some, whereas 69% green, 23% white-striped and 8% albino seedlings were produced in others. In one case the ratio of white-striped to albino was 3 : 1 showing a fairly good fit. As recessive lethal characters tend to eliminate in time in competition with the normal allelomorphs, we have obtained a pure white-striped type later in two successive generations.

In both natural and artificial crosses the white-striped character segregated in F_2 in 3 : 1 ratio with a good fit and that one pair of factors were involved in them. The F_3 results in both confirmed the same. A heterozygous green plant back-crossed with a recessive white-striped plant gave 17 green: 14 white-striped plants with a deviation of 1.5 ± 1.87 from the expected number of 15.5 in each case. In fact, the white-striped character has been found to segregate as a simple Mendelian recessive to green in natural, artificial and back-crosses.

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Peculiar Bisexual Cones of *Pinus longifolia*.

IN my previous paper[1], I described the hermaphrodite cones of *Pinus longifolia* and *Picea morinda*. The features recorded about *Picea morinda* are very rare in occurrence,

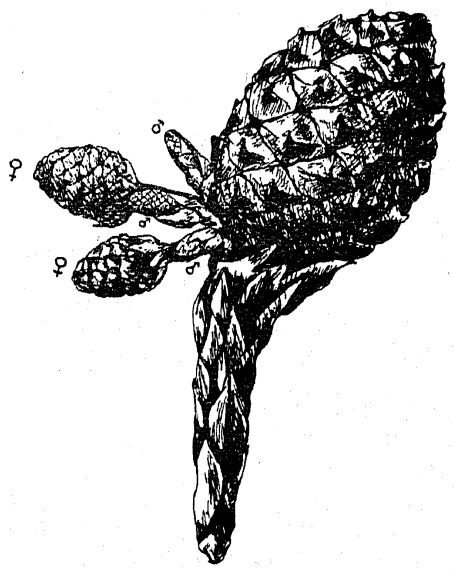

Fig. 1.

the only other instance being that of *Abies excelsa*[2] and those about *Pinus longifolia* have not previousjy been recorded. My recent collections contain some peculiar cones of *Pinus longifolia*, a brief description of which is given below. The terminal portions of the cones are occupied as in the normal female cones by a compact group of megasporophylls. Below this zone, on the same axis of few cones, there is a circlet of male cones varying in number from 1 to 10 much smaller than the normal male cones (Fig. 1). However, in some others the male cones are intermixed with female cones ranging in number from 1 to 5 (Fig. 2). These axillary female cones are much smaller than the axillary male cones and the terminal female cone. Below this zone, the axis is covered over by the usual scales

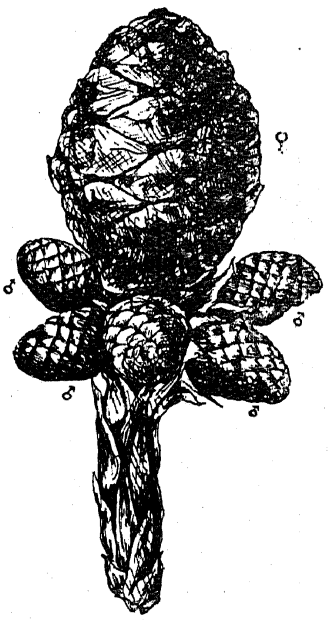

Fig. 2.

and still lower down, bundles of needles appear at the axil of the scales. The development of these cones seems to be quite normal, no physical deformity or disturbance being noticed. Further details of the structure and significance of these cones will soon appear elsewhere.

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August, 1932.

[1] L. N. Rao, "Bisporangiate Cones of Pinus longifolia and Picea morinda," *Jour. Ind. Bot. Soc.*, **10**, No. 3, 1931.

[2] Dickson, A., "Observations on some Bisexual Cones occurring in Abies excelsa," *Trans. Edinbg. Bot. Soc.*, **6**, 1860.