prionitis L. contain α-amyrin, β-sitosterol and stigmasterol-3-*O*-D-glucoside (El-Emary *et al*., 1990). *Barleria prionitis* contains balarenone, piptaline, lupeol and 13,14-secostigmasta-5,14-diene-3α-ol (Kosmulalage *et al*., 2007). Lehra *et al*. (2010) isolated *n*-octacosanol, taraxasterol, oleanolic acid acetate, β-sitosterol and stigmasterol from the whole plant of *Barleria prionitis*. γ-Sitosterol was identified from *Barleria strigosa* (Ganguly *et al*., 1969). Saponins, tannins, flavonoids, phyosterols and carotenoids were extracted from *Barleria luplina* Lindl. (Nguyen and Nguyen, 1998).

Folk Medicine, Pharmacological and Biological Activities

Barleria cristata Linn. is useful in inflammations, fevers, bronchitis, blood diseases, biliousness, tympanitis, pains, and asthma. The roots and leaves are used to reduce swelling, and an infusion is given in cough. *Barleria cristata* var. *dichotoma* is used as a stimulant and demulcent. The methanol extract of *Barleria cristata* leaves exhibits significant anti-inflammatory activity (Manoj *et al.*, 2009). A decoction of the root of *Barleria courtallica* Nees is given in rheumatism and pneumonia. A decoction of the root of *Barleria longiflora* L. is given in stricture, dropsy and gravel. A decoction of *Barleria noctiflora* is used as an adjunct to, and substitute for human milk. *Barleria prionitis* L. (whole plant and especially the root) is used as a diuretic and tonic medicine in Ceylon, and is also credited with diuretic, febrifugal and anticatarrhal properties. *Barleria strigosa* Willd. is useful in ulcers, skin diseases, leucoderma, pains, itching, inflammations, bronchitis and diseases of the teeth. It is also used by the Santals as a remedy of cough (Kirtikar and Basu, 1984).

In Thai traditional medicine, *Barleria luplina* is externally used as an anti-inflammatory for insect bites, herpes simplex and herpes zoster (Kanchanapoom *et al*., 2001b). It is one of the plants used by hunters for themselves and their hunting dogs in Trinidad for snake bites, scorpion stings, for injuries and damage of dogs and to facilitate hunting (Lans *et al*., 2001). The antiulcer activity of the methanol extract of *Barleria luplina* has been reported. It afforded significant protection against alcohol and indomethacin induced ulcer as well as stress induced ulceration (Suba *et al*., 2004c). The anti-inflammatory, analgesic, antiperoxidative efficacy (Suba *et al*., 2005) and anti-amoebic activity (Sawangjaroen *et al*., 2006) of *Barleria luplina* has been also reported. The plant afforded significant hepatoprotection against carbon tetrachloride, galactosamine and paracetamol induced hepatoxicity (Singh *et al*., 2005). The methanol extract of the aerial parts of *Barleria luplina*, orally tested, exerted significant anti-hyperglycemic effect in streptozotocin hyperglycemic rats (Suba *et al*., 2004a,b). *Barleria luplina* exhibited virucidal activity against herpes simplex virus. The results obtained by Yoosook *et al*. (1999) suggest a therapeutic potential of *Barleria luplina* against HSV-2. It also showed strong antibacterial activity against acne-inducing bacteria (Chomnawang *et al*., 2005). Ipolamiidoside, isolated from *Barleria luplina* exhibited antiviral properties (Suksamrarn *et al.*, 2003). The methanolic extract of the plant showed significant motor incoordination and muscle relaxant activity. It also potentiated phenobarbitone sodium induced sleeping time and has significant psychopharmacological activity (Suba *et al*., 2002). The cytotoxicity of two anthraquinones (barleriaquinone I and barleriaquinone II) isolated from *Barleria buxifolia* was reported (Imbaraj *et al*., 1999). A decoction of the stem and root of *Barleria mucronata* is emetic. The Zulu administer a root decoction of *Barleria ovata* E. Mey. ex Nees by the mouth or as an enema for the relief of a condition characterized by painful nodules under the skin (Watt and Breyer-Brandwijk, 1962).

Barleria prionitis L. exhibits several medicinal properties. In India, the leaves are chewed to relieve toothache (Chopra *et al*., 1956). In the Netherlands Indies, the plant is used as a febrifuge and as a diuretic (Watt and Breyer-Brandwijk, 1962). Juice of the leaves is used in

ulcer and fever. Paste of the roots is applied to disperse boils and glandular swellings. Leaves are also used for the treatment of piles and to control irritation. The plant is also used in stiffness of limbs, enlargement of scrotum and sciatica (Verma *et al*., 2005). Gupta *et al*. (2000) found that the root methanolic extract of *Barleria prionitis* is interferring the spermatogensis. Later, Verma *et al*. (2005) reported that the administration of 100 mg/kg/day for 60 days of the isolated fractions of the root methanolic extract to male albino rats affects their reproductive efficiency by alteration in the spermatogenesis. The investigations of Singh *et al*. (2003) indicated that *Barleria prionitis* possesses marked dose related anti-inflammatory and anti-arthritic activities. The anti-inflammatory (Lehra *et al*., 2010), antibacterial (Chavan *et al*., 2010) and antioxidant (Jaiswal *et al*., 2010) activities of *Barleria prionitis* have been reported. The study of Reema and Pradeep (2010) revealed that the alcoholic leaf extract of *Barleria prionitis* could be added in the list of herbal preparations beneficial in *diabetes mellitus*. The four triterpenoid compounds isolated from the plant showed moderate inhibitory activity against glutathione *S*-tranferase and acetylcholinesterase (Kosmulalage *et al*., 2007).

The genus *Barleria* is represented in Egypt by the following two species.

1.1.1. ***Barleria acanthoides*** Vahl, Symb. Bot. 1: 47 (1790); Boulos, Fl. Egypt 3: 100 (2002).

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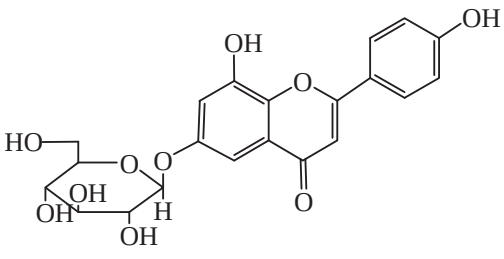
The seeds contain 11.% oil and 22.5% protein. The following fatty acids were identified: palmitic, 18.60; stearic, 1.40; oleic, 25.00; linoleic, 23.70; linolenic, 30.60; and behenic, 0.60% acids (Deora *et al*., 2003). Barlericin (a neolignan), 4 phenolic glycosides identified as barleriside A (**87**), [8,4'-dihydroxy-6-*O*-(β-D-glucopyranosyl) flavone], barleriside B (**88**), [1-*O*-caffeoyl-6-(3',4'-dihydroxyphenyl)ethyl-*O*-α-L-rhamonopyranosyl-(1→3)β-D-gluco-pyranoside], aceteoside (**89**) and 12-*O*-β-D-glucopyranoside and *p*-hydroxycinnamic acid were isolated from the plants (Karim *et al.*, 2009, 2010).

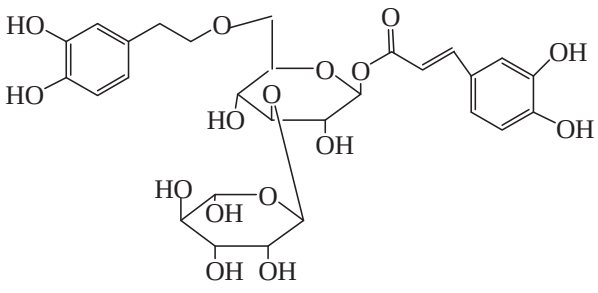
Barleria acanthoides is well known in Pakistan for its anti-inflammatory properties. The seeds are used as antidote for snake bite, and the roots and leaves are used to reduce swellings and an infusion is given in cough. It is reported for its use in diarrhea and also as a diaphoretic and an expectorant (Karim *et al*., 2009). The leaves are used as alterative and in fever and catarrh (Ahmad *et al*., 2007)

Barleria acanthoids extracts exhibit antibacterial (against *Salmonella typhi*) (Vishwakarma, 2000) and nematodicial (Abbasi *et al*., 2008) effects.

Both barlerisides A and B showed significant activity in the superoxide scavenging assay while weak inhibitory activity was observed against the enzyme xanthine oxidase (Karim *et al*., 2009).



87 Barleriside A



88 Barleriside B