**Centaury**

**Species (Family)**

*Centaurea erythraea* Rafin. (Gentianaceae)

**Synonym(s)**

*Centaurea minus* Moench, *C. umbellatum* Gilib., *Erythraea centaurium* Pers., Minor Centaury

**Part(s) Used**

Herb

**Pharmacopoeial and Other Monographs**

BHP 1996
BP 2001
Complete German Commission E
ESCP 1999
Martindale 32nd edition
PDR for Herbal Medicines 2nd edition
Ph Eur 2002

**Legal Category (Licensed Products)**

GSL

**Constituents**

**Acids** Phenolic. Protocatechuic, *m*- and *p*-hydroxybenzoic, vanillic, syringic, *p*-coumaric, ferulic, sinapic and caffeic, hydroxyterephthalic and 2,5-dihydroxyterephthalic acids among others.

**Alkaloids** Pyridine-type. Traces of gentianine, gentianidine, gentioflavine and others.

**Monoterpenoids** Iridoids (bitters). Gentiopicoside (about 2%) as major, others include centapicrin, gentioflavoside, sweroside and swertiamarin; intensely bitter *m*-hydroxybenzoylesters of sweroside and catapicrin.

**Triterpenoids** Includes *α*- and *β*-amyrin, erythrodiol, crataegolic acid, oleanolic acid and sitosterol.

**Xanthones** Highly methylated xanthones, including eustomin and 8-demethylleustomin.

**Other constituents** Flavonoids, fatty acids, in, alkanes and waxes.

**Food Use**

Centaury is listed by the Council of Europe as a natural source of food flavouring (category N2). This category indicates that centaury can be added to foods in small quantities, with a possible limitation of an active principle (as yet unspecified) in the final product. In the USA, the bitter properties of centaury are utilised in alcoholic and non-alcoholic beverages with maximum permitted doses between 0.0002% and 0.0008%.

**Herbal Use**

Centaury is reputed to act as a bitter, aromatic and stomachic. Traditionally, it has been used for anorexia and dyspepsia.

**Dosage**

**Herb** 2–4 g or by infusion three times daily.

**Liquid extract** 2–4 mL (1:1 in 25% alcohol) three times daily.

**Pharmacological Actions**

Centaury is stated to have bitter tonic, sedative and antipyretic properties. The antipyretic activity is stated to be due to the phenolic acids. Gentiopicroside is stated to have antimalarial properties.

**In vitro and animal studies**

Anti-inflammatory activity has been documented in two rat models; subchronic inflammation (air pouch granuloma and polyarthritis) test, and the carrageenan rat paw oedema test (19% compared to 45% with indomethacin). Antipyretic activity has also been exhibited by a centaury extract against experimentally induced hyperthermia in rats, although pretreatment with the extract did not prevent hyperthermia. In the same study, no analgesic activity could be demonstrated in mice (writhing syndrome and hotplate models). Gentiopicoside (30 mg/kg/day intraperitoneally) inhibited tumour necrosis factor (TNF) production in carbon tetrachloride-induced and bacillus Calmette-Guérin/lipo-
polysaccharide-induced models of hepatic injury in mice.\(^{(G52)}\)

In rats, anticholinesterase activity has been demonstrated for swertiamarin in a dose-dependent manner following oral administration, demonstrated by inhibition of carbachol-induced contraction of proximal colon.\(^{(G52)}\) In mice, gentianine has central nervous system (CNS)-depressant activity at oral doses of 30 mg/kg, demonstrated by inhibition of spontaneous movement and prolonged hexobarbital-induced sleeping time.\(^{(G52)}\) Anti-ulcerogenic and inhibitory gastric secretion in rats (100 mg/kg) have been shown for gentianine.\(^{(G52)}\)

### Side-effects, Toxicity

An alcoholic extract of centaury (200 mL/plate) was antimutagenic in *Salmonella typhimurium* strains TA8 and TA100.\(^{(G52)}\)

### Contra-indications, Warnings

Centaury is contra-indicated for individuals with peptic ulcers.\(^{(G52)}\)

**Pregnancy and lactation** The safety of centaury taken during pregnancy has not been established. In view of the lack of toxicity data, use of centaury during pregnancy and lactation is best avoided.

### Pharmaceutical Comment

There is little published information specifically concerning *C. erythraea*. Bitter components support the traditional use of centaury as an appetite stimulant, although it is said to be less active than comparable bitter herbs, such as gentian.\(^{(G2)}\) In view of the lack of pharmacological and toxicological data, excessive use should be avoided.

### References

*See also* General References G2, G3, G9, G15, G16, G28, G31, G36, G37, G43, G48, G52, G56 and G64.