

(Table II). Since the data obtained in F_2 and F_3 generations fit the expected ratios, it is concluded the heterophylly character is determined by three recessive-duplicate genes ($ht_1ht_2ht_3$). This is the first record of inheritance of heterophylly.

TABLE I

Segregation of heterophylly character in the F_2 generation

Character	Ratio	Segregation in F_2		χ^2	P
		Normal plants	Heterophyllus plants		
Heterophylly	63 : 1	Obs. 190	2	0.338	0.50–0.70
		Exp. 189	3		

TABLE II

Behaviour of F_2 families

Behaviour	Observed	Expected 37 : 6 : 12 : 8 : 1	χ^2
1. True breeding for normal leaves	33	29.48	0.42
2. Segregation in the ratios of 3 normal : 1 heterophyllus	6	4.78	0.31
3. Segregation in the ratio of 15 : 1	10	9.56	0.02
4. Segregation in the ratio of 63 : 1	2	6.38	3.01
5. True breeding for heterophylly	0	0.80	0.80

Total $\chi^2 = 4.55$. P between 0.30–0.50.

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1. Allsopp, A., *Linnean Soc. London (Bot.)*, 1963, 58, 417.

A NEW LEAF SPOT DISEASE OF PARTHENIUM

Parthenium hysterophorus L. is a noxious weed¹, occupying vast areas of cultivated land in Andhra Pradesh. A widespread leaf spot disease was observed on this weed during the winter season of 1978 near Guntur, Andhra Pradesh.

The parasitic fungus was isolated on Czapek-Dox Agar medium from several infected regions. The pathogenicity was confirmed by spraying the healthy plants with the spore suspension, prepared in sterilized distilled water from one week old cultures. The inoculated plants were kept under humid Chamber for 3–4 days. Typical symptoms appeared after 5–6 days of inoculation. Reisolations yielded the original fungus.

The disease manifests as dark brown necrotic lesions with a yellow halo. The spots appear on the lamina and also along the margins of the leaves. The lesions gradually increase in size and spread over most of the leaf area.

Mycelium brownish black, setae of the acervulus dark brown and multiseptate, conidia hyaline, curved with pointed ends and measure $16-26 \times 3-4 \mu$. The causal organism described here was identified and confirmed as *Colletotrichum capsici* (Syd.) Butler and Bisby (IMI 223607). Cross inoculations on some local varieties of chillies showed no disease symptoms even after several days of inoculation. This appears to be the first report of the fungus on this host. Work on the biological control of parthenium using this pathogen and some other fungal pathogens is in progress.

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1. Towers, G. H. N., Mitchell, J. C., Rodriguez, E., Bennet, F. and Subba Rao, P. V., *J. Sci. Ind. Res.*, 1977, 36, 672.

COMPLETE RED CURRANT (*RIBES RUBRUM* L.) PLANTS FROM ADVENTIVE EMBRYOS INDUCED IN VITRO

FERTILIZED ovules of a red currant cultivar *F. Hosszúfürtű* cultured on Miller¹ medium gave rise to polyembryony⁴. A few of the embryoids developed into rudimentary plantlets, but for four consecutive years, we could not raise complete vital plants.

In 1975 an efficient procedure had been worked out, by means of which several vital plants were

TABLE I

Media and environment for obtaining complete plants in vitro from adventive embryos of red currant cv. F. Hosszúfürtu

Medium	Effect
1. Miller ¹	Induction of adventive embryos
2. Nitsch-Nitsch ³ + GA 1 ppm	Proliferation of embryos
3. Nitsch-Nitsch-IAA	Sporadic organ formation
4. Murashige-Skoog ² -IAA-Kinetin Temperature dilatation for 2 weeks*	Abundant organ formation the shape of leaves is not characteristic
5. Nitsch-Nitsch with 1 % sucrose	First characteristic leaves
6. Nitsch-Nitsch with 1 % sucrose	Appearance of first complete plants
7. Perlite-sand-peat in pot	After hardening plants are ready for planting in open air

* By day: Outdoor for 9 hours, 3-8° C with occasional sunshine (characteristic of the Middle-European climate in November).

Night: Climate chamber for 15 hours, 26-27° C with 500 lux.

obtained (Table I). Procedure outlined in the table took 1 year approximately.

Plants obtained from adventive embryos are growing in the field for the past 2 years. They have a diploid chromosome number (16) like the mother cultivar. Their first flowers and fruits are expected in 1979. In the vegetative characters they look identical.

As far as we know this is the first case when viable plants are obtained from adventive embryos of a temperate fruit species.

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Fertod, Hungary,
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1. Miller, C. O., *Ann. N.Y. Acad. Sci.*, 1967, **144**, 251.
2. Murashige, T. and Skoog, F., *Physiol. Plant.*, 1962, **15**, 473.
3. Nitsch, J. P. and Nitsch, C., *Science*, 1969, **163**, 85.
4. Zatyko, J. M., Simon, I. and Szabo, Cs., *Plant Sci. Lett.*, 1975, **4**, 281.

PROLACTIN* INFLUENCED LIPOGENESIS IN *MYSTUS VITTATUS* (BLOCH)

ENVIRONMENTAL and endocrine factors which modulate the metabolic activity appear to be mediated through the hypothalamo-hypophyseal system. In fishes despite the normal fluctuations in the body lipid content due to stage of reproductive cycle the endogenous level of circulating plasma prolactin appears to influence the prevailing lipid content. Also the

specific influence of exogenous prolactin on the total body lipid reserves is contingent upon the time of the photoperiod at which the hormone is administered and also the source from which the hormone, bovine or ovine, is obtained. While the influence of prolactin has been studied in fishes in relation to the total body lipid reserves there is paucity of information on the specific influence of prolactin on liver lipogenesis. In the present study the influence of bovine prolactin on liver lipogenesis has been studied both by *in vivo* and *in vitro* methods in the freshwater fish *Mystus vittatus* (Bloch). The hepatosomatic index in prolactin and saline injected fishes is also calculated.

Female fishes weighing between 7 and 11 gms, with gonads in maturing stage, and acclimated to a photoperiod 12L/12D were used. For *in vivo* studies fishes were injected with 25 µgms of prolactin (Bovine: NIH-P-B₄) in saline base six hours after the onset of the light phase for 20 consecutive days. Saline injected controls and normal fishes without treatment were maintained along with the hormone treated fishes. At the end of the desired period of experimentation fishes were sacrificed and cut pieces of liver were taken from these fishes for the estimation of lipid content. For *in vitro* studies liver tissues were taken from acclimated fishes and the tissues were incubated separately in teleost saline fortified with 1 gm/l glucose, 25 mg/l lactalbumen hydrolysate, 10 mg/l streptomycin sulphate IP, 5 mg/l mycostatin, 20 mg/l fortified procaine penicillin and 25 µgm of bovine prolactin (de Vlaming *et al.*)¹. The gas phase in the culture flask was maintained at 95%,