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**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**Available online at: <http://www.iajps.com>**Review Article****BOTANY, TAXONOMY AND CYTOLOGY OF *CROCUS* SERIES
*INTERTEXTI*****R. B. Saxena**Drug Standardisation Research Section, Central Research Institution – Ayurveda, Aamkho,
GWALIOR- 474009 (INDIA)**Abstract:**

The genus crocus L. consists currently of about 160 reconized species, small, corm bearing, perennial species having an old world distribution, primarily in Mediterranean-west Europe and NW Africa to W China, with the center of species diversity on the Balkan Peninsula and in Turkey. Recent phylogenetic analysis proved several infrageneric units within the genus crocus to be para or poly-phyletic. In an attempt to arrive at an a system of crocus that closely reflects the species relationships, here phylogenetic, morphometric, geographic and nomenclatorial data for the species of narrower-defined, monophyletic crocus series intertexti. Crocus series intertexti are closely related, and are difficult to be separated taxonomically and have complex cytology. Botany of crocus intertexti series, taxonomy of their species and their infra-specific taxa are presented, and their distribution, ecology and phenology; description and chromosome counts are provided with key to their identification.

Key words: *Crocus, Geographic area, Classification, Chromosome, Cytology, Intertexti - series.*

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INTRODUCTION: [1-9]

The genus *crocus* L. consists currently of about 160 recognized species occurring from W Europe and NW Africa to W China, with the center of species diversity on the Balkan Peninsula and in Turkey. Mathew divided into sub-genera (not supported recent phylogenetic research) and two-sections sub-section divided into 15 series. Later, one more series was added and one series was moved to another section. The species discovered since than have been integrated into classification, distributed sea (Portugal and W Morcco), Europe to W China and Mongolia. The center diversity of the genus in Turkey with more than 70 taxa and Greece with 33 taxa. The study shows` no support for a system of section as currently defined, although despite the many inconsistencies between Mathew`s classification and current hypothesis.

The species evolution is generally accompaied or followed by partial changes in the chromosome complement and their can be few genera where such a wide range of variation occurs. The variation is, however, difficult to deal with or without informations of breeding systems, hybridization potential and the production of hybrids. So far, it is only been possible to make a comparative analysis of chromosome number and morphology, but these differences and similarities can be significant, and may well indicate barriers to successful inter-breeding. Although similar karyotypes do not reveal the presence of symmetrical changes, it may generally be assumed that if the phenotypes are also alike, there is a probability that there are no barriers to gene exchange. If karyotypes are observable different than inter-breeding is lesslikely. Such chromosome barriers are of obvious importance and can be lead on the further divergene which may eventually give rise to acceptable species. The closely related species have been difficult to separate taxonomically and have also been found to be complex cytologically and have been treated as series.

BOTANY [10,11]

The taxonomic classification of the <i>crocus series intertexti</i> as follows :	
01. Division	Spermatophyte
02. sub-division	Angiospermae
03. Infra-division	Radiatopes
04. Class	Monocotyledonae
05. Sub-class	Liliidae
06. Order	Liliales
07. Family	Iridaceae
08. Sub-family	Crocoidae
09. Tribus	Croceae
10. Genus	<i>Crocus</i>

Genus *crocus*: **Herb:** small, perennial, cormous. **Corm:** usually symmetrical, enclosed by several tunics of variable texture and color. **Cataphyll:** upto 5, sheathery the aerial shoots. **Leaves :** appearing with or after the flowers, all basal, flat or channeled (canaliculated) on the upper surface, lower surface usually strong keeled usually with two grooves, deciduous, simple, alternate, linear and sessile with entire margins and parallel venation, 5-8 cm. high. **Flowers:** scape absent, one to several, each on a short, subterranean pedicel which is sometimes subtended by a membranous, sheathing-prophyll. **Bract:** membranous. **Bracteole:** similar or reduced or absent. **Perianth :** regular, tube long and narrow, glabrous or with rings of hairs in the throat at the insertion of the filaments, segments usually sub-equal. **Anthers:** usually extrose. **Style:** 3 lobed to multifid. **Ovary:** sub-teranean. **Fruit:** capsule cylindrical or ellipsoid, maturing or above ground level by elongation of pedicel. **Seeds:** numerous, usually globose or ellipsoid, brownish or reddish, with a strophiole.

Section: Nudiscapus - species without basal prophyll.

Series intertexti: spring flowering, bracteole present, tunic fibrous, fibres interwoven.

Crocus fleischeri Gay J [12-17].

History: *Crocus fleischeri* comes from W Turkey, near Izmir, Mathew recommends that it be given ` a hot sunny situation with good drainage` Bowles said the stigmata of their flowers are`` of such a bright color that they can be seen through the white segments of closed flower, and remained me of the yolk seen through the shell of the wood pecke`s``.

Synonym(s): *Crocus candidus* Boiss [illegitimate]

Crocus flescherianus Herb

Crocus parviflorus Baker

Crocus sennii Caval

Crocus smymensis Paech

Herb: small, perennial, cormous. **Found:** commonly found in the native environment too. Turkey`s western and south-west can be seen every where. Despite the absence of any sub-species very interesting. **Plant range:** Turkey, Aegeanls. **Habit:** tufted. **Native climate:** mediterranean. **Wild habitat:** lime –stone or calcareous rocks among the weeds, lawn and shrub areas and forest edges in the bushes around. **Height:** up to 10 cm. **Spread:** 0-0.1 m. **Time for ultimate height:** up to 5 years. **Distribution:** Greece (Rhodes, Chios) WS Anatolia/Balikesir, Manisa, Izmir, Aydin Mugla, Afyon, Kutahya, Usak, Denizil, Burdur, Isparta. Antalya, Konya, Karaman, Mersin. **Altitude:** 750 – 1300 m. asl. **Korm :** 1-2.5 cm. diameter, horizontal in nature was seen in samples, also very interesting. Stalo is a simple of Milas sides are even in the garden is gene rating plenty of small korm conditions such as garlic around

korm. **Tunics:** multilayered woven from thin fibers, a tunic of this type exist in any other species, split into rings at the base with toothed. **Leaves :** 4-12, 3.15 cm. x 0.5-13 mm. exert, synanthous, green, white medium-stripe, width of stripe 1/3 of leaf-diameter, glabrous, they are flowers of the flowering period, minute hairs or hairless, alternate, simple, sessile, entire margins, parallel venation. **Flowers:** 1 or 2, white, with suff-base yellow and on tube, thinner and longer than the other stands crocus . Outside of the petals usually white, often in the middle of a line may be irregular or only at the outer ends of petals of ref-coffee-coloured stain, outside of the petals can be very, very rare in the examples are completely plum. **Prophyll :** absent. **Perianth :** 15 – 25 x 4-8 mm. **Tube :** 3-6 cm. long **Filament :** yellow, 4-8 mm. long. **Bracteole:** present. **Throat :** yellow. **Anthers:** pale yellow, 5-12 mm. long, right in the center of the stem and neck are nearly black coffee. **Pollens:** yellow. **Style:** longer than anthers or equal, dark – orange, divided into many branches. **Ovary:** sub-teranean. **Fruit :** capsule loculicidal. **Seeds:** capsule have three locules and contain many seeds, very sizes and their surface features, dark brown. Caruncle and raphe are distance. $2n = 20$.

Phenology : Flowering : January – March.

Characteristics: A very distinctive species with small but striking flowers and very distinctive corm tunic. No other species has fibres interwoven in this way.

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