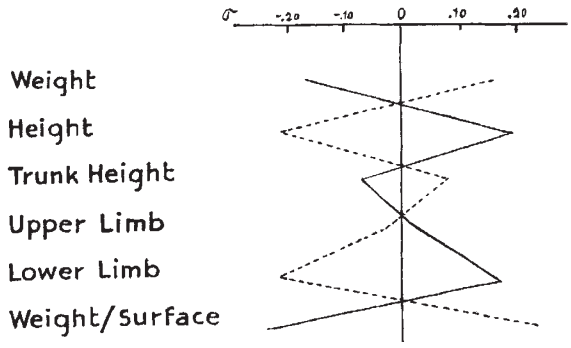

----, 10-min. group; ——, 30-min. group

their deviations from the latter are expressed in standard deviations. Thus, all characters are comparable and we can determine relative anatomical preponderances. For the 10-min. group we find a relative preponderance of weight over height, of trunk height over pelvic limb length, of upper limb over lower limb; the 30-min. group shows the opposite relative preponderances. On the average, the first group is manifestly eurysomatic, the second is leptosomatic. This 'bipolar deformation' coincides with other anatomical gradients revealed by the study of anthropometrical changes as functions of blood pressure and muscular strength, the latter being taken as independent variables[3].

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Poria monticola Murr. on Chir (*Pinus longifolia* Roxb.) in India

Poria monticola Murr. (= *Poria microspora* Overh.) has so far been known to occur naturally in North America (Canada and United States), where the fungus commonly causes heart rot of living trees (sitka spruce and Douglas fir) as well as decay of coniferous wood in service. The fungus is not known to occur naturally in Great Britain, and is only present in timber imported into the country from North America. During the Second World War, Messrs. Tata Aircraft, Ltd., Bombay, obtained from Canada a supply of 36,000 cu. ft. of sitka spruce for manufacturing aeroplane parts in India. A large number of the planks showed an infection in the form of brown streaks of rot running along the length of the grain. Isolations from the diseased wood yielded a fungus which resembled *Poria monticola* described in culture by Nobles[1] and others. The pockets were superficial and therefore the rot was removed by planing off the surface, and any incipient decay that might have gone inside the wood was arrested by kiln seasoning. The growth of the fungus is also known to be checked if the moisture content of the wood remains less than 20 per cent, based on the oven-dry weight of the wood.

Chir (*Pinus longifolia*) is an important timber species in the central and west Himalayas. The logs are converted in the felling coupes and are floated, along with other timber species, down the rivers into the plains. All these are collected at Dakpathar, Dehra Dun, which is situated at the foot-hills of the Himalayas on the banks of the River Jumna, which comes into the plains at this region. One of us (K. B.), during numerous inspections of timber at Dakpathar, collected chir sleepers, which were frequently affected by a brown rot. Isolations from the rotted wood yielded *P. monticola* in culture. It therefore appears that the fungus is present in a natural condition in India, and that it can be traced into the felling coupes of chir plantations in the Himalayas. Recently, a large consignment of chir sleepers was obtained by the Public Works Department, Government of India. The sleepers were stored in a godown adjacent to the Forest Research Institute, Dehra Dun. The conditions of storage were very unsatisfactory, with poor ventilation. The humidity of the air at Dehra Dun is high during July to September, when there is an average rainfall of 80 in. and the average temperature of the place in summer months is about 95° F. As a consequence, a dry-rot fungus affected and spread rapidly into all the sleepers by the end of September 1949. Thick hyphal mats developed on the surface

(1) Hyphal mats (left) of *Poria monticola* on the surface and (right) shrinkage cracks and initial stages of rot on a chir sleeper. × 1/10.
(2) Fruit bodies of *Poria monticola* on a chir sleeper. × 2/5

(Fig. 1), and occasionally fruit bodies were formed (Fig. 2) which corresponded with *P. monticola* described by Murrill[2]. The rot was of the brown carbonizing type. Isolations from the rot yielded *P. monticola* in culture. Advice was given to reject the sleepers where the rot penetrated into the core, while those with superficial rot and incipient stages of decay were given a sterilizing treatment in steam under pressure and restacked in the open under cover to allow free circulation of air around them. All such sleepers have been found to be healthy up to this date. The fungus caused a severe brown rot on chir sapwood blocks in culture flasks, and the average loss in weight of the blocks was found to be 63 per cent in four months.

Dr. W. P. K. Findlay, to whom the isolate from chir was sent, stated that the fungus is probably *Poria monticola*, to which view we agree from a study of its cultural characters. A detailed account of the fungus will appear elsewhere in a study by us of the fungus diseases and decays of conifers in India.

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