as unisexual by Hutchinson[3] and Sastry[4] seems to be erroneous. However, andromonoecism appears to be a character of *Gyrocarpus*.

Work on the floral anatomy of *Gyrocarpus* is in progress.

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GAMMA RAY INDUCED TRIPLOID GRAIN *SORGHUM*

IN a programme of cytogenetic study aimed at assessing the relative mutational response of some select parental lines and their hybrid derivatives of *Sorghum bicolor* (L.) Moench, we came across a triploid plant among a total of 194 X_1 irradiated F_1 hybrid plants of the cross BD 569 × IS 2695, which prompted this report. The gamma ray doses applied were 10, 20, 30, 40 and 50 krad to dry dormant seed of both parents and hybrids. Absence of triploid plants in comparable control hybrid populations suggests that probably during the early development of the embryo, a triploid cell was formed in the growing region of one of the plants in the irradiated material.

Earlier reports [1–7] on triploid *Sorghum* either relate to their natural occurrence or produced through controlled crosses. Since triploids provide a possible source for developing aneuploid lines, they were studied in some detail previously. The latest report also included information on their relative frequency of occurrence in populations of normal cultivars and hybrid lines especially when the pollination of the emasculated plants in the latter were delayed. The triploid of the present study resembled the normal diploid and no dependable criteria for identification could be found except when pollen examinations were carried out and further confirmed through chromosome studies Observations made on pairing of the meiotic chromosomes were similar to the previous reports. At diakinesis and metaphase I, 7–10 trivalents were found per cell with an average of 8·8 (Table I).

Chain type trivalents and those with three radiating arms were found more commonly (Fig. 1). At anaphase I, 1–11 laggards were present in single cells. Numerically balanced distributions were not found although cells with more than 10 chromosome groups at the poles were relatively more common. Persistent laggards were observed at telophase I and similar irregularities were also noted during second meiosis.

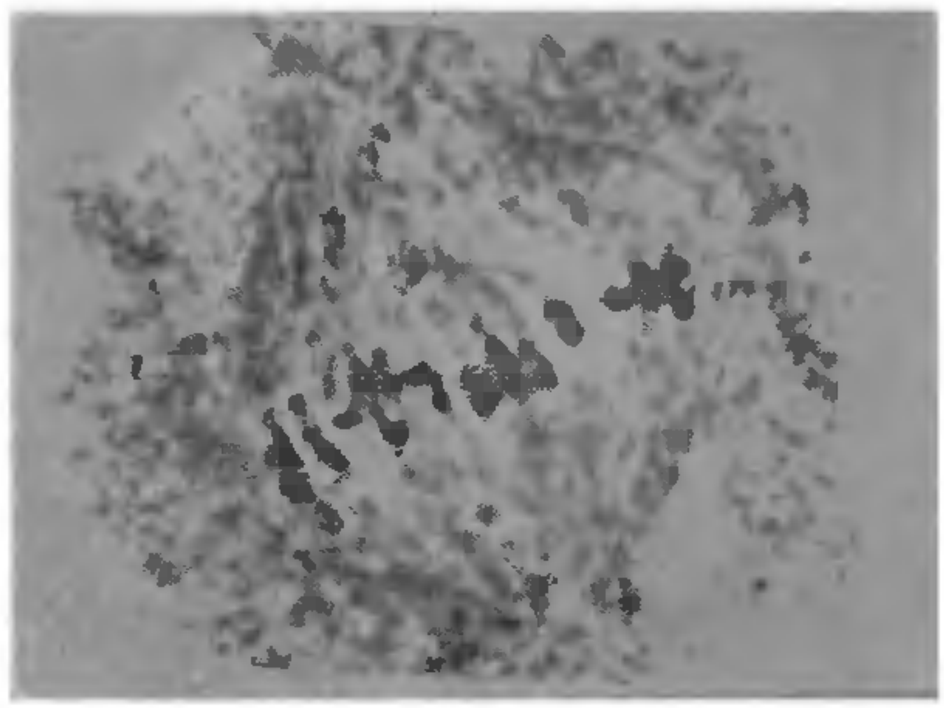

FIG 1. Metaphase I in triploid showing 8 III+2 II+2 I.

TABLE I

Stage	No. of cells analysed	Total No. of trivalents	Total No. of bivalents	Total No. of univalents
Diakinesis	28	245 (8·75 ± 0·1420)	35 (1·25 ± 0·1420)	35 (1·25 ± 0·1420)*
Metaphase I	35	311 (8·88 ± 0·0682)	39 (1·11 ± 0·0682)	39 (1·11 ± 0·0682)*

* Average values per cell. ± indicates standard error.

Distributions of chromosomes at metaphase II and anaphase II were highly variable. Persistent laggards organised into micronuclei in the pollen quartets causing a high degree of sterility as recorded in earlier reports.

The occurrence of a triploid plant in only one of the several irradiated hybrid populations studied, indicates that its formation was somehow related to the genetic constitution of the hybrid in question. It is probable, although not conclusive that a triploid cell was formed in the present material through the union of a normal diploid cell with a haploid one that probably arose through somatic reduction. Somatic chromosome reduction was known to occur in certain colchicine reactive genotypes of *Sorghum*[3]. A detailed report on the relative mutational response of the parents *versus* hybrids will appear elsewhere.

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NUTRITION AND ANTIBIOSIS OF *STACHYBOTRYS ALBIPES*

THE genus *Stachybotrys* Corda has been reviewed by Jong and Davis who described *S. albipes* (Berk. and Br.) Jong and Davis[6] Comb. nov. The members of this genus are of economic importance as they cause disease in man and animals[3–5,9], and also produce anti-microbial substances[1]. However, no record is available on the physiology and metabolic products of *S. albipes*. Therefore, its carbon nitrogen requirements with special reference to its morphology and antibiosis have been investigated.

The fungus has been isolated from hay collected from University campus of Poona, on modified Czapeks Dox agar medium substituted with glucose. Cultures grown from single spore isolations were used throughout the study. Asthana and Hawkers medium modified to contain 2% glucose was used as basal medium. All the carbon compounds were used at 2% level. The amount of nitrogen present in the basal medium was replaced by equivalent amounts of different nitrogen compounds. The basal medium devoid of either carbon or nitrogen and also different compounds of nitrogen and carbon were separately prepared and sterilized for 15 minutes at 120° C. On cooling, 15 ml of the above basal medium and an equivalent amount of either carbon or nitrogen compounds were aseptically poured into pre-sterilized 100 ml Erlenmeyer flasks. Spore suspension was made by adding 5 ml of sterile distilled water on to a heavily sporulating culture grown on modified Czapeks Dox medium and the spores were scrapped off with a sterile needle. The spore suspension was transferred to 250 ml Erlenmeyer flask containing 50 ml sterile distilled water. 0·2 ml of this spore suspension was used to inoculate the flasks containing the nutrient solution. Triplicates were used in each experiment. Analytical grade chemicals were used in all the experiments. The inoculated flasks were incubated at 24° C for ten days at the end of which the mycelial mats were collected by filtering through previously dried Whatman filter paper of known weight. The mycelial mats were dried at 60° C for 24 hours. To determine the anti-microbial properties of the culture fluids, 5 ml of spore suspension was inoculated in 500 ml flasks containing 100 ml of sterile Asthana and Hawker medium, and incubated for 5 days at 24° C under aerated and agitated conditions. At the end of the incubation period, the mycelial mats were separated by filtration, extracted in butanol and assayed by the method of Grover and Randall[2] against *Escherichia coli*, *Paecilomyces viridis* and *Bacillus subtilis* using quarter inch filter paper discs. The test plates were incubated overnight at 37° C and zones of inhibition were recorded.

The culture grew well from 20°–30° C. Unlike *S. arta*[8], it was able to grow and sporulate well only on a few carbon sources like L(+) arabinose, D(+) xylose, D(+) glucose, D(+) fructose and maltose. It was unable to grow on rhamnose, glycerol inulin, citric acid, tartaric acid and oxalic acid. Mannitol, soluble starch and sucrose supported poor growth and sporulation. Growth was poor and sterile on lactose. When fructose was used as carbon source, the phialides appeared rough and approximately in about 2% conidial development was either incomplete or became yellow and failed to reach maturity (Fig. 1). In the presence of galactose or dulicitol the mycelial development was moderate but sterile. Irregularly swollen hyphae and spore bearing structures developed when mannitol was used in the growth medium (Fig. 2).

Among the nitrogen compounds ammonium nitrate, nitrites of potassium and sodium, ammonium tartrate, DL-aspartic acid, L-glutamic acid, urea and thiourea were not utilized. Nitrates of sodium and potassium, ammonium phosphate, L-asparagine and peptone supported good growth and sporulation. In the