

**RE-EXAMINATION OF CHROMOSOME NUMBER IN
SENRA INCANA CAV.**

CH. REHMATULLAH

Botany Department, Sind University, Jamshoro.

Abstract

Re-examination of PMCs of *Senra incana* showed $2n=34$ and not 36 as reported earlier. Its meiosis is characterised by the precocious movements of an average no. of two bivalents at A I.

Introduction

On the basis of morphological study and on chromosome examination, Imam (1959) concluded that *G. bakeri* Watt. is synonymous with *Senra incana* Cav. He reported the chromosome number of *Senra incana* to be $2n=36$. The photomicrograph presented in support of his finding was not convincing. In a later publication Islam and Imam (1960) gave camera lucida drawing of a PMC at MI (Fig. 3). Analysis of this figure suggests that there were 17 bivalents in it, rather than 18 as interpreted by the authors. Thus it was felt necessary to re-examine the meiosis of *Senra incana*, with a view to correctly determining the number of chromosomes in this species.

Material and Method

Four plants of *Senra incana* Cav. growing in the University New Campus, Jamshoro, were collected (voucher specimen in Sind University Herbarium) and transplanted in pots for cytological studies. The flower buds were fixed in acetic alcohol (1:2). The slides were prepared by usual aceto-carmine (2%) squash method.

Observation and Discussion

Out of a large no. of PMCs examined, only in 40 the chromosome configurations were clear; of 40 PMCs, 25 were studied at MI and 15 at AI. In all the cells at MI, 17 clear bivalents were seen. In some, bivalents showed precocious movements (Figs. 1 & 2). The average no. of ring, rod and precocious type of bivalents were in the ratio of 12:3:2. In all the 15 cells at AI, half-bivalents were seen equally distributed, namely, 17 at each pole (Fig. 4). From these observations it is clear that *Senra incana* has $2n=34$.

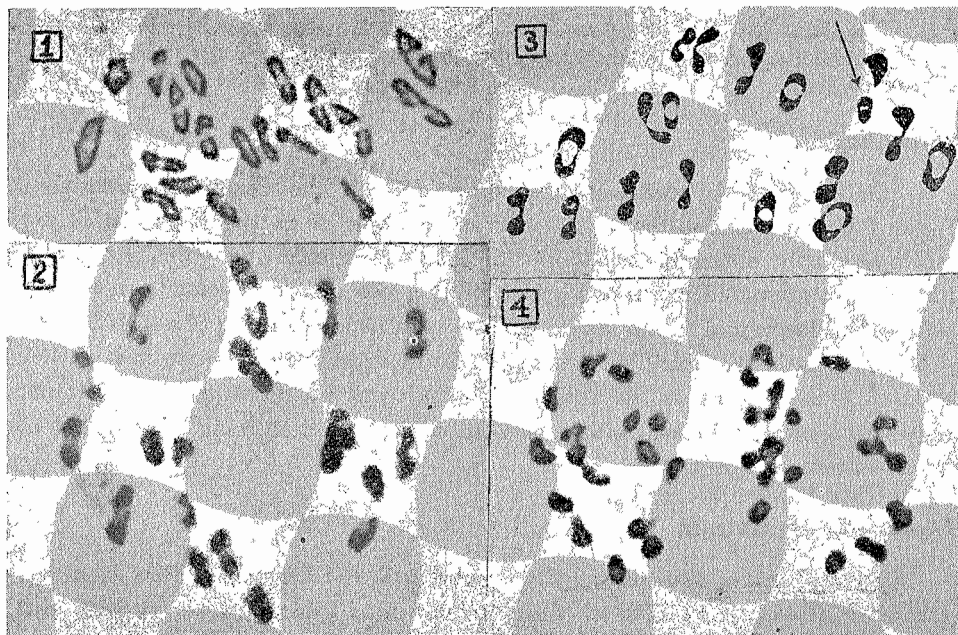


Fig. 1. Metaphase I showing 14 bivalents and 6 half-bivalents; the latter is due to the precocious separation of 3 bivalents.

Fig. 2. Metaphase I showing 15 bivalents and 4 half-bivalents making the total chromosome no. as $2n=34$.

Fig. 3. Reproduction of Islam and Imam's Fig. I (1960). The chromosome marked with an arrow is in fact one bivalent instead of two as interpreted by these authors.

Fig. 4. Anaphase I showing 17 chromosomes at each pole.

The present study leaves no doubt that the somatic chromosome number of *Senra incana* is 34 and not 36 as reported by Imam (1959). He however collected the voucher specimen from Thano Bola Khan, whereas the present study was made from the specimens collected from the University Campus. Although it is possible that specimens collected from different localities may show different chromosome nos. but this does not seem to be so in the present case.

The clue for this conclusion comes from the analysis of the figure given by Islam and Imam (1960). The configuration in Fig. 3 (marked with an arrow) does not represent two bivalents but one bivalent. Due to precocious movement of some bivalents each component part may appear to be a bivalent and probably Islam and Imam (1960) inadvertently counted one bivalent as two, making the chromosome no. of *Senra incana* as $2n=36$.

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References

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