

**Table 2** Effect of different concentrations of sodium chloride and magnesium sulphate on germination of polymorphic seeds of *T. triquetra*

Locality	Control	NaCl				MgSO <sub>4</sub>			
		0.01 (0.27)	0.1 (2.0)	0.5 (9.25)	1.0 (15.75)	0.01 (0.17)	0.1 (1.17)	0.5 (4.57)	1.0 (7.98)
Jodhpur	8.86 ± 1.96	10.0 ± 0.0	13.3 ± 5.7	6.6 ± 5.7	10	10 ± 0.0	10 ± 0.0	10 ± 0.0	0
Pachpadra	48.62 ± 6.36	43.33 ± 5.77	30.0 ± 17.3	16.6 ± 11.54	0	55 ± 21.21	50 ± 0.0	40 ± 0.0	25 ± 7.07
Didwana	35.0 ± 5.77	10.0 ± 0.0	20.0 ± 0.0	45.0 ± 15.0	20 ± 10	25 ± 7.07	35 ± 5.0	30 ± 0.0	10 ± 0

Figures in parentheses indicate electric conductivity (mmhos/cm at 25°C).

lighter seeds and this observation is contrary to that by Sen<sup>6</sup>.

The seeds of *T. triquetra* were classified into three types on the basis of their weight. This difference may be due to different soil salinity levels at three localities. High salinity may account for the reduction in seed size. Salinity is known to affect many aspects of plant metabolism like anatomy, morphology and seed size<sup>7</sup>.

Owing to this variability in seeds, the occurrence of polymorphism can lead to better establishment of the plant species in varied ecological conditions, especially in deserts; and hence a preliminary step towards evolution<sup>8</sup>.

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## A NEW CHROMOSOME NUMBER REPORT IN *CHLORIS BOURNEI* RANG AT TAD

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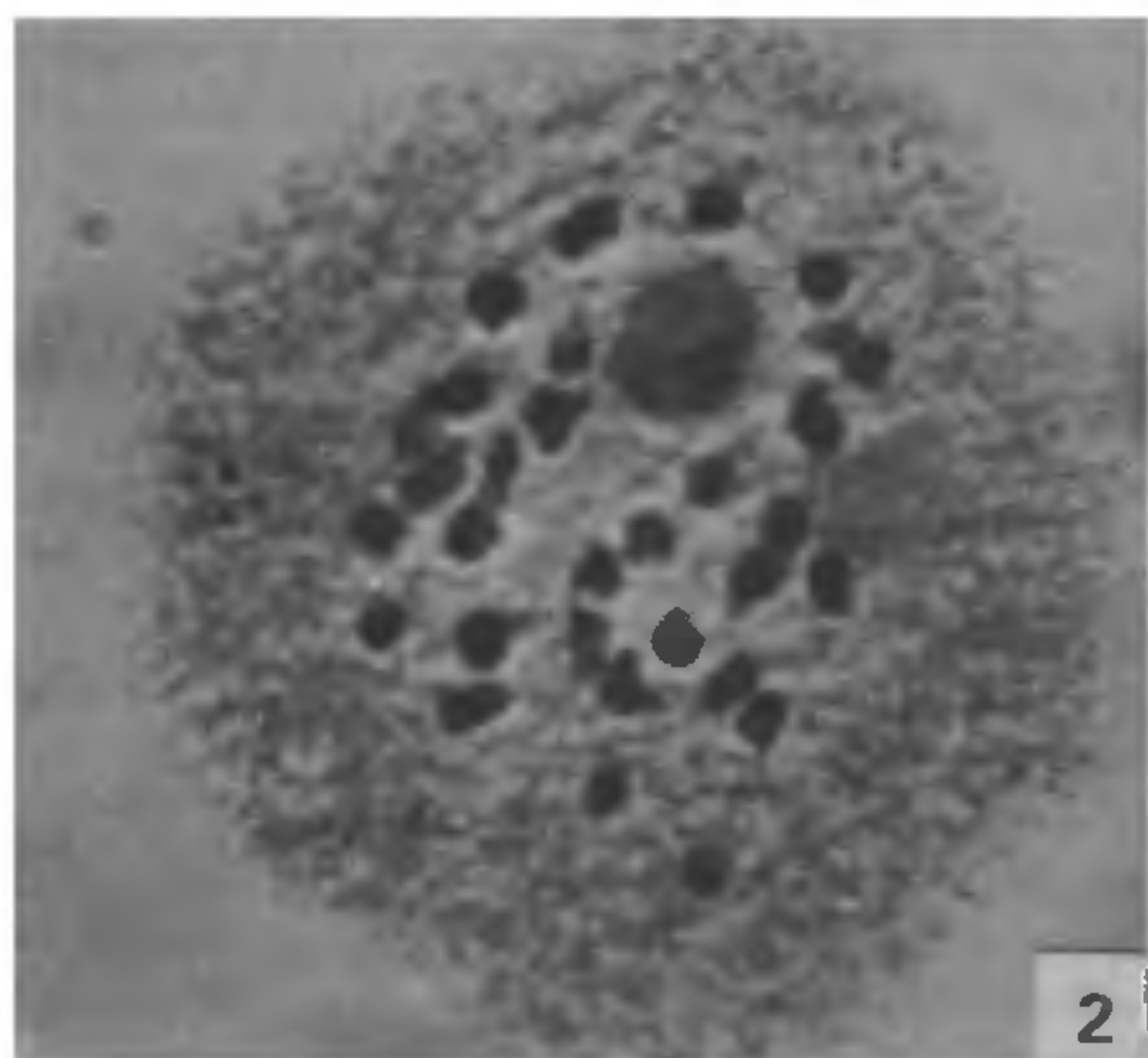
THE genus *Chloris* belongs to the tribe Chlorideae of the family poaceae (Gramineae) and comprises 27 sp. distributed in tropical Africa, America, South-East Asia and China. In India some species of *Chloris* are available at the Coromandal coast and gangetic plains. A preliminary survey of the Nagarjuna University campus grassland and the surrounding areas revealed the occurrence of the following three species (chromosome numbers in brackets): *C. barbata* (L.) SW, ( $2n = 40$ ), *C. montana* SW ( $2n = 40$ ) and *C. bournei* Rang at Tad ( $2n = 60$ ). Among these *C. bournei* with  $2n = 60$  was found to be a new report. According to the basic number 10 in the tribe chlorideae<sup>1,2</sup> this form is a hexaploid race of the species. *C. bournei* is well-differentiated

**Table 1** Morphological characters of *C. bournei*,  $2n = 60$ 

Stem length (cm)	70.73 ± 21.63
Root length (cm)	18.72 ± 5.46
Number of leaves	52.33 ± 21.76
Number of tillers	5.6 ± 3.53
Leaf length (cm)	14.20 ± 5.45
Leaf breadth (mm)	5.2 ± 0.99
Flag leaf length (cm)	5.86 ± 2.73
Flag leaf breadth (mm)	3.00 ± 0.78
Internode length (cm)	21.28 ± 16.16
Stomatal index	28.78
Inflorescence number	2.53 ± 1.52
Number of spikes	6.56 ± 1.27
Length of spike (cm)	7.58 ± 0.94
Number of spikelets	56.46 ± 5.50
Pollen fertility	80.9%
Pollen grain size (μ)	24-32

from the other species of *Chloris* by the presence of two perfect florets in each spikelet instead of a single perfect floret as in others. These grasses constitute the major fodder to cattle at early stages.

No other chromosomal races of *C. bournei* were found in the vicinity for a morphological comparison. But this hexaploid race exhibited vigorous morphological growth compared to *C. barbata* and



Figures 1-2. 1. Morphology of *C. bournei*, and 2. Diakinesis showing 30 bivalents ( $\times 1500$ ).

*C. montana* at tetraploid level. Similar findings in grasses were evident in terms of morphological changes attributed to polyploidy<sup>3</sup> i.e. plants showed thick rhizomes, increased number of tillers, thick green foliage and large spikes (table 1, figure 1).

The chromosomal numbers  $2n = 50$ ,  $2n = 40$  in this species were earlier reported<sup>4</sup>. The meiotic observations of pollen mother cells revealed the presence of 30 bivalents at diakinesis ( $2n = 60$ ) in this grass (figure 2). Higher chromosomal associations other than bivalents were completely absent. Ring bivalents rather than rods were predominant. Grouping and secondary association of bivalents were also noticed in this race. The average chiasmata per cell was  $54.05 \pm 2.52$ . Anaphase-I segregations without any laggards and late disjoining of bivalents were normal. Pollen fertility was very high (table 1).

Most of the previous chromosome number reports in this species as well as others of the genus indicated the basic number as 10. The present observations establish the role of polyploidy in the speciation of the taxon *Chloris*.

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#### HISTOCHEMICAL STUDY OF ALKALINE PHOSPHATASE AND 5'NUCLEOTIDASE IN THE ADRENAL GLAND OF MEGACHIROPTERAN BAT *RTEROPUS GIGANTEUS GIGANTEUS* BRÜNNICH

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HISTOARCHITECTURAL studies on the adrenal gland of bats have revealed true zonation of adrenal cortex in some of the species<sup>1-5</sup>, but no distinct zonation in *Eptesicus*<sup>6</sup> and *Taphozous longimanus*<sup>5,7</sup>. Not much