50 specimens of *Coptosoma indica* collected from Kakatiya University campus. No deviations from the family karyotype have been observed.

The collection of male specimens was made from the host plant *Tephrosia hirta*, and *T. hamiltonii* during September and October, 1976. The testes were dissected and fixed in Acetic Alcohol (1 : 3). Each testis consists of seven compartments held together throughout the length by a surrounding thick sheath. The observations reported here are from temporary as well as permanent haematoxylin squash preparations of testes[6].

Spermatogonial metaphase cells (Fig. 1) could be identified by the presence of 10 autosomes and XY and sex chromosomes. At metaphase I (Fig. 2) the two univalent sex chromosomes often lie at the centre surrounded by 5 autosomal bivalents. In metaphase II (Fig. 3) they form a pseudo-bivalent. The behaviour of the chromosomes during anaphase II (Fig. 4) is quite normal with respect to the equal distribution of autosomes and XY segregation to opposite poles.

FIGS. 1–4. Haematoxylin squashes of the testes of *Coptosoma indica*, × *ca*, 2,600. Fig. 1. Spermatogonial metaphase. Fig. 2. Metaphase I. Fig. 3. Metaphase II. Fig. 4. Anaphase II.

These findings indicate that a comparison of chromosome morphology with other known species[1–5] may be of some value in determining interrelationship within the family Plataspidae. In recent years many chromosome banding techniques have been devised to establish phylogenetic relationship among eukaryotes. Sumner *et al.*[7], described a simple and elegant technique for Giemsa banding. Heteropteran insects have not been studied extensively for banding patterns. Most of them possess small and holokinetic chromosomes. Giemsa banding of metaphase chromosomes has been described in Heteropteran insects *Triatoma infestans* and *Rhodnius prolixus*[8]. Similar studies could be of significance in elucidating the chromosomal affinities in the family Plataspidae and other members of Heteroptera.

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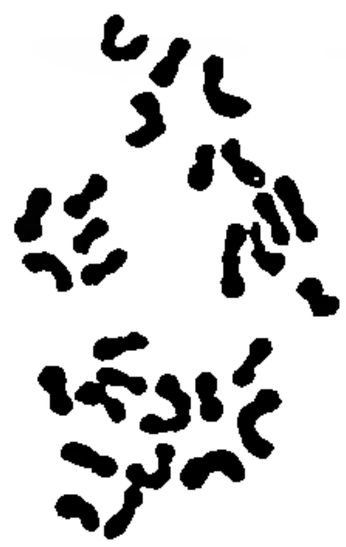
A FERTILE COLCHICINE INDUCED ALLOHEXAPLOID IN *ARACHIS*

A STERILE triploid interspecific hybrid between cultivated groundnut (*Arachis hypogaea*, $2n = 40$) and a wild annual diploid (*A. duranensis*, $2n = 20$) was obtained by Seetharam *et al.*[3], and the cytological analysis of this hybrid revealed the allopolyploid nature of groundnut with one genome common between *A. hypogaea* and *A. duranensis*. This cross was mainly attempted by them to transfer the genes for tolerance to tiyka leaf spot from *A. duranensis* to *A. hypogaea*.

The failure of pod set in the triploid was due to high pollen sterility (82·5%) as against 5·0% in the parents[4]. With a view to inducing fertility in this sterile hybrid, amphidiploids were induced by subjecting its vegetative cuttings to colchicine treatment. Twenty-five stem cuttings of four inches length were brought to the laboratory and made into a bundle. This was kept in a beaker containing 100 ml of 0·1% aqueous colchicine, which

covered the lower half of the cuttings. After two hours, the twigs were taken out, washed well in running water and planted in the field to sprout. Out of 25 cuttings, only 9 plants survived to maturity.

Normal peg and pod formation were noticed in one plant (Fig. 1), which showed 38·7% pollen fertility as against 17·5% in the untreated triploid. It had a pollen diameter of 52·01 μ, while the triploid pollen grains measured only 40·40 μ. There was no gigasness in the morphology of the plant, but it was spreading and flowering profusely.



2 3

FIGS. 1–3. Fig. 1. Twigs from sterile triploid (right) and colchicine induced fertile amphidiploid plants (left) to show normal pod setting. Fig. 2. Mitotic metaphase in triploid ($2n = 30$) (× 1,000) with camera lucida drawing. Fig. 3. Mitotic metaphase in amphidiploid ($2n = 60$) (× 1000) with camera lucida drawing.

The amphidiploid nature of this plant was confirmed by counting the somatic chromosomes ($2n = 60$), from fresh squashes prepared from side roots of the live plant (Fig. 3). The triploid showed $2n = 30$ chromosomes (Fig. 2). However, meiosis of this amphidiploid plant could not be studied due to unforeseen reasons. A total of 30 seeds have been collected from this plant. The amphidiploid plant has been successfully propagated by stem cuttings both for meiotic analysis and for utilization as bridging species in further back-crosses to cultivated groundnut.

A fertile allohexaploid with $2n = 60$ chromosomes was obtained by Kumar *et al.*[2], by treatment with colchicine (0·2%) of young vegetative buds of the hybrid between *A. hypogaea* × *A. villosa*. Further, D'Cruz and Upadhyaya[1] gave cytological evidence to show that *A. hypogaea* is a typical allotetraploid, based on the behaviour of the interspecific hybrid between *A. hypogaea* × *A. villosa*, and their C_1 and C_2 progenies. Information on the utilization of the synthetic amphidiploids as bridging species, between cultivated and wild species, for transfer of tikka resistant genes is lacking. In the present study the wild species used (*A. duranensis*), the interspecific hybrid and the allohexaploid plant were found to be tolerant to *Cercospora* leaf spot (tikka) disease. Further work on the cytology of the vegetatively propagated amphidiploids and their back cross derivatives with the cultivated species is in progress.

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A NEW SPECIES OF *SPIROTRICHONYMPHA* GRASSI AND FOA (PROTOZOA: MASTIGOPHORA) FROM A XYLOPHAGOUS TERMITE FROM INDIA

WHILE examining the termite flagellates from Hooghly district, West Bengal, the author discovered a new flagellate from *Coptotermes heimi* (Wasm.) which is described here as *Spirotrichonympha bhadreshwarensis* sp. nov.

The specimens obtained from the gut contents of the host were examined in fresh condition, fixed in Schaudinn's fluid and stained with Heidenhain's iron haematoxylin. All the measurements were taken with the aid of a calibrated ocular micrometer and drawings were made with the help of camera lucida.

Description.—The body is more or less pear-shaped (Fig. 1) with pointed anterior end and slightly compressed posterior end, 22·5 to 67·5 μ in length (average