

A New Alien Record for the Flora of Yemen: *Merremia Dissecta* (Jacq.) Hallier F.(Convolvulaceae)

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Abstract: The study area (Tuban) is a district of Lahej governorate, Republic of Yemen. Lahej governorate is located at the southwestern part of Yemen at latitudes between 12° 30' to 14° 00' N. and longitudes between 43° 30' to 45° 30' E., this investigation was carried out during in 2015. The genus *Merremia* is a monotype genus in Yemen. *Merremia dissecta* (Jacq.) Hallier f. (Convolvulaceae) has been recently recorded as a new addition to the flora of Yemen. This species can be distinguished from other species in Yemen by its 5-divided palmate leaves and white to pale yellow corolla with dark purple on the throat. In my recent plant inventory was discovered at Saber region, Tuban district, Lahej governorate, southern Yemen, at distance about 20 km north of Aden, where it grows in deep loamy soil, on altitude (95 m a.s.l.).

Key Words: Alien, Convolvulaceae, *Merremia dissecta*, New record, Yemen.

I. Introduction

Convolvulaceae includes c. 56 genera and 1840 species, with a cosmopolitan distribution, but mainly in tropical and subtropical region [1, 2]. In Yemen this family is represented by 50 species in 12 genera, around 11 species of them are endemic and near endemic to this country [3, 4]. *Merremia* is one of the genera in Convolvulaceae, including about 80 species with pantropical distribution [1]. The genus *Merremia* Dennst. ex Endl., is a monotype genus in Yemen [3, 5]. The flora of Yemen is characterized by its high diversity and density, particularly in the South and West regions, that makes it a complex one. Previous studies reported that, there are about 2844 plant species belong to 1068 genera and 179 families in Yemen [3, 4, 6-14]. The author collected interesting species belonging to the genus *Merremia* from Saber region, Tuban district, Lahej governorate, Yemen. The specimen collected was compared with the relevant data in the literature [15, 16]. As a result of all these comparisons the specimen collected was found to be a new record for Yemen flora.

II. Materials & Methods

The present report is the outcome of several field trips encompassing in Saber region, Tuban district, Lahej governorate, southern Yemen in 2015. The specimen was collected into flowering and fruiting stages and was processed into dried and mounted on herbarium sheet and deposited in the herbarium of Biology department, faculty of Education, Aden university (Yemen). The collected specimen from the study area was studied and identified as *Merremia dissecta* (Jacq.) Hallierf., using [15, 16]. This species is here documented with a detailed description and other information like habitats, phenology, life form, global distribution and color photograph are provided to facilitate the identification of the new record.

III. Results

Taxonomic

Merremia dissecta (Jacq.) Hallierf. in Bot. Jahrb. Syst. 16(4-5): 552 (1893). **Fig. 1.**

Synonyms: *Convolvulus dissectus* Jacq., Obs. Bot. 2: 4. 1767.; *Ipomoea sinuata* Ortega, Hort. Matr. Dec. 7: 84. 1789.

Type: Jacquin herb.

Botanical description

Perennial climbers, with herbaceous stems, sparsely hirsute to glabrous with long yellow hairs. Leaves petiolate; petiole up to 7-10 cm long, with sparsely long yellow hairs. Leaf-blades palmately 5-lobed, with the two basal lobes forked unequally, 8 cm long, 9-10.5 cm wide; the lobes sinuate to sinuate-dentate, glabrous on both sides. Flowers usually solitary, occasionally cymose 2-flowered; peduncles 5.5-7.5 cm long with long yellow hairs at the base; pedicels gradually thickened towards the calyx, up to 2.5 cm long. Sepals oblong, 2 cm long, 1.3 cm wide, mucronata, glabrous, the margins membranous. Corolla campanulate, white to pale yellow with dark purple center, 4 cm long. Stamens unequal, 15-18 mm long; filaments narrow, glandular; anthers sagittate. Pistils glabrous, 2.4-2.5 cm long; ovary on a cup-shaped disc, glabrous, 2 mm long; style 22 mm long; stigma biglobular. Fruit capsular, enclosed by the persistent calyx, globose or depressed-globose, smooth, c.

1.4cm in diameter, dehiscent into 2-valved when mature, 2 or 4-seeded. Seedstrigonus or depressed, black, glabrous, 8 mm wide, 10 mm long.

Phenology: Flowering May – December (but sporadic flowering may occur at any time of the year). Fruiting November – December (but fruits may be found at any time of the year).

Habitat: Known only from a single locality in Saber region, Tuban district, Lahej governorate, southern Yemen, at distance about 20 km north of Aden, where it grows in a deep loamy soil, on altitude 95 m a.s.l.

Life form: Liana, Hemicryptophyte.

Global distribution: native in North and South America, this species is cultivated and naturalized in India, Indonesia, Pakistan, Sri Lanka, Thailand, Malaysia, Taiwan and Saudi Arabia [15, 16, 17]. It is here reported for the first time in Yemen.

Previous report from Yemen: None

Specimens examined: *Merremia dissecta* -Yemen, Lahej governorate, Tuban district, Saber region, at distance about 20 km north of Aden, on alt. 95m a.s.l., 12° 59' 86.0" N, 44° 55' 27.9" E, 18. 3. 2015, Othman 5221.

IV. Discussion

Documentation of the species is very important aspect in the field of the taxonomy as well as for further scientific research. Tuban is one of the smallest districts of Lahej governorate, southern Yemen, which is floristically very rich. The *Merremia* specimen collected from Saber region, Tuban district, Lahej governorate, southern Yemen, at distance about 20 km north of Aden, was first compared with the related species in flora of Yemen. Then the specimen was identified by comparison of the flora of Kingdom of Saudi Arabia [16]; flora of West Pakistan [15] and it was found that the morphological characteristics of the collected species were identical to those of *Merremia dissecta* (Jacq.) Hallierf., after consultation of relevant literature from Yemen, it has been observed that *Merremia dissecta* has not been reported so far from this country. So, present study clearly indicates that this taxon is a new addition to the flora of Yemen. With this new record, the total number of recorded *Merremia* in Yemen has reached two viz. *Merremia dissecta* (Jacq.) Hallierf. and *Merremia somalensis* (Vatke) Hallier f., the most important morphological characters for two species are shown in Table 1.

V. Conclusions

Documentation of the species is very important aspect in the field of the taxonomy as well as for further scientific research, the *Merremia dissecta* has not been reported so far from this country, so, present study clearly indicates that this taxon is a new addition to the flora of Yemen, with this new record, the total number of recorded *Merremia* in Yemen has reached two taxa.

Table 1. Comparison of selected morphological characters of *Merremia dissecta* and *Merremia somalensis*.

Character	<i>M. dissecta</i>	<i>M. somalensis</i> (Modified after [5])
Habit	Perennial climbers, with herbaceous stem.	Erect to scrambling shrub or subshrub.
Leaf-blades	Palmately 5-lobed.	Linear-oblong to narrowly lanceolate.
Petiole	Up to 7-10 cm long.	Up to 5 mm long.
Sepals	Oblong, 2 cm long, mucronata, glabrous.	Ovate, 10-13 mm long, acute, densely pilose.
Corolla	White to pale yellow, with dark purple center, 4 cm long.	Dull yellowish with reddish center, 2.5-3 cm long.
Capsule	Enclosed by the persistent calyx, globose or depressed-globose, c. 14 mm in diameter, 2-valved, 2 or 4-seeded.	Enclosed by the pilose calyx, globose, c. 6 mm in diameter, 2-valved, 4-seeded.
Seeds	Trigonous or depressed, black, glabrous, 8 mm wide, 10 mm long.	Ovate, somewhat flattened, black, glabrous except for some short hairs near hilum and on angles.

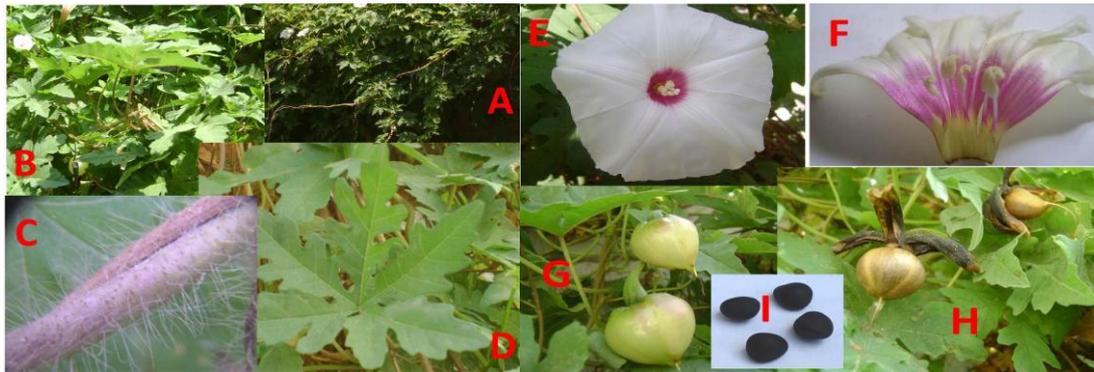


Fig. 1. **A & B:** General view of *Merremia dissecta*; **C:** Close-up of long hairy stems; **D:** Close-up of leaf showing several lobes; **E:** Close-up of flower showing corolla campanulate, white to pale yellow with dark purple center, stamens and stigma biglobular; **F:** Epipetalous; **G:** Close-up of immature fruits with enlarged fleshy sepals; **H:** Close-up of Mature fruits with persistent sepals; **I:** Seeds

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