est number of sightings (31%) was between 1500 and 1800 h. The survey team recorded 18 cetacean species (six species of whales and 12 species of dolphins). Out of the total 626 sightings, 57.7% was identified to either generic or species level. However, the rest of the 42.3% could not be identified. The team sighted and recorded during the surveys whale and dolphin pods varying from 1 to 10 individuals and 1 to 100 individuals respectively. They found sightings to be highest during January and lowest during August. This variation might be because of bad visibility due to choppy sea conditions during the monsoon season. Indo-Pacific Bottle Nose dolphin (*Tursiops aduncus*), Spinner dolphin (*Stenella longirostris*) and Long-beaked Common dolphin (*Delphinus capensis*) were the species that were commonly sighted by the team. The authors also tried to identify the habitat preference of the cetaceans by measuring distance from the shore, depth, temperature and salinity of the sea water. Chinese white dolphin (*Sousa chinensis*) was sighted nearest to the shore, ~100 km from the shore, whereas Long-beaked Common dolphin, Spinner dolphin and Indo-Pacific Bottle Nose dolphin were sighted at ~199, ~499 and ~599 km respectively, from the shore. Most of the cetacean sightings were in the 26°–32°C temperature range where salinity ranged between 26 and 36 parts per thousand. The authors, however, are not sure of these data, as it is known that the temperature of the sea water does not have much effect on the use of an area by cetaceans especially in tropical area.

Chapter 3 provides information on each of the 25 species. The taxonomic status, common name, identification characters, distribution, abundance, habitat, behaviour, food, exploitation, and threats and conservation status are the categories under which the available information is divided. Information provided in the book on Pygmy sperm whale (*Kogia breviceps* and *K. sima*), Melon-headed whale (*Peponocephala electra*), Cuvier's beaked whale (*Ziphus cavirostris*), Pygmy killer whale (*Feresa attenuate*) and Rough toothed dolphin (*Steno bredanensis*) are based on stranding records and previous sighting records as these species were not sighted during the survey.

Acrobatic leap of *Stenella longirostris* sighted off Dwaraka, Gujarat on 23.03.2009.

The authors mention four cetaceans, the Irrawady dolphin (*Orcaella brevirostris*), Gangetic dolphin (*Platanista gangetica gangetica*), Sperm whale (*Physeter macrocephalus*) and Dugong (*Dudong dugong*) to be under Schedule 1 of the Wildlife (Protection) Act (WPA) of 1972. Though Sperm whale does not come under Schedule 1, it is included in Schedule 2 of the WPA. However, the Little Indian porpoise (*Neophocaena phocaenoides*) is included in Schedule 1 of the WPA. The authors have overlooked this mistake in the book.

In chapter 4 titled 'Future directions', the authors provide many suggestions on conducting research and survey on marine mammals. They support and highlight the need for the establishment of Marine Mammal Stranding Network and Marine Mammal Conservation Network which will be helpful in documenting cetacean stranding reports and also help in preparing an action plan for conservation of marine mammals in India. They also highlight the importance of conserving sea grass beds, the much needed amendment to the Marine Fishing Regulation Act, and the need to educate and spread awareness among fishermen on the basic functioning of marine ecosystems and the need to conserve them. The inclusion of a glossary section in the book provides definitions for the technical terms used throughout, making comprehension easy.

Very few studies or surveys on marine mammals have been conducted in India until now. Most of the information available is based on incidental catches and on individuals that were stranded or beach cast. This study has contributed significant knowledge on the country's marine mammal diversity and the effort of the authors is commendable as identification of marine mammals in open sea is a difficult task. Good identification guides and trained observers are essential to conduct such surveys. This was one of the handicaps in the survey in addition to non-availability of a survey vessel entirely dedicated to the study and sufficient financial backing. This book presents consolidated information of the species and its ecology. Records of sightings, stranding and incidental catches have been complied in the book. Information on a species found in Indian waters from other parts of its distributional range has also been provided. In conclusion, the book is a much needed pictorial guide for marine mammal identification in India and will be helpful for those working in marine ecology. We hope better financial backing and support will help the authors improve the quality and contents of the book in its future editions.

1. Thewissen, J. G. M., Cooper, L. N., Clementz, M. T., Bajpai, S. and Tiwari, B. N., *Nature*, 2007, **450**, 1190–1194.

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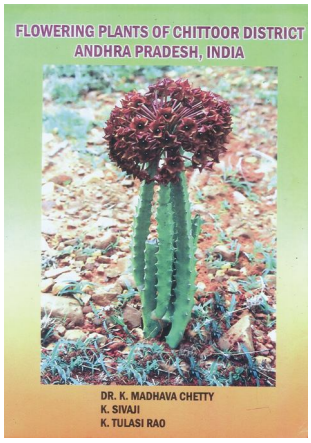

Flowering Plants of Chittoor District, Andhra Pradesh, India. K. Madhava Chetty, K. Sivaji and K. Tulasi Rao. Students Offset Printers, Tirupati. 2013. 4th edn. viii + 600 pp. Price: Rs 1250.

Books meant for students and authored by teachers often thrive long being in demand and rarely updated for several years. The same is expected of this book on the flora of Chittoor district. Floras generally serve the purpose of identifica-

tion and when written with clarity, present the diversity and orderliness of features in different taxa in the given region. These works encourage serious students and amateurs alike to take up their interest in other floral-rich areas and adopt the subject as a profession or hobby. Good-quality publications are possible when the areas dealt with are small and the number of species studied does not exceed a couple of thousands. It gives the authors adequate scope and liberty to present every species clearly and lucidly while documenting, supported by the experience gained in teaching the subject. The area under study (Chittoor district) is in the far south of Andhra Pradesh bordering Tamil Nadu and Karnataka and spread over an area of 15,000 sq. km, with one-third of it, i.e. about 4500 sq. km, under forest cover. The district also encompasses a smaller but significant part of about 1500 sq. km of Seshachalam Biosphere Reserve – the only biosphere reserve in the state that spreads over 4755 sq. km, Chandragiri and Horsely hills – once visited by Gamble (a former forester and author of *Flora of Presidency of Madras*) and many popular pilgrimage places, including Tirupati. The flora for such an area is undeniably wanting. Had the book been written with expected authenticity from the teaching fraternity and desired loyalty to plants, it would have turned out to be an exemplary publication. Though the book by its very nature is not expected to present clarity on elementary aspects of taxonomy, but when it fails on these very aspects in flora writing, one has no reasons not to be dismayed, considering the authors are academicians. The book under review, surprisingly a fourth edition, continues to reflect glaring lapses that may not have been brought to the attention of the authors till date!

The book does not offer substantive material to project the importance of the area and its flora. Many statements are inappropriate, if not incorrect: provincial (Gamble, 1957) and regional (Matthew, 1982, 1983) floras are referred to as local floras; the correct name is referred as valid botanical name. The authors should have thought to what extent nomenclature details are needed for students as the book has incomplete nomenclatural phrases: *C. zeylanica* sensu Hook. f. & Thoms. (not of authority of the name, missing) under *Capparis brevispina*; *Crataeva religiosa* sensu Gamb. (should be Gamble) and (not of authority of the name, missing) under *Crataeva magna* (p. 24); mixing up of authors with publication citing *Barleria montana* Nees in Wall., *Barleria montana* sensu? as a synonym of *Barleria prattensis* Sant. (p. 254).

No order is followed in framing the keys as it is customary to cite vegetative features prior to reproductive features (in case keys take in both). But what has happened more often is vice versa (leaves stand between petals and stamens both for *Casearia* and *Homalium*, p. 27); key leads fail to recognize true diagnostics of taxa dealt with (*Nymphaea nouchali* can be recognized by leaves being entire and staminal appendages significantly long and this is different from *Nymphaea pubescence* in which leaves are dentate and staminal appendages absent; p. 20). Leads in many a case are not truly contradictory (*Anamirta* from others in which petals are absent (0) versus petals connate, p. 17; also refer to *Argemone* from *Eschscholzia*; *Capparis sepiaria* from *C. zeylanica*, p. 23). Yet in other cases, they contradict descriptions (*Anamirta*, c.f. description *A. cocculus*, p. 18) that are followed. In certain places key has absolutely no clarity; for example, on gyno/gynandrophore. In *Cadaba*, the stalk-bearing stamens and gynoecium are known by gynandrophore, while in *Crataeva* and *Capparis*, only gynophores present bearing gynoecium and this terminology was used and mixed up in the key p. 23. The key between *Magnolia* and *Michelia* is more absurd, with the former diagnosed having carpels arranged in compact spike and gynophores sessile, while in the latter carpels are arranged in oblong spike and gynophores stalked (p. 14). How do carpels nakedly seen in a spike and gynophores (the stalked structures bearing gynoecium) turn sessile?

Some descriptions appear to have been drawn from other published works, but terminology has been jumbled so badly, making no sense: for example, the description for *Annona squamosa* goes 'Carpels more than 50. Fruits ovoid; seeds many, indehiscent, connate into a fleshy syncarp' (p. 16; how can seeds be indehiscent/dehiscent and how do they connate into fleshy syncarp, the literal meaning of which is fused carpels/fruitlets?). This should be in fact 'Carpels more than 50, connate into a fleshy syncarp. Fruits ovoid, indehiscent; seeds many'. The authors should recognize that morphology is the backbone for taxonomy and the subject is not merely tagging names out of familiarity, but recognition and naming them based on a scientific study. The book has given names based on familiarity and appended descriptions as mere formality. The originality of the work appears only in distribution data and to some extent in notes given under uses.

Floras usually adopt standard abbreviations. Abbreviated words used in this work are not succeeded by a full stop in the entire text. Neither some of the abbreviated author names nor abbreviated selected terminology is presented in established lines (for standard abbreviations of authors of plant names: Brummitt and Powell; for journals and periodicals: B–P–H and for floras and other taxonomy books: Taxonomic Literature-2 and Taxonomic Literature-2 Suppl. by Stafleu *et al.* (1976–)).

The indices prepared are multiple; indices to families, genera and species, to vernacular names and to English names could be integrated into one to save pages and printing. The authors were not choosy with photographs (not cited in text) and the first 33 are of teachers and students. The book should have been exposed to language editor as there are many obvious errors in language. The lapses mentioned are only indicative and not exhaustive.

The authors may go through the regional flora of Gamble to review all components of enumeration to make it worthy of application in field for plant identification by students/amateurs when they explore in the district. The book in the present form cannot be recommended as a standard accession for any library. Taxonomy, which is truly an extraordinary science, has lost its sheen for want of teachers as well as books which can impart genuine knowledge to look into the nuances of diversity in the biota.

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