

## MICRO REVIEW

***Crocus Sativus* Linn—A Review**

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*Crocus Sativus* Linn (N.O. Iridaceae, commonly known as Saffron, Jaffran) is onion like perennial herb.<sup>1</sup> It is a native of South Europe but also cultivated in Kashmir.<sup>2</sup> The dried stigma and tops of flowers of the title plant are used in indigenous medicine in India. It is more popular in Tibbi or Mohmmedan medicine than in Ayurvedic or Hindu medicine. It is used as a stimulant and aphrodisiac<sup>3</sup> and also given in diseases of brain. Its aphrodisiac virtue is probably due to slight stimulation of central nervous system. It is also a constituent of a preparation used to prevent premature ejaculation.<sup>4</sup>

**Phytochemical Investigation**

It is phytochemically investigated for a variety of constituents mentioned in Table-1.

TABLE-1  
CHEMICAL CONSTITUENT OF *C. SATIVUS* LINN

Type		Name of constituent	Ref.
Flavonoids	i.	Isorhamnetin 4-O-L-rhamnopyranosyl (1→2)-β-D-glucopyranoside (Crosatoside-A)	5
	ii.	β-( <i>p</i> -hydroxyphenyl) ethanol-O-L-rhamnopyranosyl (1→2)-β-D-glucopyranoside (Crosatoside-B)	5
	iii.	Kalmpferol-3-O-β-D-glucopyranosyl (1→2)-β-D-glucopyranoside	5, 6
	iv.	Kalmpferol-3-O-β-D-glucopyranosyl (1→2)-β-D-6-acetyl glucopyranoside	6
	v.	Kalmpferol	6
	vi.	Astragalin	6
	vii.	Helichryoside	6
	viii.	Myricetin	7
	ix.	Quercetin	7
Carotenoids	i.	*Mangicrocin	8
	ii.	Crocetin dimethyl ester	9
	iii.	α-Crocin (Crocini <sup>1</sup> )	9

Type	Name of constituent	Ref.
	iv. †Crocin <sup>2</sup> ( $\beta$ -monogentiobioside $\beta$ -D-monoglucoside ester of $\alpha$ -crocetin)	9
	v. †Crocin <sup>3</sup> ( $\beta$ -monogentiobioside ester of $\alpha$ -crocetin)	9
	vi. †Crocin <sup>4</sup> ( $\beta$ -D-monogentiobioside ester of monomethyl of $\alpha$ -crocetin)	9
Anthocyanidin	Delphinidin	7
	Petunidin	7
Terpenoids	i. Picrocrocine (On hydrolysis, it gives safranal)	10
	ii. ‡Safranal	11
	iii. Oleanolic acid	12
Amino acid	Aspartic acid, glutamic acid, cysteine, serine, glycine, threonine, tyrosine, alanine, arginine, histidine, lysine, proline, phenylalanine, leucine, valine and methionine	12
Fatty acid	Palmitic acid, stearic acid, oleic acid and linoleic acid	13
Miscellaneous	2-phenylethanol; naphthalene; 2-butenic acid lactone; 2,6,6-trimethyl 4-hydroxy, 1-cyclohexen-1-carboxaldehyde; 2,4,4-trimethyl-3-formyl, 6-hydroxy, 2,5-cyclohexen-1-one; isophorone 3,5,5-trimethyl, 4-hydroxy 2-cyclohexen-1-one; 3,5,5-trimethyl 1,4-cyclohexadione	13

\*It is responsible for adaptogenic activity *e.g.* non-specific resistance against stress and fatigue.

†These can be considered as intermediate products of crocin.

‡On the basis of concentration of safranal, the quality of saffron is checked.

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