attaining a diameter of 48 mm. in 7 days. Aerial mycelium dull grey, thin, showing saltation zones. Reverse citrus yellow. Perithecia appear late towards margin; they are irregularly scattered and are formed singly or in clusters.

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1. Lodha, B. C., *J. Indian bot. Soc.*, 1964, **43**, 121.
2. Aue, R. and Müller, E., *Ber. Schweiz. Bot. Ges.*, 1967, **77**, 187.

CHROMOSOME NUMBER IN SOME SPECIES OF *LAGERSTROEMIA*

The species of the genus *Lagerstroemia* Linn. (family Lythraceae) on account of their prolificity of beautiful flowers are very popular ornamental trees and shrubs and form an important part of tropical-subtropical landscape. A systematic programme of breeding new types has been started at the National Botanic Gardens, Lucknow. In view of the contradictory chromosome numbers (Darlington and Wylie[1], 1955; Bolkhovskikh *et al.*[2] 1969) reported for 4 species out of the 30 reported in the genus, as a first step, critical chromosome number determinations have been made and the results are reported in this communication. Studies were based on male meiosis following the usual aceto-carmine squash method.

The present work together with earlier one on the genus is summarised in Table I.

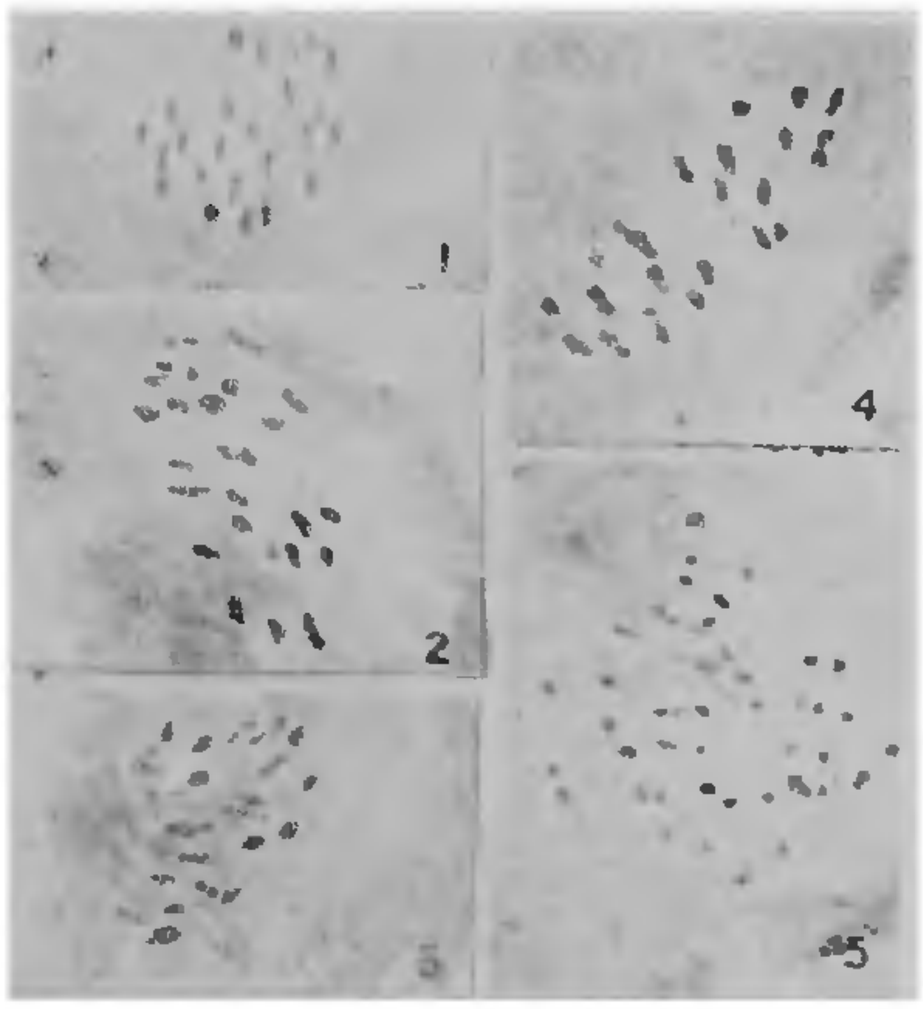
At metaphase I in the pollen mother cells in all the species 24 bivalents could be clearly counted (Figs. 1–4). The genus appears to be characterised by small chromosomes. Anaphase I and further course of meiosis in the species is regular resulting in normal pollen fertility. The chromosome number in the species *L. parviflora* Roxb. and *L. thorelli* Gagnep has been reported for the first time.

Unlike that in the species, the meiotic behaviour of the hybrid *L.* × *lancesteri* Hort. is abnormal as at metaphase I, an average of 2·04 II + 43·92 I was observed. (Fig. 5; Table I). Anaphase I is highly irregular with a number of univalents lagging or showing precocious disjunction. The presence of an average of only 2·04 II and the high frequency of univalents (43·92) indicates that the two genomes involved in the origin of the hybrid are cytogenetically well differentiated. The hybrid has been reported to have evolved through interspecific hybridization between *L. matthewsii* Matthews. (Syn. *L. caresii* Eaves.) and *L. indica* var. *candida* Linn. (Anonymous[1], 1959).

Table I

Chromosome number reports in Lagerstroemia

Taxon	*n*	2*n*	Pollen fertility (%)	Reference
L. flosreginae Retz.	..	44	..	Tjio, 1948
	..	48	..	Nanda, 1962
	24	..	89·5	Present author
L. parviflora Roxb.	24	..	66·1	Present author
L. thorelli Gagnep.	24	..	81·45	Present author
L. indica Linn.	..	50	..	Bowden, 1945
	24	..	87·1	Present author
L. × *lancesteri* Hort.	..	44, 46 48, 64	..	Guha, 1975
	2·04 II +43·92 I	..	Nil	Present author
L. floribunda Jack.	..	48	..	Nanda, 1962
L. speciosa Pers.	..	50	..	Bowden, 1945



Figs. 1–5. Figs. 1–4. Metaphase I 24 II *L. flosreginae* Retz., *L. parviflora* Roxb., *L. thorelli* Gagnep. and *L. indica* Linn. respectively. Fig. 5. Metaphase I 2 II + 44 I *L.* × *lancesteri* Hort. (All × 1500).

There is complete pollen and seed sterility and the cultivar is propagated through stem layerings. The present studies on this hybrid confirm the observations of Guha[5] (1975). However, intercellular numerical variations in chromosomes as reported by her in somatic tissue and the pollen mother cells was not seen in the material studied here.

Tjio[7] (1948) reported the chromosome number in *L. flosreginae* Retz. as 44, however, in the present taxon of the species investigated here, it was found to be 4c, which is in confirmation with the findings of Nanda[6] (1962). The chromosome number in *L. indica* Linn. was found to be 48 which is at variance with the observations of Bowden[3] (1945) who reported $2n = 50$. Due to the non-availability of the material of *L. floribunda* Jack. and *L. speciosa* Pers. it has not been possible to confirm the chromosome number reports of Nanda[6], (1962); and Bowden[3] (1945) for these species.

From the foregoing observations therefore it appears that the genus is based on $X = 24$ which itself may be of polyploid origin.

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1. Anonymous. *Lagerstroemia*, Bull. No. 28. National Botanic Gardens, Lucknow, 1959.
2. Bolkhovskikh, Z., Grif, V., Matvejeva, T. and Zakharyeva, O., *Chromosome Numbers of Flowering Plants*, Academy of Sciences of the USSR, 1969.
3. Bowden, W. M., *Am. J. Bot.*, 1945, **32**, 81.
4. Darlington, C. P., and Wylie, A. P., *Chromosome Atlas of Flowering Plants*, George Allen and Unwin Ltd., London, 1955.
5. Guha, S., *Proc. Indian Sci. Cong.* (Abstracts), 1975.
6. Nanda, P. C., *J. Indian Bot. Soc.*, 1962, **41**, 271.
7. Tjio, J. H., *Hereditas*, 1948, **34**, 135.

REVIEWS AND NOTICES OF BOOKS

Exploration Geophysics—An Outline. By D. V. L. S. Bhimasankaram, (Assn. of Expln. Geophys; Osmania Univ. Press, Hyderabad), 1977. pp. 111. Price Rs. 50.

Amongst the very few books which have been published furnishing introductory level discourses on Exploration Geophysics (or Geophysical Prospecting), the book under review may be said to be distinguished for its brevity and style. The author has made an attempt to present within the compass of only 109 pages the entire gamut of exploration Geophysics highlighting the salient features of the subject. The book has five chapters—the first (23 pp.) presents a brief account of the general principles and classification of the several geophysical methods. Next, the geological applications in the petroleum and mining fields, and ground water and engineering investigations are covered (32 pp), citing also a couple of examples for each case. The chapter on field operations (14 pp.) points out the general aspects such as the ground aerial and marine surveys, and also the lay-out of grid and route surveys, profiling and sounding techniques. The spacing of observation points is also discussed to some extent. The remaining two chapters are devoted to Geophysical Anomalies (15 pp.) and Interpretation of data (19 pp). In these two chapters the topics dealt are corrections applied to measured quantities, detectability, factors, the noise problem, qualitative and quantitative methods of interpretation, ambiguities and integrated geophysical investigations and finally the planning of surveys and organisation of field parties.

On the whole, the coverage of topics though appearing somewhat sketchy, could be adequate especially for introducing the subject to the first year students of geophysics course, who would in any case, later, learn the subject extensively and in depth.

The illustrations, numbering a total of 70, are all good and the lengthy explanation to each printed in small types, separated from the text, is an advantage to the reader.

There are hardly any errors of printing or otherwise which the reviewer came across in reading this book. One minor omission may however be mentioned regarding the schematic representation of the branches of geophysics (fig. 1–1, p. 2): Volcanology and Tectonophysics which have also been long recognised as branches of geophysics, do not find a place in that Schematic diagram.

The printing and get up of the Bock is very good and attractive. M. B. R. RAO.