

**A NEW SPECIES OF *FLUEGGEA* (EUPHORBIACEAE)  
FROM ANATOLIA**

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*Flueggea anatolica* Gemici (Euphorbiaceae) is illustrated and described from S Anatolia. It is a deciduous unarmed shrub, related to *F. virosa* (Roxb. ex Willd.) Voigt, but has an undivided pistillode, up to 13 staminate flowers per glomerule, and pistillate flowers in groups of (1-)2-3. This is the first record of the genus *Flueggea* from Anatolia. *F. anatolica* has an isolated position within the genus and is considered to be a Tertiary relict.

***Flueggea anatolica* Gemici, sp. nov. Fig. 1.**

Affinis *F. virosa* (Roxb. ex Willd.) Voigt, sed pistillodio indiviso, floribus masculis ad 13 in quoque fasciculo, flores feminei solitarii usque 3 differt.

A dioecious, deciduous, glabrous unarmed shrub, up to 5m tall; twigs sharply angular, with greenish branches. *Leaves* alternate. *Petioles* narrowly winged, (2-)4-7(-8)mm long. *Stipules* triangular-lanceolate, 1.5-2mm long, acute or acuminate, subentire, membranous, chestnut coloured, soon deciduous. *Lamina* ovate or elliptic, 2.5-6.5 x 1.5-3.5cm, apex subacute, cuneate at base, thinly chartaceous, lateral nerves 5-9(-11) pairs, tertiary nerves reticulate. *Flowers* in the proximal axils of the leafy branches; male flowers up to 13 per glomerule; female flowers in groups of (1-)2-3. *Male flowers*: pedicels up to 5.5mm long; sepals greenish yellow, 1-1.5mm long, obtuse to subacute, outer sepals narrower than the inner, margins irregularly and minutely denticulate in the upper half; disc glands fleshy, angular, tuberculate; stamens 1-2mm long, longer than the calyx, anthers minute, pale yellow, extrorse, longitudinally dehiscent; pistillode 1mm long, undivided (or very rarely with 2 small lobes). *Female flowers*: pedicels 5-10mm long during flowering, up to 30mm in fruit; sepals as in male flowers; disc shallowly 5-lobed, c.1mm across; ovary ovoid-subglobose, 1mm diam., 3-celled with 2 ovules per cell; styles 3, recurved, bifid, 1mm long; petals absent. *Fruit* berry-like, globose, 3.5mm long and 5.5mm diam., green at first. *Seeds* 2 per cell, trigonous, smooth, ecarunculate, 2.5 x 1.5mm, shiny, pale brownish-yellow. *Flowering* May.

Type: Turkey, C5 Mersin (İçel), N of Tarsus, valley of Kadincik II Dam, W of the dam, limestone slopes and among *Ceratonia siliqua* trees, 340 m, 14 vi 1990, Y. Gemici 6330 (holo. EGE, iso. E).

*Flueggea* Willd. is primarily an Old World genus. The overall distribution of the genus is relictual; the worldwide map gives a misleading impression of relative continuity because of the widespread distributions of two species: *F. virosa* and *F. suffruticosa* (Webster, 1984). *F. tinctoria* (L.) Webster occurs in Spain and Portugal.

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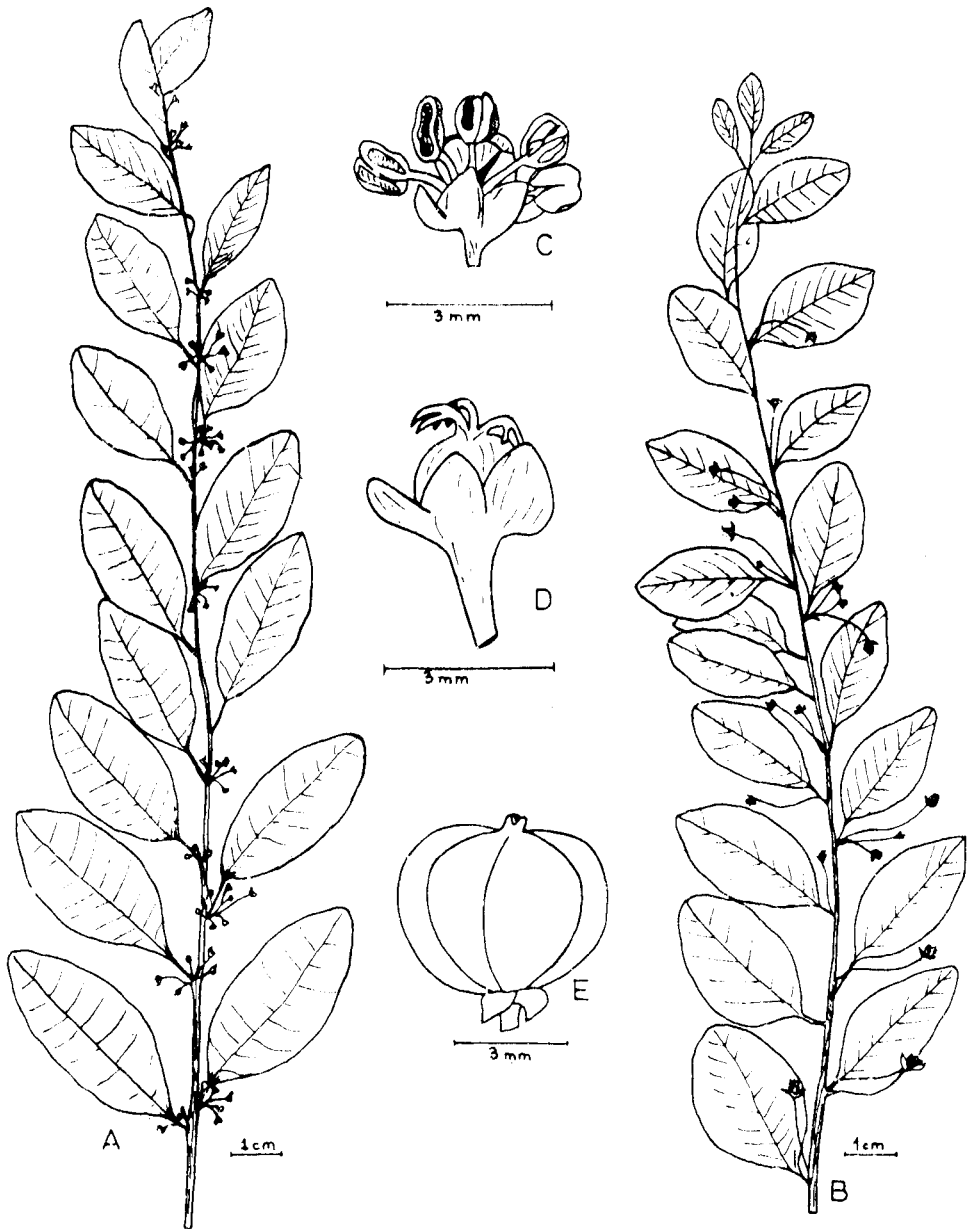


FIG. 1. *Flueggea anatolica*. A, habit of male plant; B, habit of female plant; C, male flower; D, female flower; E, fruit.

*Flueggea anatolica* is closely related to *F. virosa* but differs by: the undivided (not 3-branched) pistillode; staminate (male) flowers up to 13 per glomerule (not 20–40); pistillate (female) flowers 1–3 (not 3–10). In most species of the genus, the pistillode has three branches which are almost free, or united up to 0.4–0.5mm, each abruptly reflexed above with a dilated tip. *F. anatolica* is unusual in that the pistillode is undivided (or very rarely with two small lobes).

*Flueggea virosa* is a widespread paleotropical species, represented by two allopatric subspecies, subsp. *virosa* and subsp. *melanthesoides* (F. v. Muell.) Webster. The former has a wide distribution in the Old World tropics, from western Africa (Senegal) to tropical Asia, Indonesia and tropical Australia, whereas the latter is found only in New Guinea and tropical Australia. *F. anatolica*, however, is very isolated within the wide distributional area of the genus. Geographically the nearest species is *F. virosa*, which is present around the river Nile in Egypt.

*Flueggea anatolica* was collected in a deep valley open on the south side and many samples were studied. This locality is far from residential areas and the population is clearly of natural occurrence. *F. anatolica* can be regarded as a Tertiary relict, and Southern Anatolia harbours other such species, e.g. *Ajuga reptans*, and, further away in SW Anatolia, *Liquidambar orientalis*. Clearly, S Anatolia served as a refuge for several Tertiary species during the Quaternary glaciations.

#### ACKNOWLEDGEMENTS

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#### REFERENCE

WEBSTER, G.L. (1984). A revision of *Flueggea* (Euphorbiaceae). *Allertonia* 3: 259–312.