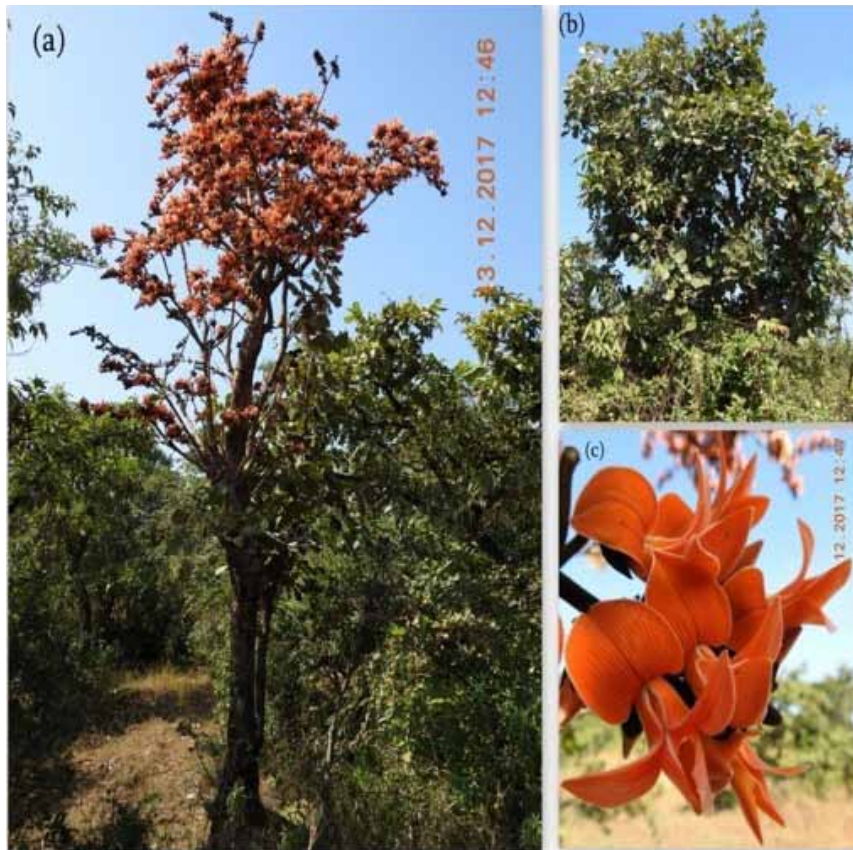


FLAME OF THE FOREST

Unusual flowering in *Butea monosperma* (Lam.) Taub. in Sahyadri Tiger Reserve in northern Western Ghats, India



Butea monosperma in Sahyadri Tiger Reserve a) habit, b) leaves, c) flower

IUCN Red List:
Not Assessed

Magnoliopsida
[Class of Dicotyledons]

Fabales
[Order of Flowering plants]

Fabaceae
[Family of Legume, pea or bean]

Butea monosperma
[Flame of the Forest]

Each plant has a definite time period for flowering and fruiting albeit strongly controlled by climatic factors and evolutionary processes (Borchert et al. 2005; Silva et al. 2011; Chang-Yang et al. 2013; Zhao et al. 2013). These phenologic events ultimately determine their reproductive success (Silva et al. 2011; Pezzini et al. 2014; Carvalho & Sartori 2015). Although some plants such as *Corypha* palm, bamboos, *Strobilanthes callosa*, and *S. kunthiana* have exceptionally unique phenologic events with respect to their lifespan (Matthew 1970; John & Nadgauda 2002; Kulkarni & Mulani 2004), it becomes interesting when these events change.

Butea monosperma (Lam.) Taub. (Fabaceae), a legume tree of tropical and subtropical climate, is found throughout the drier parts of India in open grasslands and wastelands. Commonly known as the Flame of the Forest, 'dhak', and 'palas'. This medium-sized tree is a characteristic species of the plains, often forming pure patches in grazing grounds and in other open places. The deciduous tree is drought-resistant and frost-hardy, although the leaves turn white and fall off during harsh weather. Generally, *B. monosperma* flowers regularly once in a year but all trees do not flower every year. Peak flowering occurs from March to April though sometimes also occurs in late February and lasts up to early May (Tandon et al. 2003). Additionally, a study (Zhao et al. 2013) revealed that in consecutive years, peak flowering was in the first week in April and trees remained in bloom for 6-8 weeks. Fruiting commenced in the last week of March and the first week of April, with the fruits reaching maturity by the end of May and dispersing in mid-June. Seeds were not liberated from the fruits. Leaf primordia appeared in April–May and the leaves attained their maximum size in May–June.

<p>Global Distribution: India and southeastern Asia</p>
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Notably, during one of the field surveys in Sahyadri Tiger Reserve in Kolhapur, Maharashtra (consisting of Chandoli National Park and Koyna Wildlife Sanctuary), in the northern Western Ghats, the first author observed 10 fully-grown individuals of *B. monosperma* in full bloom during mid-November to late December in Chandoli NP (17.179–17.182 °N & 73.870–73.847 °E) and around 50 fully-grown individuals in Koyna WS (17.745–17.757 °N & 73.660–73.666 °E). Upon continuous monitoring of these individuals in the area, the authors confirmed unusual phenologic events that were not reported earlier in this species. The change in these events could be due to fluctuation in temperature, irregular drought, or genetic factors, albeit needs further research. Genes which regulate phenological expression are likely to be governed by environmental triggers. A change in external environment can initiate the expression of genes in such cases.

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