

Although the birds eat away the pulp and get rid of the seeds by wiping or striking their beaks against branches or other objects, occasionally some of them are swallowed. Out of these a few pass unharmed through the gut and germinate quite well while others are destroyed by the digestive juices in the gut. However, this fact is an established one that birds are responsible for the dissemination of seeds in *Loranthus*.

As a result of the attack of *Loranthus* on its hosts, outgrowths of considerable size and peculiar complicated shape result. Ultimately the host becomes almost brittle and falls down. Further observations are being made.

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September, 1935.

- ¹ Srivastava, G. D., *Curr. Sci.*, 1935, 4, 106.
² Partridge, E. A., *Forest Flora of Hyderabad*, 1911, 343.
³ Cooke, T., *Flora of the Bombay Presidency*, 1903-08, 2.
⁴ Duthie, J. F., *Flora of the Upper Gangetic Plain*, 1903-20, 2.
⁵ Hooker, J. D., *Flora of British India*, 1875-79, 4.
⁶ Keeble, F. W., *Trans. Linn. Soc.*, 1896, 52, Pt. 3.
⁷ Sahni, *Jour. Ind. Bot. Soc.*, 1933, 12, 2, 96.
⁸ Engler and Prantl, *Die Natürlichen Pflanzenfamilien*, Teil 3.

Double Parasitism of *Loranthus* and *Viscum* on *Eugenia*.

Loranthus is a very common parasite of flowering plant all over Western India. It has numerous hosts which include a number of cultivated plants. The species *longiflorus* is the commonest and is found very extensively both on cultivated and wild plants. *Viscum*, on the other hand, is less common and is usually found in thick forests and in shady places. I have never seen *Loranthus* parasitic on Myrtaceæ but a case has recently been reported by Mr. G. D. Srivastava¹. I am therefore inclined to record another case of a similar kind but still more interesting. In July last I observed a *Loranthus* parasitic on a tall plant of *Eugenia jambolana* and when the specimen was collected I discovered that it has itself been parasitised by *Viscum articulatum*, the *Loranthus* being a parasite directly on *Eugenia*.

The parasitism of *Loranthus* on Myrtaceæ is certainly rare but such a case of *Viscum* on *Loranthus* and *Loranthus* on

Eugenia jambolana is certainly very rare and is worth recording. Perhaps such double parasitism is seen in the deeper forests of the Thana District where this plant was found, but I know of no record of the kind.
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¹ *Curr. Sci.*, 1935, 4, 106.

N.B.—Since writing the above I saw in the Victoria Gardens, Bombay, *Loranthus longiflorus* parasitic on *Callistemon linearis* (*C. coccinea*, the Australian Bottle Brush), a member of the family Myrtaceæ. This fact is worth noting because *Callistemon* is an introduced garden plant, and more so because this garden is remarkably free from *Loranthus* parasites, this case being one of the very few in the garden.
September 9th, 1935.

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Chromosome Numbers in Two Species of *Hibiscus* (*H. sabdariffa* L. and *H. cannabinus* L).*

THE genus *Hibiscus* belongs to the fairly big family of Malvaceæ which includes a great many familiar plants of cultivation, notably cotton. Cytological work on this economically important family is receiving greater attention in recent times and the work of Davie (1934)¹ gives a comprehensive survey of results obtained. While the cytology of the genus *Gossypium* has been worked out in some detail by several authors that of other genera has not received so much attention. In the genus *Hibiscus* itself only nine species have been examined for their chromosome numbers which reveals polyploidy with high chromosome numbers. The author, while at Pusa, examined cytologically two other species, namely *H. sabdariffa* and *H. cannabinus* for their chromosome numbers and the results are embodied in this note.

Root tips of a pure line of *H. cannabinus* and several varieties of *H. sabdariffa* were fixed in Allen's modification of Bouin's fluids at different times of the day and after the usual dehydration, clearing, and embedding, cut into sections from 10-12 μ thick and stained with Haidenhain's Hæmatoxylin. Drawings were made with the aid of a camera lucida at a magnification of 2500. It was found that under conditions obtaining at Pusa, cell divisions started as early as 10 A.M. and continued till 3 P.M. with a maximum phase in the middle, after which there was a cessation and a renewed activity

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