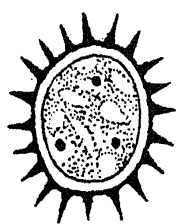
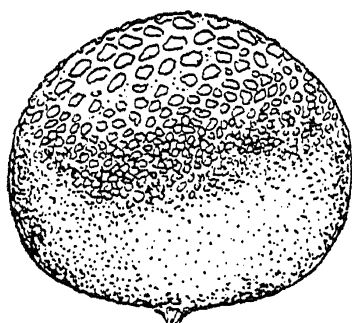


of specially trained dogs and pigs, whose keen scent enables them to spot these underground fruit-bodies right. The particular odour is not evident to most human beings. *Tuber* species occur commonly in deciduous forests of North Italy, France, Germany and other places in Europe. The mycelium of some species of *Tuber* has been recorded in France by late Prof. P. A. Dangeard in 1894² as a mycorrhizal symbiont with roots of various trees, especially oaks and beeches and some conifers; other species are true saprophytes. Truffles come under Ascomycetes—Tuberales—the genus being *Tuber*. The ascocarp remains closed after it is mature and the ascospores are liberated only after the decay of the outer covering. Spore-disposal is effected through the agency of animals, especially rodents. In California, some of the Tuberales are a favourite food of wood rats⁴ which detect them by their very characteristic smell. The fruit-bodies (ascocarps) dug up by the rats may be eaten on the spot or carried to their dens; in either case, pieces falling on the ground, usually inoculate the soil. Ascospores may also be distributed as undigested spores passing through the alimentary canal of the animal that has swallowed an ascocarp.³



Ascospores



Ascocarp

Last month I received some specimens of truffles through the kindness of Dr. Mukherjee, Director of the Central Drugs Laboratory, Calcutta, collected from Kodaikanal hills (Madras) by Mr. C. G. Hylten Cavallius of the Western India Match Co. Ltd., in June and July 1948. The ascocarp is about 4 cm. long and oval-shaped with warty scales on the outer surface; ascospores are brownish, globose with diameter 10-12 μ spore-wall distinctly spiny, ascospores (2-4) enclosed within clavate thin walled asci. This *Tuber* sp. is a rare find for India. There is only one previous record of truffle from India, *Tuber indicum* Cke, and Masee in "Himalayan Truffle, 1892" listed in 'Fungi of India' by Butler and Bisby¹, it was collected by Duthie in Mussoorie hills.

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September 15, 1948.

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1. Butler and Bisby, *Fungi of India*, 1931. 2. Dangeard, P. A., *Le Botaniste*, 1894, 4, 61-87. 3. Masee, G., *Ann. Bot.*, 1909, 23, 243-63. 4. Parks, H. E., *Micologia*, 1919, 11, 10-21.

ACTIVE ELONGATION OF UNSTRIATED MUSCLE

RELAXATION of striated muscle is known to be active; see Ramsey (1947) for references. Singh (1944), Singh and Singh (1946), Singh, Singh and Muthana (1947) have described active elongation of unstriated muscle. These experiments, however, were not satisfactory owing either to abnormal stimulus or abnormal saline used. Satisfactory evidence of active elongation during relaxation has now been obtained. Pieces of dog's stomach, if carefully dissected relax actively when stimulated with alternating current (12 volts for 10 seconds). The results are shown in Table I. The muscle was laid in a trough and stimulated isotonicly. If the dissection is not good, then the pieces curl or twist and it is then difficult to follow relaxation.

Experiments No.	Resting length of muscle; mm.	Length during contraction mm.	Length after Relaxation mm.
1	55	24 (43, p.c.)	35 (63, p.c.)
2	65	40 (61, p.c.)	65 (100, p.c.)
3	60	32 (53, p.c.)	54 (90, p.c.)
4	39	35 (89, p.c.)	41 (105, p.c.)
5	55	31 (56, p.c.)	46 (83, p.c.)
6	66	42 (63, p.c.)	59 (89, p.c.)
7	65	34 (52, p.c.)	63 (97, p.c.)
8	65	43 (66, p.c.)	62 (95, p.c.)
9	52	30 (57, p.c.)	50 (96, p.c.)
10	30	20 (66, p.c.)	32 (106, p.c.)

It will be seen from the table that the relaxation is complete in many muscles. Active relaxation is antagonised by substances that produce tonic contraction, such as excess of lithium, ammonium, potassium, calcium, strontium, barium, bromide, nitrate, iodide, thiocyanate, cyanide, acetylcholine, iodoacetic acid. It is less evident if a strong stimulus is used (50 volts), or if the muscle is asphyxiated or after soaking in saline for about an hour, a procedure which increases tone.

Tonic contraction is then due to interference with active relaxation, in agreement with views recently published (Singh and Singh, 1948).

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Medical College, Sunita Inderjit Singh.
Agra,
September 22, 1948.

1. Ramsey, R. W., *Ann. N. Y. Acad. Sci.*, 1947, 47, 675. Singh, I., *Curr. Sci.*, 1944, 13, 311. Singh, I., and Singh, J., *Proc. Ind. Acad. Sci.*, 1946, 23, 312. 1948, 27, 127. Singh, I. Singh, I., and Muthana, M. C., *Proc. Ind. Acad. Sci.*, 1947, 25, 51.