

Vernonia amygdalina

Vernonia amygdalina, a member of the *Asteraceae* family, is a small shrub that grows in the tropical Africa. *V. amygdalina* typically grows to a height of 2–5 m. The leaves are elliptical and up to 20 cm long. Its bark is rough.^[1] *V. amygdalina* is commonly called bitter leaf in English because of its bitter taste. African common names include grawa (Amharic), ewuro (Yoruba), etidot (Ibibio), onugbu (Igbo), ityuna (Tiv), oriwo (Edo), chusar-doki (Hausa), mululuza (Luganda), labwori (Acholi), and olusia (Luo) Ndolé (cameroon).^{[2][3]}

1 Zoopharmacology

In the wild, chimpanzees have been observed to ingest the leaves when suffering from parasitic infections.^[4]

2 Malaria

In a preliminary clinical trial, a decoction of 25 g fresh leaves of *V. amygdalina* was 67% effective in creating an adequate clinical response in African patients with mild falciparum malaria.^[5] Of these 32% had complete parasite clearance. Unfortunately 71% of subjects had recrudescence (that is, recurrence of symptoms). The treatment was without significant adverse effects.

3 Research on extracts and chemical constituents

Vernonia amygdalina extracts and isolated chemical constituents have been studied for their potential pharmacological effects, including:

- Induction of apoptosis as determined in cell culture and animal studies.^{[6][7]}
- Enhanced chemotherapy sensitivity - *V. amygdalina* extracts may render cancerous cells to be more sensitive to chemotherapy.^[6]
- Inhibition of the growth or growth signals of cancerous cells.^{[8][9][10][11]}
- Suppression of metastasis of cancerous cells in the body by the inhibition of NFκB is an anti-apoptotic transcription factors as demonstrated in animal studies.^[7]

- Reduction of estrogen level in the body by the suppression of aromatase activity.^[12] The involvement of blood estrogen level in the etiology of estrogen receptor (ER) positive breast cancer has been widely reported.^[13] Additional source of estrogen production in humans besides the ovary and adrenal gland is the conversion of testosterone to estrogen in a reaction catalyzed by aromatase. Many studies have shown positive correlations between blood estrogen levels and breast cancer risks.^[13] Therefore, compounds that inhibit aromatase activity are used for the treatment of breast cancer.
- Antioxidants - *V. amygdalina* may provide antioxidant benefits.^[14]
- Enhancement of the immune system - Many studies have shown that *V. amygdalina* extracts may strengthen the immune system through many cytokines (including NFκB, pro inflammatory molecule) regulation.^[6]
- Studies conducted using streptozotocin-induced diabetic laboratory animals showed that *V. amygdalina* administration decreased blood glucose by 50% compared to untreated diabetic animals.^[15]
- Extracts of *V. amygdalina* possess *in vitro* anthelmintic anti-parasitic properties.^[16]

4 References

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5 External links

- *Vernonia amygdalina* in West African plants – A Photo Guide.

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