

Constituents of *Alpinia Breviligulata* Gagnep. from Vietnam

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CONSTITUENTS OF *ALPINIA BREVILIGULATA* GAGNEP. FROM VIETNAM

Nguyễn XUÂN DŨNG*, Trịnh ĐÌNH CHÍNH, Đỗ ĐÌNH RĂNG and Piet A. LECLERCQ*

Centre for Education and Development of Chromatography of Vietnam (EDC Vietnam),
3 Giải Phóng Street, Hai Bà District, 10 000 Hanoi, Vietnam. Fax : 84 4 291256

The Essential oils of the Root, Rhizome, Stem, Leaf, Flower, Fruit-peel and Seed of *Alpinia breviligulata* Gagnep. from Vietnam were analyzed by a combination of capillary GC, GC/MS, IR and NMR and found to contain :

* More than thirty components in the Root oil, in which 1,8- cineole (6.0%), borneol (5.5%), fenchyl acetate (8.8%), β -caryophyllene (7.5%), α -humulene (10.8%) and caryophyllene oxide (13.0%) are main compounds [1].

* More than thirty compounds in the Rhizome oil. The major components were β -pinene (10.0%), 1,8-cineole (5.9%), bornyl acetate (7.0%), β -caryophyllene (8.0%), α -humulene (7.9%) and caryophyllene oxide (10.5%) [1].

* More than forty components in the Stem and Leaf oils of which the major ones were found to be α -pinene (14.3%), caryophyllene oxide (27.5%), and γ -eudesmol (6.2%) in the Stem oil and α -pinene (17.7%) and caryophyllene oxide (23.1%) in the Leaf oil [2].

* More than thirty five components in the Flower oil of which α -pinene (12.7%), β -pinene (20.2%) and β -caryophyllene (14.0%) were found to be the main compounds. The components which provide the characteristic aroma are verbenone, bornyl acetate, hedy-carrol, (E)-nerolidol, guaiol and β -eudesmol [3].

* More than thirty components in the Fruit-peel oil. The major constituents were found to be β -pinene (21.2%), α -terpineol (7.0%), β -caryophyllene (5.7%), α -humulene (5.5%), and caryophyllene oxide (8.4%) [4].

* More than twenty compounds in the Seed oil of which the major ones were found to be geranyl acetate (8.8%), α -humulene (6.1%) and (E,E)-farnesol (65.0%).

These compounds and another components such as (Z)-nerolidol, (Z, E)-farnesol, (E,E)-farnesol, (E,E)-farnenyl acetate, citronellyl acetate, geraniol, octyl acetate, α -terpineol, linalool, hexyl acetate and other acetates are thought to be responsible for the pleasant floral odor of this oil [4]. This result shows that the Seed oil of *Alpinia breviligulata* Gagnep. is a valuable source for (E,E)-farnesol. The application of the *Alpinia breviligulata* Gagnep. in traditional medicine is also presented.

Nguyễn Xuân Dũng, Trịnh Đình Chính, Đỗ Đình Răng and Piet A. Leclercq (1993)

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