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OCCURRENCE OF *GINKGOITES CRASSIPES* (FEISTMANTEL) SEWARD FROM THE JURASSIC OF ANDHRA PRADESH.

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RECENTLY the author collected fossil plants from Uppugunduru which is 19 km N.E.N. of Ongole town in Prakasam district of Andhra Pradesh. The fossils were found scattered in the neighbouring cotton fields and in the newly dug wells. The plants are preserved as impressions on the light weight sand-stones of yellow-reddish colour. The specimen described here is a Ginkgolean leaf and forms the subject matter of this paper.

Ginkgoites Seward 1919.

Ginkgoites crassipes (Feistmantel) Seward 1919.

The specimen measures 7.4 cm long and 2.5 cm broad. The lamina is obtuse with long stout petiole. The petiole is 2 mm thick. A median shallow groove is observed in the lower part of the leaf (figure 1). The veins are occasionally forked and 0.5 mm apart.

Specimen No. UPG/40/81' Botany Department,
Shivaji University, Kolhapur.

Locality: Uppugunduru, District - Prakasam (A. P.)
Horizon: Upper Jurassic.

Identification

The specimen resembles the characters of *G.*



Figure 1. *Ginkgoites crassipes* Feistm. × N.S.

crassipes (Feistmantel) Seward in having long stout petiole, unsegmented lamina and large concentration of veins. Hence it is identified as such.

Genus *Ginkgoites* Seward is represented by the following five species in India. (1) *G. lobata* Seward⁶, (2) *G. crassipes* (Feistmantel) Seward⁶, (3) *G. feistmantelii* Bose & Sukh Dev², (4) *G. rajmahalensis* Sah & Jain⁵ and (5) *G. goiraensis* Maheshwari & Banerji⁴.

Among these species *G. crassipes* is known from Sriperamatur and Sivaganga in Tamil Nadu. For the first time it is reported from Uppugunduru in Prakasam district of Andhra Pradesh. Hence it appears that *G. crassipes* has wider distribution in the east coast formations of India.

G. feistmantelii is reported from Raghavapuram (A. P.) by Bakshi¹ and from Bansa (M. P.) by Bose & Sukh Dev².

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CHROMOSOME COUNT OF *CENTELLA ASIATICA* (LINN) URBAN

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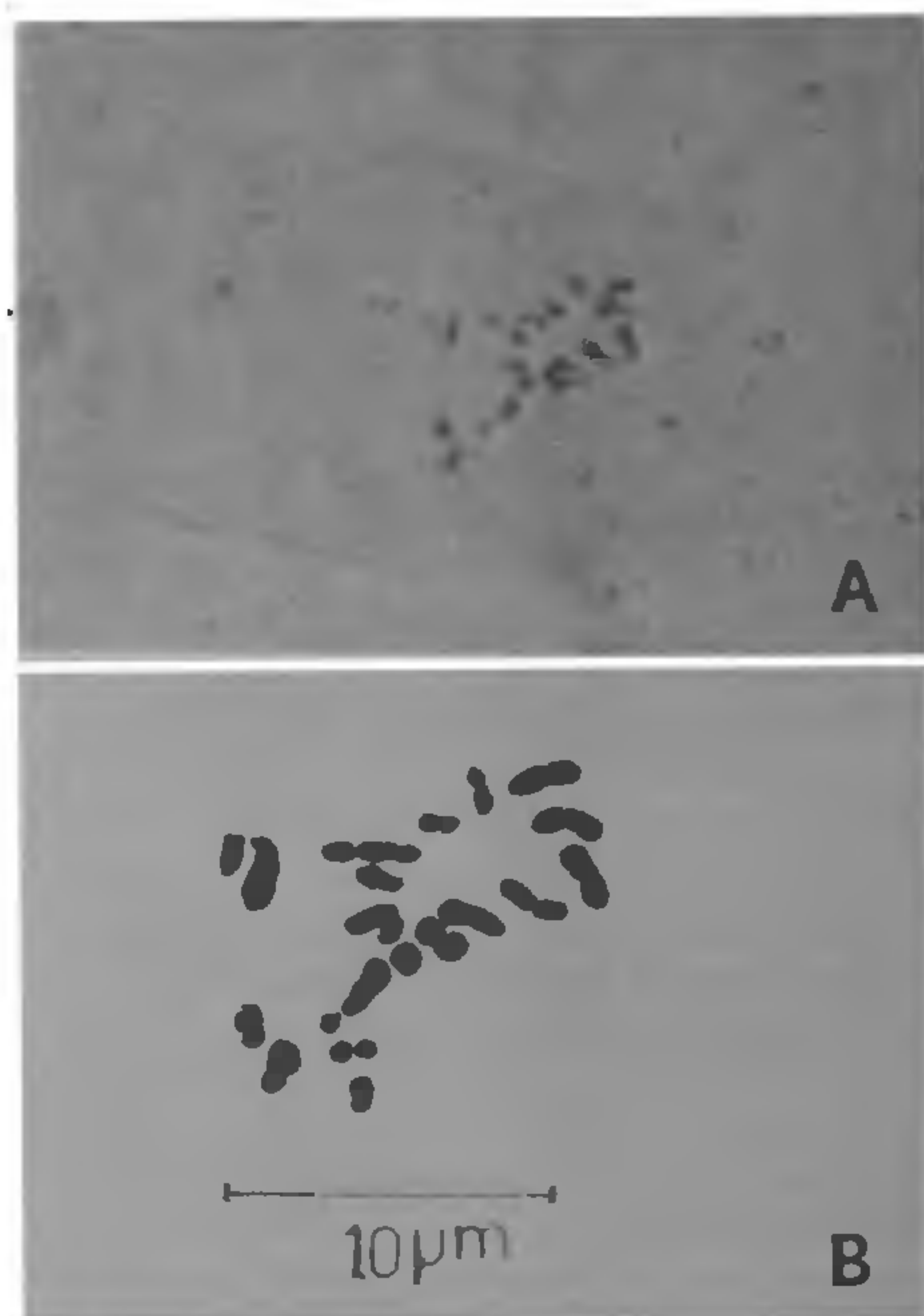
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CENTELLA ASIATICA (Linn.) Urban (= *Hydrocotyl asiatica* Linn.) belonging to the family Apiaceae is extensively used in Ayurvedic preparations of hair tonic. The plant enjoys considerable reputation in the Indian system of medicine as diuretic, alternative and tonic¹. An infusion of the plant is used in India and Madagascar to treat leprosy. Although the leaves are commonly used, use of the whole plant is recommended².

The cytology of *C. asiatica* was extensively studied³⁻¹⁵. The somatic chromosome number, $2n = 18, 22, 22 + 1B, 22 + 2B$ and 33 and the basic chromosome number represents $x = 9$ and 11 series³⁻¹⁵. In Silent Valley, Kerala the plant was collected and its chromosome number determined.

Actively growing root tips were pretreated in 0.2% solution of colchicine for 2 hr at 4°C. The material was fixed in a freshly prepared mixture of acetic acid-ethanol (1:3 v/v) for 24 hr at 4°C. They were hydrolyzed and stained in a mixture of 2% acetic orcein and 1 N HCl (9:1), following the usual procedure. Several metaphase plates from different root tips were examined and those with well spread chromosomes were drawn at a magnification of $\times 1,800$. Microphotographs were taken from temporary preparations. Herbarium specimen of the plant was deposited at the Herbarium of South Indian Medicinal Plants of Centre of Advanced Studies in Madras.

The somatic cells revealed $2n = 18$ chromosomes.



Figures A, B. Somatic metaphase chromosomes of *C. asiatica*. A. Microphotograph $\times 1350$, B. Camera lucida drawing.

The chromosomes were mostly median and submedian (figures A & B). It is clear that aneuploidy and polyploidy must have played a dominant role in the evolution of this species. The present and previous reports on chromosome numbers of this species clearly show that there is a diversity of reports in which $x = 9$ is the basic number. The most prevalent number $x = 11$ could have arisen from the basic number of polyploid reduction. This study reveals that the species collected in Silent Valley is diploid. It has been already reported¹⁶ that most of the species of the medicinal plants in the Silent Valley are in the diploid state due to unpenetrable, undisturbed evergreen thick forest environment. So, the present finding on the diploid nature of *C. asiatica* also suggests its primitive status.

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