



FIGS. 1-6 Chromosome spreads of : 1. *Allium cepa*, 2. *Allium sativum*, 3. *Ornithogulum thyrsoides*, 4. *Pisum sativum*, 5. *Vicia faba* and 6. *Urginea indica*. (Figs. 1-6, $\times 1,200$.)

ODB is comparatively cheap. As the saturated solution is cytotoxic, a further dilution by 30-70% is obligatory for desired results, unlike in the other agents where saturated stock solutions are conveniently used. The effective duration of pretreatment is probably the shortest known for any such chemical including its isomer *p*-dichlorobenzene⁵. Chromosome contraction and spreading is better than in the other pretreating agents (Figs. 1-6) and compares well with colchicine, sometimes even yielding diplochromosomal state.

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A NEW HOST RECORD FOR *PERICONIA PARASITICA* TILAK

SEEDLINGS of *Melia azadirachta* L. showing leaf spots were collected from St. Andrew's College Campus, Gorakhpur, during January 1976. The fungus was identified as *Periconia parasitica* Tilak¹. The symptoms and morphological characters of the pathogen are as follows :

Infection spots hypophyllous, light brown, irregular (0.5-1.5 cm in diam.), with numerous minute dark points. Mycelium is endophytic, branched, septate and hyaline to brownish in colour; Conidiophores straight as well as curved, 2-3 septate, fertile head separated by a septum, colour light brown, 150-170 μ long and 16-18 μ wide, emerging in fascicles of 2-4; Conidia catenulate, brownish, globose, verrucose and 12.5-17.5 μ in diam.

There are some variations in the number of septa in the conidiophores and measurements of this pathogen from the one originally collected by Tilak on *Desmodium laxiflorum* D.C. from Poona².

Pathogenicity of the causal organism has been tested.

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STUDY ON GENETIC VARIABILITY IN *CYMOPOGON MARTINII* WATS. VAR. *MOTIA*

INDIA is the major producer of palmarosa oil, which is obtained by hydro-distillation of the grass—*Cymbopogon martinii* Wats. var. *motia*. In 1973-74 India exported 10.1 tonnes of palmarosa oil valued at Rs. 16.75 lakhs¹. This crop grows wild in the drier regions of Maharashtra and in the neighbouring states². Due to high geraniol content its oil is extensively used in perfumery and cosmetics. Very little work has been done on the genetic improvement of this species. The existing morphological variations in this species provided better scope for selecting a suitable genotype.

Forty-five different parental clones of *Cymbopogon martinii* var. *motia* were selected from the existing heterogeneous population grown at Aromatic and Medicinal Plants Garden of the Regional Research Laboratory, Bhubaneswar. The seeds were obtained from Lemongrass Research Station, Oddakali, Kerala, in 1969. The parental clones were grown under rainfed condition during 1975 kharif and the grass was harvested at full bloom stage. Ten effective tillers from each parent were studied. Observations on plant height, inflorescence length, fresh weight of stem, leaves, inflorescence and whole herb yield were taken (Table I). The number of tillers and fresh herb yield per bush were also recorded. The oil percentage of each parent were determined on fresh weight basis. The inflorescence density, the ratio of leaves plus inflorescence to stem and total amount of oil per bush were estimated. The ratio of weight of inflorescence (gm) to its length (cm) gave the inflorescence density. The oil percentage of leaves, stem and inflorescence were also determined separately (Table II).

The plant height ranged from 83.0 cm to 166.9 cm. It was observed that the dwarf plants were associated with thin stem. Since the stem contained very little oil (Table II) selection of a thin stemmed dwarf plant was aimed at.

TABLE I

Range of variation for different parental characters in palmarosa

Parental characters	Range of variation	Average of 450 observations
Plant height (cm)	83.0 - 166.9	130.0
Inflorescence length (c)	13.2 - 56.8	31.2
Weight of inflorescence (g)	4.0 - 31.0	10.8
Weight of leaves (g)	5.0 - 34.9	17.3
Weight of leaves + inflorescence (g)	9.5 - 65.9	28.4
Weight of stem (g)	11.2 - 83.7	38.8
Ratio of leaves + inflorescence/stem	0.47 - 1.44	0.76
Inflorescence density (g/cm)	0.017 - 0.080	0.035
Number of tillers/bush	40 - 153	79
Percentage of oil on fresh weight basis	0.067 - 0.67	0.41
Herb yield/bush (kg)	0.318 - 0.825	0.536
Oil yield/bush (ml)	0.41 - 4.38	2.11

TABLE II

Oil percentage of leaves inflorescence and stem of palmarosa

Plant parts	Range of oil percentage	Average oil percentage
Inflorescence	0.80 - 1.00	0.85
Leaves	0.64 - 0.86	0.76
Stem	trace	trace

The average weight and length of each inflorescence varied from 0.40 to 3.10 g and 13.2 cm to 56.8 cm respectively. RRL (B)-36 which had the highest inflorescence density of 0.068 g/cm gave the highest yield of 3.1 g per inflorescence. The number of tillers per bush ranged from 40 to 153. The yield of total herb increased with the increase in the number of tillers per bush.

The combined fresh weight of leaves and inflorescence varied from 9.5 g to 65.9 g, the highest being in RRL (B)-36. Since the oil content of leaves and inflorescence are higher than that of stem, plants having