Embelia schimperi Vatke
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Local and common names: እንቆቆ Enqoqqo (Amh and Tig); Haanqaa, Haanquu, Haanqoo, Haanquu, Qaanko (Oro); Schimper's embelia**,** Schimper's false black pepper (Eng)

Voucher number and identification: GA073/AHRI/2025

Synonyms: *E. schimperi* is known by 16 synonyms, among which *E. bambuseti*, *E. dasyantha*, *E. tessmannii* and *E. tibatiensis* are the later published names.

Varieties recorded in Ethiopia: There are no recognized infraspecific taxa or registered varieties of *E. schimperi* in Ethiopia.

Family: Myrsinaceae

Botanical and habitat distribution

E. schimperi is a woody climbing shrub that can grow 2-13 m tall. Its branches have noticeable small bumps called lenticels. The leaves are arranged alternatively (alternate), shaped like narrow ovals that is taper towards the tip (oblanceolate), with edges that slightly curl under (slightly revolute), a round base, and a pointed tip (acuminate). The flowers grow on short stalks (pedicellate) and are covered with rusty colored hairs. The small fruits, 5–8 mm in diameter, change colour as they ripen from orange-yellow to reddish-green or black-red color, and usually contain a single brown seed with irregular orange markings. In Ethiopia, this plant grow at elevations of 1700-2800 masl, commonly along streams on mountain slopes, in dense moist forests, at the edges of thickets, and near rivers in grassy fields and farmed areas.

Conservation status

According to IUCN Red List, *E. schimperi* is currently classified globally as a species of Least Concern.

Propagation method

E. schimperi can be propagated from seeds, which are sown in well-drained soil and kept moist until germination. Wildlings or whole young plants collected from the natural habitats may also be transplanted directly to sites similar to those described under the habitat distribution above. Vegetative propagation using stem cuttings is possible, although success may be variable.

Cultivation in botanic garden

The plant was established at AHRI-ALERT Botanic Garden from a wild-grown whole plant collected from Yem in September 2025 (Accession number 0045).

Ethnomedicinal uses

E. schimperi is widely used in traditional medicine in Ethiopia. The fruits and bark, and less commonly the roots are used to treat intestinal parasites, particularly tapeworm. Preparations from the fruits and bark are also taken to relieve stomachaches and other digestive complaints including bloating. Moreover, these plant parts are traditionally used to manage fevers, skin related ailments conditions, and menstrual disorders (dysmenorrhea). The fruit or bark is also frequently combined with other medicinal plants such the stem bark of *Albizia anthelmintica,* seeds of *Guizotia abyssinica,* aerial parts of *Glinus lotoides,* and flowers of *Hagenia abyssinica*, mixed with water and either taken as a taenicide or applied as a disinfectant.

Major phytoconstituents

A benzoquinone derivative, Embelin (2,5-dihydroxy-3-undecyl-*p*-benzoquinone), is one of the major phytoconstitutent obtained from the fruit part of *E. schimperi.*

Pharmacological and safety evidences

Preclinical evidences

Antimicrobial effect: Methanol extracts of *E. schimperi* leaves and fruits have shown strong antibacterial effects against *Proteus mirabilis*. Chloroform extract of the fruit has exhibited antibacterial activity against various pathogenic bacterial strains. The methanolic stem extract of *E. schimperi* possesses antifungal efficacy, specifically targeting the opportunistic pathogen *Cryptococcus neoformans*

Anthelmintic effect*:* The hydroalcoholic extract of *E. schimperi* and the diammonium salt of the isolated compound embelin exhibit anthelmintic activity against hookworm larva *in vitro* and *Hymenolepis nana, in vivo*.

Other pharmacological effects*:* Antiepileptic, antioxidant and cytotoxicity.

Clinical evidences

There are no clinical trials reports.

Safety

The oral acute toxicity of 80% ethanol extract of the dried fruits of *E. shimperi* revealed that no sign of toxicity was observed up to the dose of 5000 mg/kg on Swiss albino mice. In a reproductive toxicity study, administration of the 80% hydroalcoholic extract of *E. schimperi* fruit cause inflammatory reactions and calcifications in the placenta. In addition, embelin was found to have toxic effects on the reproductive system of animal models.

Research gaps and recommendations

Clinical studies should be conducted to determine the appropriate dose for human use.

References

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