

Master data ingredient / monograph

Ingredient/plant: Edelweiss (*Leontopodium alpinum*)

Scientific name: *Leontopodium alpinum* Cass.
Order: Asterales (Asterartige)
Family: Asteraceae (Korbblütler)
Subfamily: Asteroideae
Genus: *Leontopodium*
Species: *Leontopodium alpinum*

First describer of the plant: Alexandre Henri Gabriel de Cassini (1781-1832)

Description:

Edelweiss (*Leontopodium alpinum*) is a very famous plant of the alpine region. Further names are: Irlweiss, Almsterndl, Federweiss, seldom also Silberstern and Wülblume (in Switzerland).

The name of the plant derives from the typical white hairiness (*greek*: leon = lion, podion = small foot).

The plant reaches a height of above three to twenty centimeters. The inflorescence is a specious prosperity. White, hairy spatheous bracts are responsible for the optical attraction; the many hundred inflorescences form a star. The white gleam of the spatheous bracts is caused by many thousand small bubbles reflect the light (signal for insects searching for honey, furthermore protection of evaporation). Plants growing in the lowlands will become higher and show, due to their poor hairiness a greenish color.

Edelweiss blooms between July and September, is harmless and is covered by nature conservancy. The specious prosperity can be preserved until winter.

Edelweiss can be found on stony grasslands, lime stone rocks, seldom on mountain pastures. Edelweiss shows an irregular distribution and prefers stony lime stone rocks in an altitude between 1800 and 3000 meters.

The species comes after the ice-age from innerasiatic fields to the alps. Edelweiss is not a typical plant of the rocks and not domestic in Europe.

Properties:

In the scientific literature one can find evidence for pharmacological and cosmetic properties.

Pharmacological properties:**a) anti-inflammatory properties**

Dobner Michael J; Sosa Silvio; Schwaiger Stefan; Altinier Gianmario; Della Loggia Roberto; Kaneider Nicole C; Stuppner Hermann:

*“Anti-inflammatory activity of *Leontopodium alpinum* and its constituents”,
Planta medica, (2004 Jun) Vol. 70, No. 6, pp. 502-8.*

By inhibition of chemotaxis inflammatory cells can not immigrate into dermis.

b) anti-bacterial properties

Dobner Michael J; Schwaiger Stefan; Jenewein Ilse H; Stuppner Hermann:

*“Antibacterial activity of *Leontopodium alpinum* (Edelweiss)”,
Journal of ethnopharmacology, (2003 Dec) Vol. 89, No. 2-3, pp. 301-3.*

Raskin I., Pouley A.:

Bactericides and fungicides elicited from plants

U.S. Pat. Appl. Publ., 65 pp., Cont.-in-part of U.S. Ser. No. 130,185,

c) Anti-inflammatory and analgetic and anti-swelling properties in vivo (animal experiments)

Speroni Ester; Schwaiger Stefan; Egger Philipp; Berger Anna-Theres; Cervellati Rinaldo; Govoni Paolo; Guerra Maria Clelia; Stuppner Hermann:

*“In vivo efficacy of different extracts of Edelweiss (*Leontopodium alpinum* Cass.) in animal models”,
Journal of ethnopharmacology, (2006 May 24) Vol. 105, No. 3, pp. 421-6.*

Stuppner, H. [Reprint author]; Dobner, M. J. [Reprint author]; Sosa, S.; Della Loggia, R.; Dunzendorfer, S.; Wiedermann, C. J.

*“Anti-inflammatory activity of *Leontopodium alpinum*,”*

Phytomedicine (Jena), (2000) Vol. 7, No. Supplement 2, pp. 97. print.

Meeting Info.: 3rd International Congress on Phytomedicine. Munich, Germany. October 11-13, 2000. European Scientific Cooperative on Phytotherapy; Gesellschaft fuer Phytotherapie e.V.; Gesellschaft für Arzneipflanzenforschung. ISSN: 0944-7113.

Li L Y; Ye J M; Yin H; Zhu Y M; Tian J M; Gao F

*“Effect of *Leontopodium leontopodioides* (Willd.) Beauv. on inflammation induced by animal reversed passive arthus (RPA)”,*

Zhongguo Zhong yao za zhi = Zhongguo zhongyao zazhi = China journal of Chinese materia medica, (1994 Mar) Vol. 19, No. 3, pp. 174-6, 192.

Cosmetic properties:**a) sun protection**

(because we deduced from its remarkable adaptation to high altitude that it must contain molecules protecting the plant against UV rays. This was proved by analysis: a high amount of flavonoids and phenolic acids was found. Plant extracts as cosmetic actives are rarely used over 1 %. An ethical approach to natural cosmetics requires natural formulas, and natural formulation ingredients exist, often stemming from ... the primary metabolism of plants: vegetable oils, emulsifying proteins, thickening polysaccharides.)

Source:

NATURAL COSMETICS - THE SCIENCE BEHIND THE IMAGE

DASTE (ALBAN MULLER INTERNATIONAL, 8 RUE CHARLES PATHE, F-94300 VINCENNES, FRANCE)

6 TH INTERNATIONAL SCIENTIFIC-PRACTICAL CONFERENCE, "COSMETIC PRODUCTS AND RAW MATERIALS: EFFICACY AND SAFETY", ORGANIZED BY PCAR - PERFUMERY AND COSMETICS ASSOCIATION OF RUSSIA, MOSCOW, RUSSIA, 20-21 NOVEMBER 2001, PROCEEDINGS, PART III: BIOLOGICALLY ACTIVE SUBSTANCES IN COSMETIC PRODUCTS, PAPER III-12, PAGES 136-137, ABSTRACT ONLY

Further references concerning cosmetic properties:

TI COSMETIC ACTIVES FROM ALPINE PLANTS KOSMETIKWIRKSTOFFE AUS ALPENPFLANZEN
AU OBERMAYER B (PENTAPHARM LTD., ENGELGASSE 109, P.O.BOX, CH-4002 BASEL, SWITZERLAND, TEL: +41-61-706 48 48, FAX: +41-61-319 96 19, EMAIL: sales-cosmetics@pentapharm.com , barbara.obermayer@pentapharm.com , INTERNET: www.pentapharm.com)

SO 52. SEPAWA KONGRESS 2005 INCLUDING THE EUROPEAN DETERGENTS CONFERENCE, WUeRZBURG, GERMANY, CONGRESS CENTRUM WUeRZBURG, 12-14 OCTOBER 2005, CONFERENCE PROCEEDINGS, ISBN 3-9810074-1-7, SESSION: ACTIVE INGREDIENTS IN COSMETICS, PAPER 37, 361-367

Meeting Organizer: SEPAWA - VEREINIGUNG DER SEIFEN-, PARFUEM- UND WASCHMITTELFACHLEUTE E.V., LUDWIGSHAFEN/RH., GESCHAEFTSSTELLE, POSTFACH 102565, 86015 AUGSBURG, GERMANY, TEL: +49-821-325-830, FAX: +49-821-325-8323

Availability: SEPAWA E.V., GESCHAEFTSSTELLE, C/O VERLAG FUEr CHEMISCHE INDUSTRIE H. ZIOLKOWSKY GMBH, POSTFACH 102565, 86015 AUGSBURG, GERMANY, TEL: +49-821-325-830, FAX: +49-821-325-8323, EMAIL: vci@sofw.com ,

 INTERNET: www.sofw.com

TI EXAMINING EDELWEISS (*LEONTOPODIUM* ALPINUM)

AU DWECK A (DWECK DATA, ANTHONY C. DWECK, 8 MERRIFIELD ROAD, FORD, SALISBURY, WILTSHIRE SP4 6DF, UNITED KINGDOM, TEL: +44-870-066-0634, FAX: +44-870-066-0635, MOBILE: +44-7850-438681, EMAIL: tony@dweckdata.com , INTERNET: www.dweckdata.com)

SO PERSONAL CARE, 2004, 5, 4 (NOVEMBER), 18-19

 Remark: Prof Dr Hermann Stuppner, from the Institute of Pharmacy at Innsbruck University

TI SWISS ALPS-EDELWEISS-LEONTOPODIC ACID

AU GAFNER F (ALPAFLOR / PENTAPHARM, ENGELGASSE 109, P.O.BOX, CH-4002 BASEL, SWITZERLAND, TEL: +41-61-706 48 48, FAX: +41-61-319 96 19, INTERNET: www.alpaflor.com)

SO PCIA, PERSONAL CARE INGREDIENTS ASIA, 9-11 MARCH 2005, QUEEN SIRIKIT NATIONAL CONVENTION CENTER (QSNCC), BANGKOK, THAILAND, CONFERENCE PROCEEDINGS ON CD ROM, DAY 2, 10 MARCH 2005, SESSION 3: NATURAL INGREDIENTS AS FUNCTIONAL MATERIALS, PAPER 15, 1-5

Meeting Organizer: STEP EXHIBITIONS LTD., STEP HOUSE, NORTH FARM ROAD, TUNBRIDGE WELLS, KENT TN2 3DR, UNITED KINGDOM, TEL: +44-1892-51 88 77, FAX: +44-1892-51 88 11, EMAIL: pcia@stepex.com , INTERNET: www.stepex.com



Remark: Ricola sponsored the agronomic development of Edelweiss (*Leontopodium alpinum* L.) by Agroscope, an agronomic research institute in Switzerland

- TI COSMETIC COMPOSITION FOR STRESSED SKIN UNDER EXTREME CONDITIONS
AU ANONYMOUSLY (MOHAMMADI, FATEMEH, HEBRON)
SO SPC - SOAP, PERFUMERY & COSMETICS, 2004, 77, 4, 119, ABSTRACT ONLY
Availability: SPC - SOAP, PERFUMERY & COSMETICS, ISSN 0037-749X, QUEST
MAGAZINES & EVENTS, 4-6 UNDERWOOD ST, LONDON N1 7JQ, UNITED KINGDOM, TEL:
+44-20-7549 8620, FAX: +44-20-7549 8622, EMAIL: spc@wilmington.co.uk,
INTERNET: www.cosmeticbusiness.com
AB Environmental extremes generally induce considerable body discomfort. Hot
and humid conditions cause reactions in the skin such as increased
expiration through water evaporation. Ultraviolet radiation including the
heating phenomena may result in sun damage. Rashes and general erythema
may arise from frictional contact with clothing in hot/humid conditions.
Dry climates lead to body dehydration and the skin must be remoisturized.
Cold climates also disrupt the skin barrier leading to cracking and
roughness. Claimed is a cosmetic composition for calming skin stressed
under a variety of extreme climate conditions consisting essentially of a
mixture of aloe vera gel, sea parsley extract, red clover extract, kava
kava extract, bittersweet extract, guava extract, sea pine extract,
prickly pear extract, **edelweiss** extract and watercress extracts as active botanical ingredients.....

b) Anti-Aging

- TI Antiaging cosmetic compositions containing elastase inhibitors
IN Tanaka, Hiroshi
PA Narisu Cosmetic Co., Ltd., Japan
SO Jpn. Kokai Tokyo Koho, 8 pp.
(A cosmetic compn. is provided effective against stresses of climate extremes. The compn. includes hot, cold and dry climate treatment portions. The hot climate treatment portion has a first botanical ingredient to impart a cool sensation, and a sunscreen agent. The cold climate treatment portion has a second botanical ingredient to combat skin inflammation, and a silicone fluid or hydrocarbon for retaining moisturize. The dry climate treatment portion has a third botanical ingredient to impart moisturization and an ester)

Use:

In former days Edelweiss was used as medicinal herb and was cocked with milk and honey and used in case of stomachache. This is also the reason for the Bavarian wording "*Bauchwehbleam*". Edelweiss was also used as love potion. Occasionally huge florescences with a diameter of 6-12 cm are named as „Edelweiss kings“ in mythology.

In nower days Edelweiss or corresponding preparations are used in cosmetic products.

Limits of administration:

Currently not known.

Assessment/safety factors and toxicity:

None.

Further remarks and characteristics:

As symbol Edelweiss is widely used:

- logo of alpine associations
- symbol of the german mountain infantry, of the austrian infantry and in switzerland as badge of rank of generals.
- Historical: as distinctive mark of der oppositional group of Edelweiss-Pirates in the NS-age.

Current situation concerning patents:

Sun protection

1. Stada Arzneimittel A.-G., Germany

TI Use of antioxidants for the preparation of pharmaceutical or cosmetic compositions for protecting the skin from damages by infrared-radiation
SO Eur. Pat. Appl., 12 pp.

2. Narisu Cosmetic Co., Ltd., Japan; Oji Paper Co., Ltd.

TI Skin-lightening cosmetics containing acidic xylooligosaccharides, natural products, and polyhydric alcohols
IN Tanaka, Hiroshi; Azumi, Naoya
SO Jpn. Kokai Tokkyo Koho, 16 pp.

Competitors on the european market:

Cosmetic products containing Edelweiss are available from:

fermes de Marie		http://www.fermesdemarie.com/
PentaPharm / Basle		http://www.pentapharm.com/sw185.asp
Weleda Sun milk		http://www.weleda.com/

References:

Review articles:

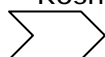
COSSMA, (2004) Vol. 5, No. 8, pp. 34-35:

"A new power-ingredient from Edelweiss"

Dweck A.C.:

*"Edelweiss (*Leontopodium alpinum*)"*,

Kosmetika & Meditsina (2005), (2), 34-36



Review about all properties in Russian (english abstract available)

Dweck, A. C.

SOFW Journal (2004), 130(9), 65-66,68

Ziolkowsky, B.:

"Natural actives for cosmetics",

SOFW Journal (2002), 128(1-2), 19-23

Carello A.:

*"Pharmacological action of *Leontopodium alpinum*"*,

Chimie et Industrie (Paris) (1936), 37, 523-524