TABLE I

Showing cholesterol (mg/gm fresh tissue weight) in liver, adrenal and testis of normal (sham irradiated) and 240 R X-irradiated (at 24, 48 and 72 hrs) guinea pigs

	Liver	Adrenal	Testis
Normal	7±0·08	6·0±0·30	5±0·13
24 hours	13±0·42*	5·1±0·28	3±0·18
48 hours	6±0·24	6·5±0·59	4±0·10
72 hours	8±0·19	4·2±0·23	7±0·47**

The values are ± S.E.M. of six replicates.
P values * < ·001, ** > ·05.

increased a 48 hrs and about 40% increase was noticed at 72 hrs after irradiation.

In the present study liver cholesterol showed marked increase at 24 hrs after 240 R X-irradiation. In liver early post-irradiation period is characterised by (i) increased lipogenesis and (ii) an accumulation of glycogen accompanied by gluconeogenesis[2, 4–6]. Enhanced lipogenesis and glycogen accumulation occur after irradiation because more substrate for these metabolic processes is made available as a result of tissue breakdown. Substrate utilization for synthesis rather than for oxidation predominates during the post-irradiation period because adaptation to the state of starvation in irradiated animals is restricted to nonoxidative enzymes.

Irradiation causes a stress response in the body and stimulates synthesis of steroid hormones *via* the hypothalamic-pituitary system. The decreased content of cholesterol after irradiation in early phases probably reflects an increased demand for cortical secretions or increased ACTH secretion by pituitary leading to decreased adrenal ascorbic acid and cholesterol content[7–8].

Testicular cholesterol serves as a raw material for the formation of important hormonal substances, and is the main substrate for androgen biosynthesis[9], the level of androgen secretion is governed by a preceding accumulation of cholesterol. Pollock[10] found cholesterol in the interstitial cells of guinea pigs, mice and rabbits and suggested a relationship to testosterone content. The present investigation has, however, shown increased cholesterol content at 72 hrs after 240 R X-irradiation. Kochar and Harrison[11] also observed increased cholesterol after 6 days in mouse testis following 1000 R X-rays. As it is known that Leydig cells secrete testosterone, it would appear that they are radiosensitive since they manifest biochemical changes due either to a direct effect of X-rays on cells, or to disturbance of gonadotrophin secretion.

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FIRST REPORT OF THE MALE OF *MYLONCHULUS MULVEYI* JAIRAJPURI, 1970 (NEMATODA: MONONCHIDA)

MALES are extremely rare in the genus *Mylonchulus* (Cobb, 1916) Altherr, 1953. *Mylonchulus mulveyi* described by Jairajpuri[1] from females is a very widely distributed species in India and other regions of the world[2]. In June, 1977 in a soil sample collected from around the roots of citrus plants from Dharamsala, Himachal Pradesh, a single male of this species was recorded for the first time and it is described here.

Dimensions

L = 0·89 mm; a = 26; b = 2·9; c = 22; buccal cavity = 22 × 11 μm; tail = 41 μm.

Description

Body ventrally arcuate upon fixation and tapering towards extremities. Cuticle smooth, 3 μm thick

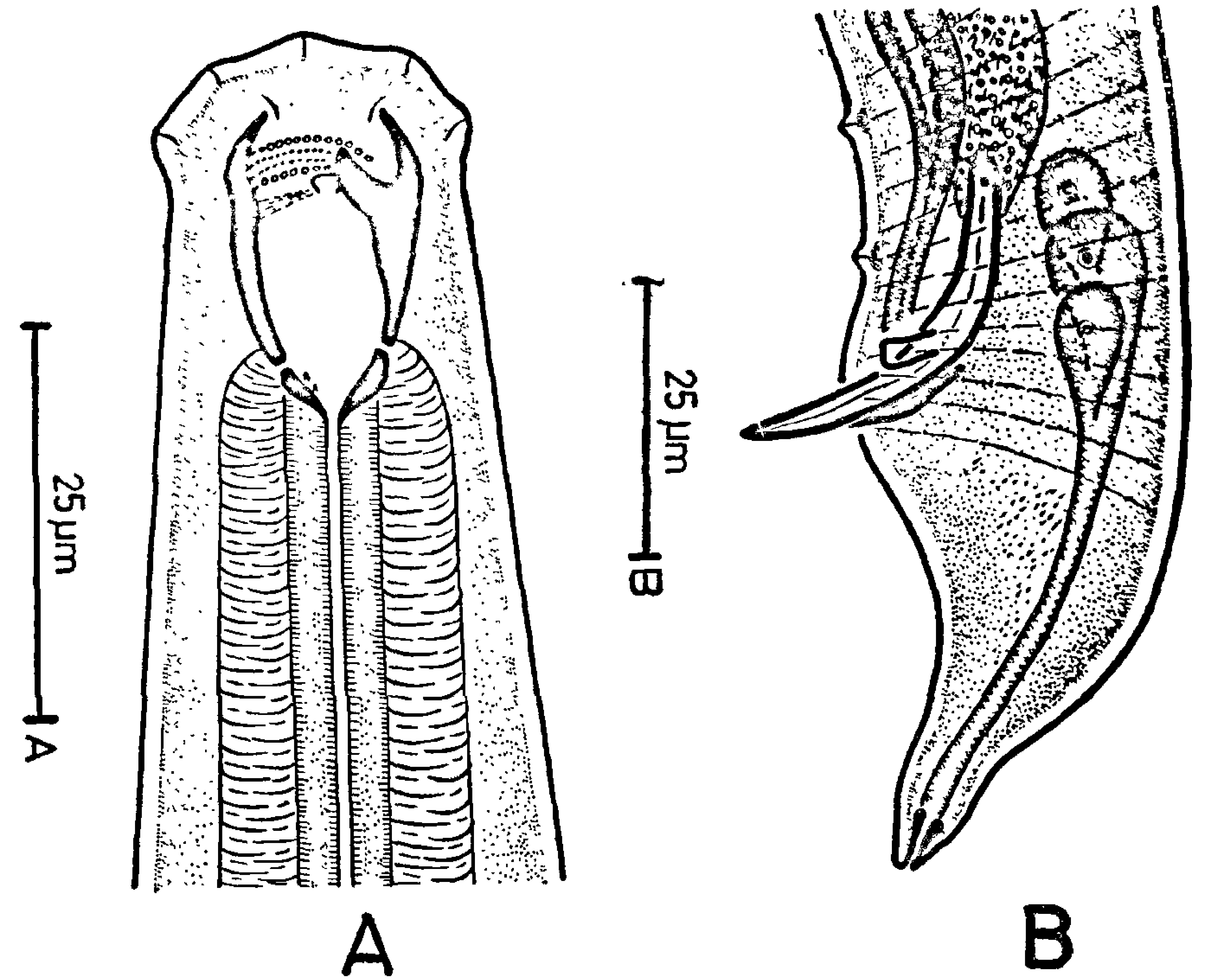

FIG. 1. A—Anterior end; B—Tail end of male of *Mylonchulus mulveyi* Jairajpuri, 1970.

at midbody. Lateral chords about 1/3rd body-width wide near middle. Lip region 20 µm wide, 5 µm high. Amphids 4 µm wide, apertures at 15 µm from base of buccal cavity. Apex of dorsal tooth at 17 µm from base of buccal cavity. Transverse rows of denticles 4, the inner two rows are very faint; sub-median teeth absent. Reproductive system consists of two testes, opposed and outstretched, leading to a common vas deferens which through an ejaculatory duct opens into the cloaca. Spicules 36 µm, gubernaculum 13 µm, and accessory pieces 5 µm long. Eight ventromedian supplements visible. Tail elongate-conoid, sharply tapering. Caudal glands grouped, spinneret terminal.

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