

# *Euphorbia ephedromorpha* BARTLETT, a forgotten succulent from Guatemala

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*Euphorbia ephedromorpha* was found in a roadside ditch. C. C. Deam collected it in 1905 at the side of a road from Gualang to the Monagua River in the Zacapa District of Guatemala, where it was growing on bare, dry, rocky soil. After the first description (Bartlett 1907), a further collection was made in the same year, and from this a more comprehensive description was made (Bartlett 1911). Possibly because Bartlett did not mention its succulence in his descriptions, *Euphorbia ephedromorpha* fell into oblivion and is not included in Jakobsen's succulent lexicon, nor in Egli's more recent work. In cultivation, however, it is soon apparent that *E. ephedromorpha* is just as succulent as for example the African *E. ephedroides* Meyer ex Boiss. and *E. rhombifolia* Boiss.

The species epithet refers to the genus *Ephedra* Auth. (*Gnetataceae*), which produces similar shaped shrubs.

I discovered my *E. ephedromorpha* some years ago in the collection of Jaap Keijzer in Holland, growing like weeds under the staging, without a name and more or less unnoticed. In the meantime it has become one of my favourite plants and I would strongly recommend its cultivation.

*E. ephedromorpha* produces lax, later thick, branching shrubs. The branching starts just above ground level and continues higher up, reaching about a metre long. As it grows continuously, metre long stems are produced in a year. In habitat, the somewhat spreading branches become partly prostrate or are supported by surrounding vegetation. In cultivation it is best grown against a support. The veined stems are 5-angled and like a climber grow in a somewhat zig-zag form. They are 5-6 mm thick and succulent, becoming woody after some years. Cuttings form a tuberous, woody-succulent rootstock in 2-3 years.

During the growing season, March to October, but mainly in autumn, *E. ephedromorpha* produces 2-3 cm wide and 2-4 cm long, very hairy, non-succulent, petiolate leaves on new growth. On both sides of the leaf base there are tiny stipules (reduced side leaves).

The flowering period lasts from November throughout the winter until June. *E. ephedromorpha* is extremely free flowering, producing more flowers than any other plant in my collection: per stem (in other words per metre of plant) 500 cyathia can be produced in one season.

Fig. 1 (top): Young shoot of *Euphorbia ephedromorpha* with very hairy leaves.  
Fig. 2 (center): Branch of *E. ephedromorpha* with leaf base, bud and stipule.  
Fig. 3 (bottom): Leaf of *Euphorbia ephedromorpha*.

Fig. 4 (top): Hairy inflorescence, stem and bracts.  
Fig. 5 (center) and Fig. 6 (bottom): Inflorescence of *Euphorbia ephedromorpha*.

The soft and delicate branching inflorescences are produced terminally and subsequent laterally. The paired bracts are about 1-4 mm wide and 2-10 mm long and hairy like the other leaves and inflorescence stems, in contrast to the 5-angled stems, which are glabrous. The cyathia are small, about 2 mm long and 1 mm across. The petaloid appendages of the 5 nectar glands give the cyathia a deceiving similarity to "normal" flowers. They are green at the bottom and white above.

The cultivation of *E. ephedromorpha* is very similar to that of the closely related *E. guiengola* Buck & Huft and *E. oaxacana* Robinson & Greenman from Mexico. During the growing season, due to the deciduous leaves, they need somewhat more water than the average succulent. A semi-shady position in the greenhouse or on an east or west facing windowsill is ideal. Cuttings taken in spring root easily in a glass of water and can be potted after about 4 weeks. In my experience, cuttings taken later than July/August do not develop sufficiently to survive the winter.

In winter, when *E. ephedromorpha* has lost its leaves and flowers, it needs to be kept warm (not below 15 °C / 59 °F) and slightly humid to avoid dehydration by the production of the many cyathia. It now needs, weather permitting, a place in full sun, where a strong, pleasant, honey-sweet perfume is produced, which fades when a cloud passes. (Note: the same effect can be noted with a flowering *E. guiengola*!).

The petaloid appendages of the nectar glands put *E. ephedromorpha* firmly in the section *Adenopetalum* (Klotzsch & Garcke) Benth. and therefore closely related to the Mexican *E. guiengola* and *E. oaxacana* with which it shares many characteristics. However an important difference to the other plants in section *Adenopetalum* is the polygonal veined stems in which the angles are built by leaf bases.

These only occur in a group of American euphorbs belonging to subsection *Pteroneuræ* A. Berger, *Ephedropeplus* Müll.-Arg. and *Stachydium* Boiss. of section *Esula* Rupp. The whole group urgently needs a revision as up to now it has been included in *Adenopetalum* (Eggl 1994, Koutnik 1996), although the petaloid appendages to the nectar glands, typical for this section, are not present. In the descriptions of some plants of this group, small fringes of the nectar glands are interpreted as petaloid appendages in order to relate them to the *Adenopetalum* - although as well present in dozens of African species in different sections.

The taxonomic classification of *Euphorbia ephedromorpha* is therefore still unclear and requires comparative DNA studies. It is possible that the plant may be a key to answering the question of whether the angled shoots indicate a link to the other euphorbs with nerve-angled shoots, and may also raise other questions about the detailed relationships between the various sections to be found in the Americas. ♦

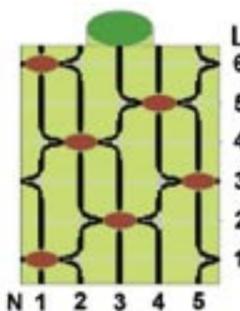
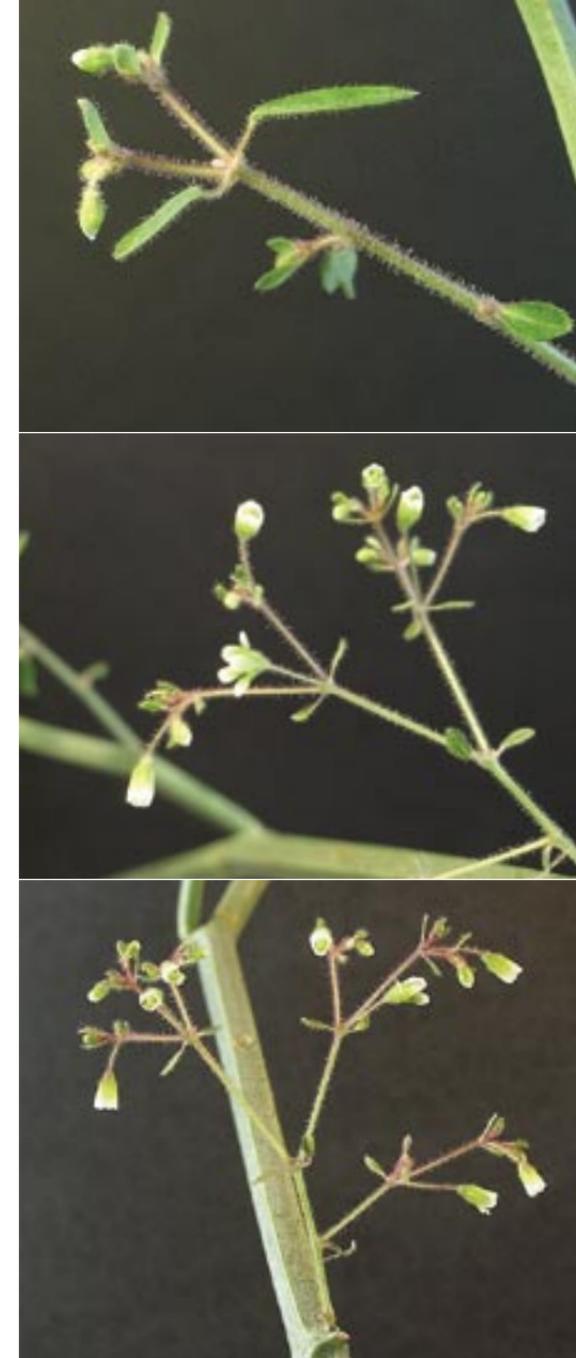


Fig. 7: Stem angle pattern of *Euphorbia ephedromorpha*, *E. heterodoxa* and *E. lupulina*: plane projection of the surface of a cylindrical section of a branch, nodes are marked red (N = number of angle, L = level of leaf).



## References

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