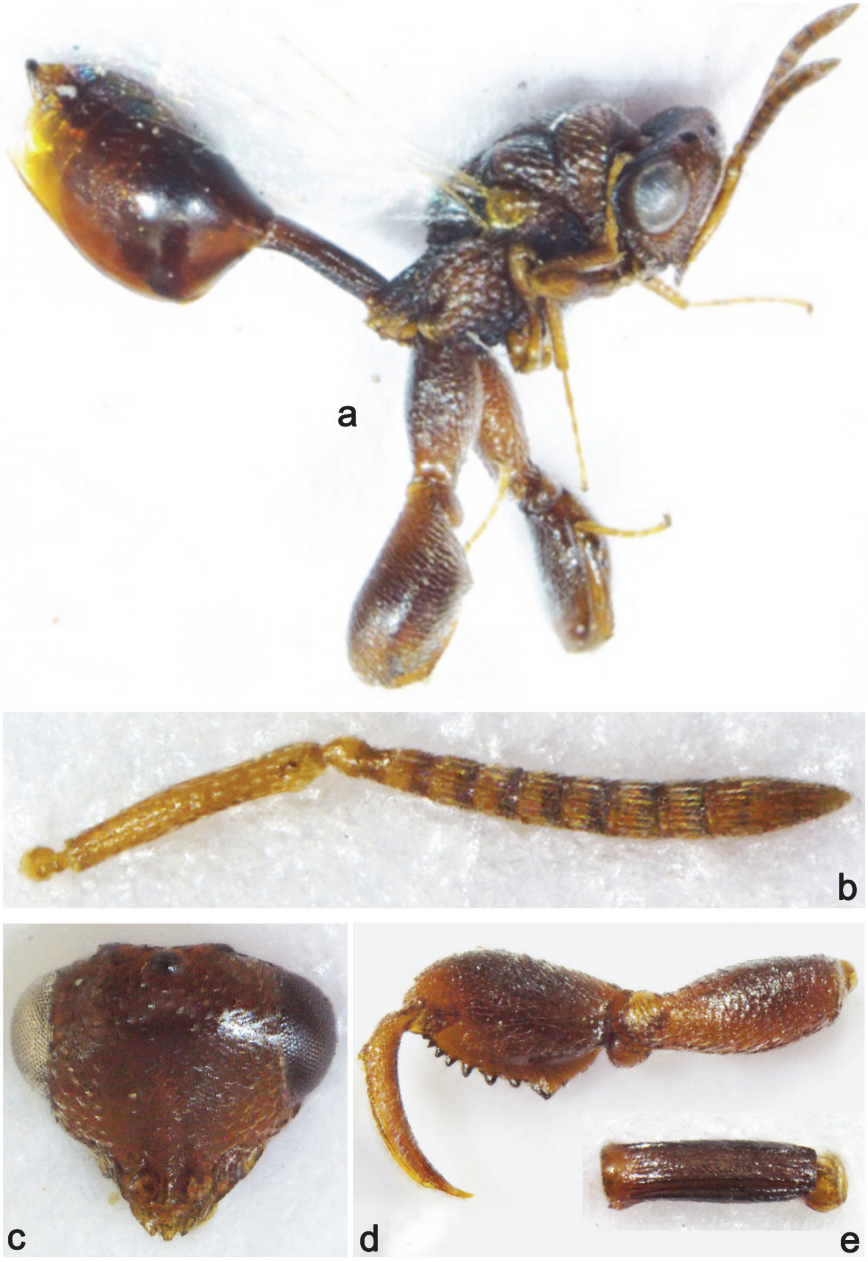

Fig. 1 *Epitranus clavatus* (F):
a - Habitus, b - Antenna, C - Head, frontal, d - Hind leg, e - Petiole

Fig. 2 *Hockeria tamaricis* Bouck

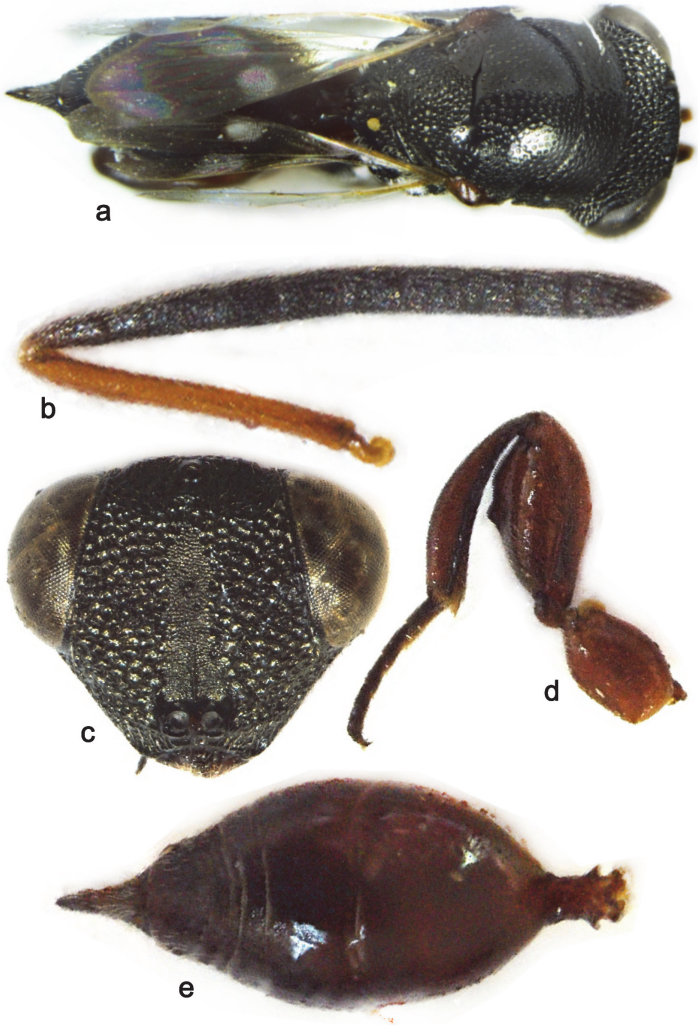

Fig. 3 *Hockeria tamaricis* Bouck:
a - Habitus, b - Antenna, c - Head, frontal, d - Hind leg, e - Gaster with petiole

unexplored chalcids in particular as well as other insects groups in general. Further extensive taxonomic studies along with biology and on host association are of considerable importance to understand the faunal diversity chalcid wasps in Yemen, which will provide the baseline future workers.

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