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CHEMICAL CONSTITUENTS OF *LEUCAS* SPECIES

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Abstract

A survey on the characteriization and the pharmacological properties of chemical constituents isolated from various *Leucas* species has been conducted. It reveals that hitherto a very small number of organic compounds are reported from this genus.

Introduction

Genus *Leucas* belongs to the *Labiatae* family. Various *Leucas* species have been reported to contain hydrocarbons (Mahato and Pal, 1986 and Hasan *et al.*, 1991A), an acetoxy hydrocarbon (Misra *et al.*, 1993), a sesquiterpene hydrocarbon (Mve-Mba, C.E. 1994), fatty acids (Shi-Chow *et al.* 1997, Sinha *et al.* 1978, Nasirullah and Osman, 1983 and Badami et al., 1975), diterpene fatty acid ester (Hasan *et al.*, 1991 A), long chain ketones and alcohols (Misra *et al.*, 1993, Misra *et al.*, 1993 and Hasan *et al.*, 1991 B), terpenoids (Mve-Mba C.E. 1994, Chaudhry and Ghosh, 1969; Hasan *et al.* 1991 A, Hasan *et al.,* 1991B), triterpenoid 1actone (Pradhan *et al.,* 1990), sterols (Chaudhry and Ghosh, 1969; Khaleque *et al.,* 1970, Hasan *et al.,* 1991B; Dinda and Jana, 1987 and Kamat and Singh 1995), carbohydrates (Chatterjee and Majundar, 1969), flavones (purba 1986), glycosids (Mahato and Pal, 1986, Hasan *et al.,* 1991 A, Bahadur and Sen, 1969), a saponin (Mahato and Pal; 1986, Sastri, 1962 and Hasan *et al.,* 1991B) and alkaloids (Chatterjee and Majunder, 1969 and Kamat and Singh, 1995). Literature reveals that several species of *leucas* possess intersting pharmaceutical properties. *Leucas aspera*, for example has shown insecticidal (chaudhry and Ghosh, 1969), antibacterial (Khaleque *et al.,* 1970), antifungal (Misra *et al.,* 1992) and antipyretic (Shirazi, 1947) properties. It is externally applied in psoriasis (Shirazi, 1947) as well. The leaves of the plant are said to be useful in the treatment (Misra *et al.,* 1992) of chronic rheumatism and skin eruptions. The smoke leaves of *L. aspera* is reported (Pandian *et al.,* 1994) to be more toxic to the filarial vector mosquito, culex *Quinque fasciatus*. *Leucas linifolia* is reported for its use (Mahato and Pal, 1986 and Sastri, 1962) as sedative, vermifuge, stomachic and dermatosis. The activity profile of linifolioside (1) (Mahato and Pal, 1986), first reported rhamnoglucoside of a

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Isopimaranerhamno- glucoside	*L. nutans*	Mahato and Pal 1986, and Sastri, 1962
β-Sitosteryl β-D-glucoside	*L. nutans*	Hasan *et al.*, 1991 A
(-0-[β-D-Glucopyranosyl]	*L. nutans*	Hasan *et al.*, 1991 B
(1→2) β-D-Glucopyranosyl] 2α, 3β-dihydroxylup-20 (29)-ene, a saponin		
Sugars		
D-Fructose	*L. aspera*	Chatterjee and Majunder, 1969
Galactose	*L. aspera*	Chatterjee and Majunder, 1969
Flavones		
Acacetin	*L. lavaendulifolia Purba* 1985 (syn. *L. linifolia*)	
Alkaloids	*L. aspera*	Chatterjee and Majundar 1985, Kamat and Singh 1995.

The prospects of interesting results from the *Leucas* species also arise from the findings that, different plants of the parent family *Labiatae* have been utilized in traditional medicine. The studies of variety of species of genera *Salvia* and *Teucrium* in this respect reveal their pharmacological importance. To cite some examples, *Salvia officinale* is indicated in the treatment of night sweats, in tuberculosis (Schelenz, 1928). It has antripyretic (Delphant, 1941) and estrogenic (Kroszczynski and Bychowska, 1939) action. *Salvia silverstris* has been reported for its use as medicinal fumigant for the relief of bronchial asthma (Murav ev 1945).

A large number of diterpenoids (Piozzi, 1981) with clerodane (3) or 19-norclerodane (4) skeleton have been isolated during last few years from plants of the genus *Teucrium.* They have been reported (Rogers, *et al.* 1979) to possess the insect antifeedant, and antitumor, antimicrobial and antifungal activity.

Conclusion

Though the compounds of diverse classes are found to be present in various species of *Leucas,* further study should to centered towards the terpenoids and saponins due to their significant medicinal value. The prospects of isolating these types of compounds from this genus are indicated in the hitherto reported chemical work.

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