

Torilis samia (Apiaceae) and *Ehrharta erecta* (Poaceae), two new species for Greece

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Abstract. *Torilis samia* sp. nova (Apiaceae) is described from Mt Karvounis (Ambelos) on the East Aegean island of Samos. It resembles *T. ucranica* but differs clearly by its heterocarpic fruits. The mericarps of the outer fruits have long, flexuous patent-spreading spines. The fruits of *T. ucranica* are homomorphic and the outer mericarps have upwardly curved adpressed spines. The second species, *Ehrharta erecta* (Poaceae) is an alien with a native distribution range from Eritrea to South Africa, Réunion, the Arabian Peninsula and India. It is reported for the first time in Greece. Both taxa are illustrated by photographs. The distribution of *T. samia* and *T. ucranica* in Greece is mapped.

Key words: alien species, *Ehrharta*, endemic species, taxonomy, *Torilis*

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Introduction

Although the flora of Samos is relatively well known (Christodoulakis 1984, 1986; Christodoulakis & Georgiadis 1990; Snogerup & Snogerup 1993) there are still areas/localities that are not well explored botanically especially in the western part of the island. At present c. 1500 vascular plant species are known. There would probably be more to add especially at different times of the year such as late summer to winter. Karvounis (1153 m) comes second to Mt Kerkis

(1434 m) in terms of floristic knowledge as botanists more frequently are attracted to and visit the higher limestone parts of the latter mountain. In the city of Athens the suburban areas have also escaped detailed botanical attention. These are a rich source for the existence of aliens especially in weedy and ruderal habitats. Road, rail, air and maritime traffic are high and provide a means of distribution, dispersal and spread. Two interesting plants are reported in this paper, one from Samos and the other from Athens, and separate accounts of them provided.

Material and methods

The plants were collected and identified using standard botanical literature. The distribution of the *Torilis* species is presented according to the map generated by the *Flora Hellenica* database. Voucher specimens are deposited in the herbaria of the Goulandris Natural History Museum (ATH) and University of Copenhagen (C).

Results and discussion

Apiaceae

An interesting slender white-flowered *Torilis* was noted at moderate altitudes of Mt Karvounis; it was fairly common all along the forest road from the village of Ambelos to the summit area. Vineyards and open woodland comprising mainly *Pinus brutia*, *Quercus ilex* and *Q. coccifera* marked the route. The plant was in flower by early July and with mature fruits towards the end of August. Five species of *Torilis* have been reported from Samos but it did not match any of them nor other Greek or Anatolian species. It had also not been observed elsewhere on the island. We decided it is a new species and provide the following description together with taxonomic comments. The only species of *Torilis* so far reported from Mt Karvounis is the very different *T. leptophylla* (L.) Rchb. f.

Torilis samia Pantavos, Kit Tan & Polymenakos, **sp. nov.** (Figs. 1 & 3)

Nomos & Eparchia Samou: island of Samos, Mt Karvounis, above the village of Ambelos (Nenedes), 600–900 m, 37°47'N, 26°48'E, 6 July 2022, *Polymenakos & Pantavos* 1153 (holotype ATH; isotype C); *loc. ibid.*, September 2021, *Pantavos* obs.

Erect herbaceous annual to 60 cm tall. Leaves deeply 2–3-pinnatifid; segments toothed, adpressed-scabridulous; lobes narrowly ovate to oblong-lanceolate, acute. Umbels terminal, on adpressed-scabridulous peduncles 5–10 cm long. Rays 5–12, adpressed-scabridulous, 7–12 mm long, not concealed by flowers or fruits. Bracts 6–10; bracteoles similar,

well-developed. Flowers hermaphrodite, pedicellate. Sepals inconspicuous. Petals white, inflexed at apex, radiate (outer petals larger and longer than inner). Stamens 5, anthers pale yellow. Styles 2, divergent, 5–6 times as long as stylopodium, reddish-purple. Fruit heterocarpic, of two ovoid mericarps, 2–2.5 mm long (excluding spines). Mericarp ridges slender, grooves between ridges filled with long spines tuberculate at base. Mericarps of outer fruits with long, flexuous patent-spreading spines to 2.5 mm long, tipped greenish-white or reddish-purple at maturity. Mericarps of inner fruits upwardly adpressed, green spiny-tuberculate.

Resembling *T. ucranica* Spreng. distributed from East Europe to Caucasus but the spines on the mericarp of outer fruits are not short and stiffly adpressed but flexuous, patent-spreading and much longer than the width of the mericarp. The fruits in *T. ucranica* are not heterocarpic (Fig. 2) and the outer mericarps have upwardly curved adpressed spines as in *T. japonica* (Houtt.) DC. The spines do not exceed the width of the mericarp (see Fig. 1E). One may consider heterocarpic fruits to be an atypical modification but of which species? *T. ucranica* is absent from Samos. We think in cultivation the plants will still remain the same.

A specimen from the East Aegean island of Ikaria (*Runemark & Snogerup* 5982, LD) was collected on 20 April 1958 at a low altitude of 0–50 m by the stream at Ag. Nikolaos. It was identified as *T. ucranica* by Per Lassen in 2012. The fruits were undeveloped so it is difficult to come to any conclusion regarding its taxonomic identity. It is however, far from the usual distribution area of the species in Greece (see Fig. 3). It may possibly turn out to be *T. samia* as the geographical distance between the two islands is not great.

Poaceae

Ehrharta erecta Lam., *Encycl.* 2: 347 (1786) — Described from South Africa (Fig. 4)

Nomos & Eparchia Attikis: Chalandri, Antigonis street, 190 m, 38°01'N, 23°48'E, 21 May 2023, *Polymenakos & Pantavos* obs. (ripe fruits collected).

— Vriliissia, Marathonos street, 220 m, 38°01'N, 23°49'E, 14 May 2024, *Polymenakos & Pantavos* 1251 (ATH).

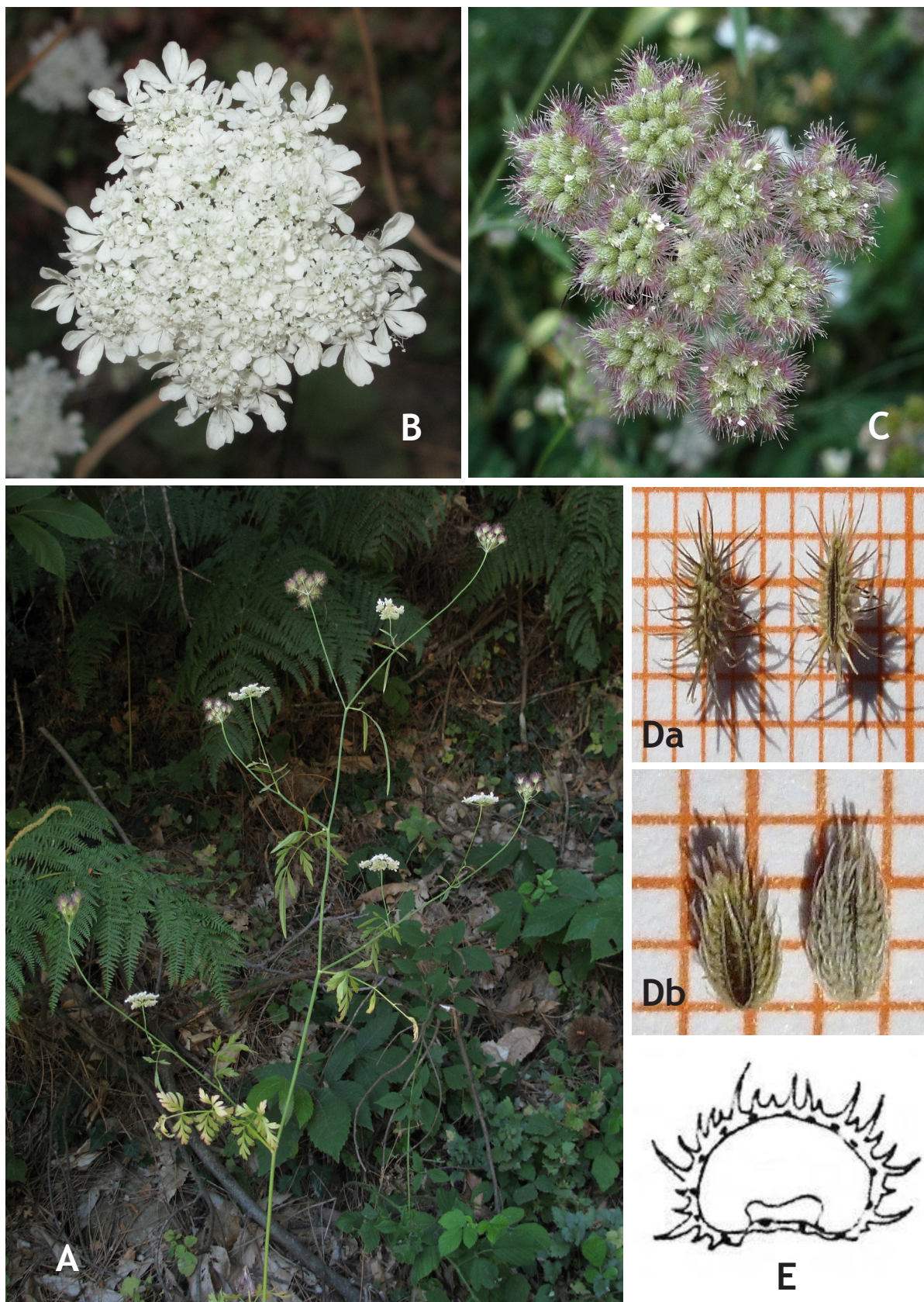


Fig. 1A-D *Torilis samia*: **A**, habit; **B**, inflorescence; **C**, infructescence; **Da**, outer mericarps in dorsal and ventral view; **Db**, inner mericarps in dorsal and ventral view; **E**, outer mericarp of *T. ucranica* in cross-section.



Fig. 2. *Torilis ucranica*: mericarps with upwardly curved adpressed spines (from G00096175, isolecto-type at G-Boiss).



Fig. 3. Distribution map of *Torilis samia* and *T. ucranica* in Greece.

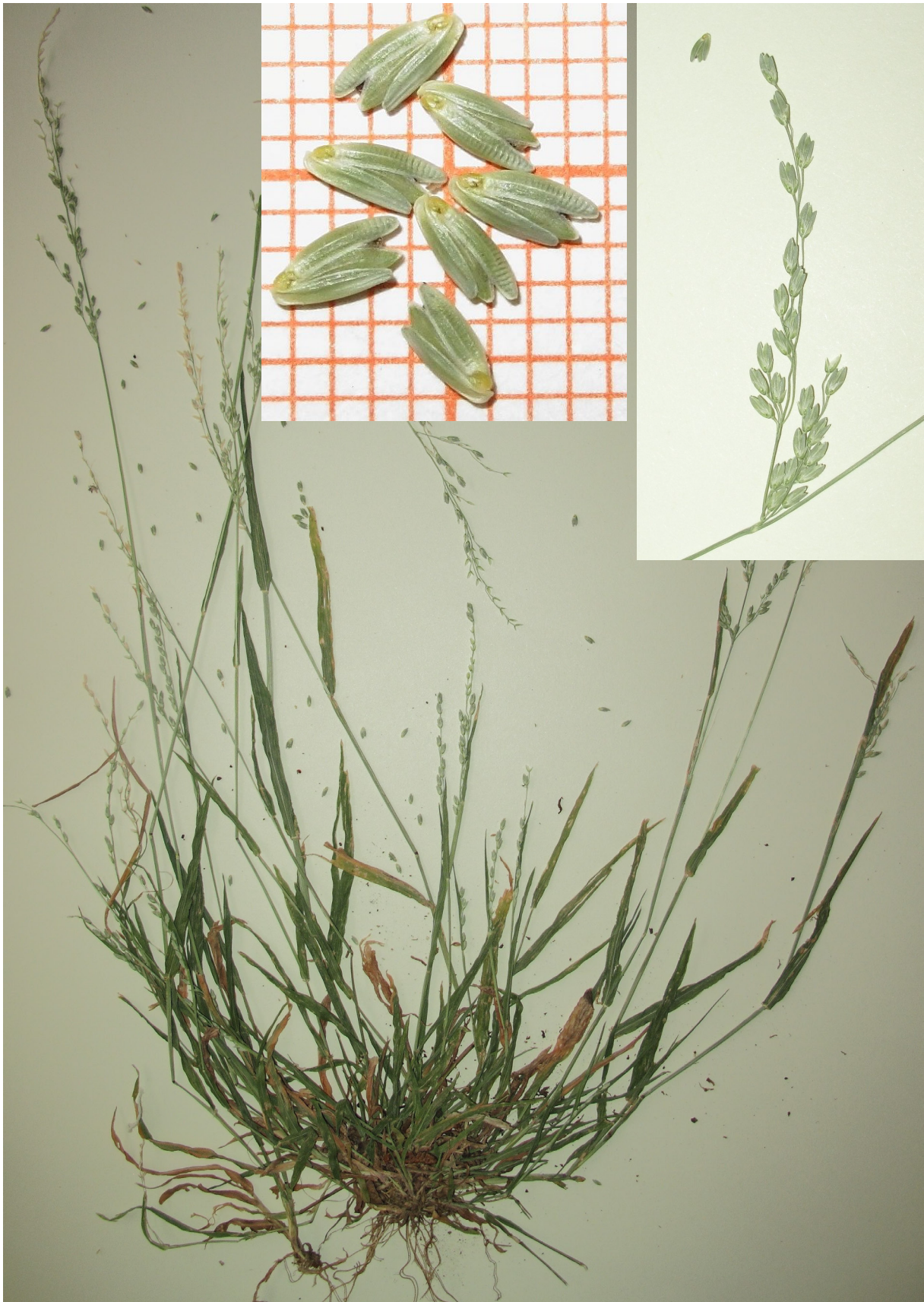


Fig. 4. *Ehrharta erecta*: habit and spikelets.

Laxly caespitose perennial 30–45 cm tall. Leaves soft, flaccid, narrowly lanceolate, $3\text{--}7 \times 0.2\text{--}0.5$ cm. Spikelets 3.5–4.0 mm long; glumes unequal, $\frac{1}{2}\text{--}\frac{3}{4}$ as long as spikelet; sterile lemmas similar in texture, transversely ribbed especially on upper half, obtuse rounded at apex, without tuft of hairs or ear-like appendage at base.

Damp places in disturbed areas such as roadsides, pavements, gardens, 190–220 m. Flowering April to May.

Chalandri and Vrilissia are two suburban municipalities in northern Athens, c. 12 km from the city centre. In the first locality only a few plants were seen. In the Vrilissia locality, many plants exist along the streets near the site indicated. It is likely that the species has long been introduced to Greece but has escaped notice as a new alien species because the plants are not particularly conspicuous, the spikelets disarticulate early, there is little knowledge of African grasses, etc. It would not be of commercial interest or suitable to be cultivated as luxuriant animal fodder as there are few and narrow leaves.

Ehrharta erecta is the most widespread of ehrhartas, and our specimens can be distinguished as var.

erecta. This has a native range from Eritrea in East Africa to South Africa, Réunion, the Arabian Peninsula and India. However, it is naturalized and spreading rapidly in the Mediterranean, Australia and North America. On Madeira it is already one of the most common grasses (Verloove, pers. comm.). It is now in the streets of Athens and the northern suburbs and certainly would spread further.

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