

(Yerramenu) has been familiar to the Godavari fishermen even from their childhood and that the species now yields an important fishery, both in the river as well as in the connected tank system, strongly indicate that it has been naturally occurring in the Godavari all these years but was probably not so common as to attract attention, particularly since the belief hitherto has been that it does not occur in the Godavari.

Spence and Prater² dealing with the game fishes of Bombay, Deccan and the neighbouring districts state that all the species of *Cirrhina* listed by Day are found in the Deccan streams. However, the exact locality of Day's specimens of *C. mrigala* from the Deccan is not clear and so far as I am aware, the species is not known to occur in the Godavari, the Kistna or the Cauvery rivers. Dr. Rahimullah who has carried out an extensive survey of the fishery resources of the Hyderabad State informs me ¶ that "*Cirrhina mrigala* has not yet been found in the Hyderabad State" and that so far as he knew "It is a fish which is not found south of Narbadda river".

The knowledge of the occurrence of *C. mrigala* in the river Godavari not only extends the range of distribution of the species southwards, but is also of considerable significance in furthering the culture of this carp in South India. Since 1943 the Madras Government Fisheries has been carrying out large-scale long distance transport of fry and fingerlings of *C. mrigala* and *Labeo rohita* from Bengal, with a view to establishing these prime food fishes in peninsular India.³ The attempts proved successful and these semi-exotic carps have been growing well in the departmental farm ponds and other controlled waters, but sufficient numbers have not yet been available for any large-scale planting in the rivers⁴. The availability of the 'Mrigal' in the Godavari makes transport of valuable seed of this wholesome carp to the rivers and tanks in the far south, obviously much easier and less expensive than transporting them all the way from Bengal or Orissa.

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‡ I am indebted to Messrs. S. Nagaraja Rao, S. H. Hussainy and D. L. Dikshithierlu, of the Madras Fisheries, for carrying out the survey and arranging to transport a consignment of live fingerlings to Madras.

¶ Personal communication to the author.

1. Day, F., *Fishes, I: Fauna of British India*, 1889.
2. Spence, R., and Prater, S. H., "Game Fishes of Bombay, the Deccan and the Neighbouring Districts of the Bombay Presidency," *Jour. Bombay Nat. Hist. Soc.*, 1933, 36, (1). 3. Jagannathan, N., "A note on the introduction of *Rohu* and *Mrigal* into Madras waters," *Indian Farming*, 1946, 7, (6). 4. A maximum size of 30.6 inches, weighing 16½ pounds, in 3 years, has been attained in the Chetput Fish Farm, Madras,

A MUTANT *CEDRUS DEODARA*, LOUDON

WHILE on an excursion with the East Punjab University Botanical Party led by Dr. P. N. Mehra this year to Mussoorie the writer came across a tree bearing abnormal male cones which it is thought worthwhile to place on record.

The normal male cone in *Cedrus Deodara* is erect, solitary, cylindrical-ovoid and is about 1½ inches long (Photo 1). There is a single ring of vascular bundles in the cone-axis.

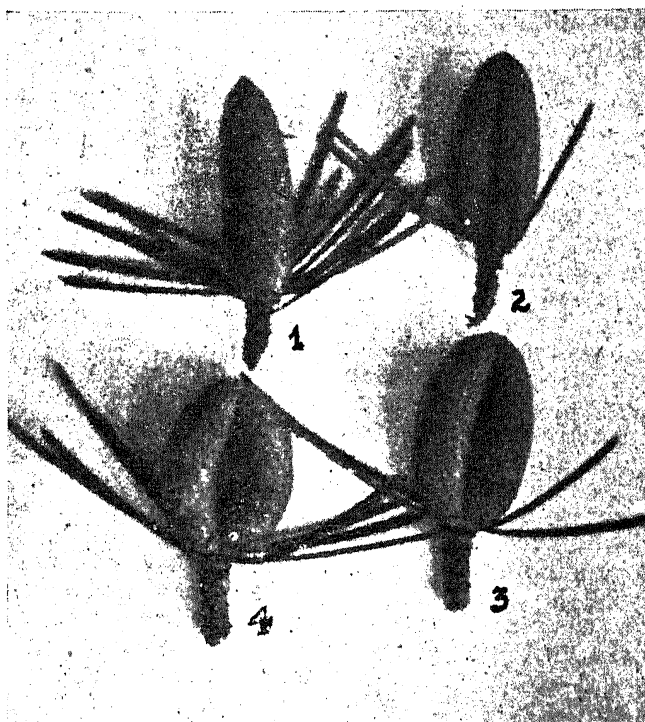


FIG. 1

On this tree there were borne almost exclusively what apparently looked like double male cones. A closer examination, however, showed that the cones are really single but while still young the cone-axis undergoes longitudinal fission. During further growth the two halves are outwards while still remaining united at the base and apex. At first therefore a depression appears in the centre (Photo 2) but later as the cone matures the two halves bend outwards so as to leave a gap in the middle giving a markedly double appearance (Photo 3 & 4). A transverse section through cone-axis in such cones shows the two halves of the cone-axis separate, each semicircular in outline and with its own half ring of vascular bundles. The cells at the region of the split turn brownish and develop relatively thicker walls.

To the writer's knowledge this variation has not so far been recorded in this species.

Pharmacognosy Department,
East Punjab University,
Amritsar,
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T. N. KHOSHOO.