

Calendar of Nature Topics

Birds Lightest in November

Careful weighings of the North American house-finch (*Carpodacus mexicanus frontalis*), carried on throughout the year, show that in November the adults reach the minimum average of weight. J. L. Partin made more than 1,000 weighings of 800 individuals, and although the differences are not large, the lowest average (in November) being 93.7 per cent of the maximum which occurs in February, they point to a definite seasonal rhythm (*Condor*, 35, 60; 1933). From December to February, during which period the weight of both sexes surges upwards, the male birds were the heavier, but from April to July the weights of the females were consistently greater than those of the males, a difference due to the relatively greater increase of ovaries during the breeding season. Linsdale found a similar preponderance of weight in female fox-sparrows (*Passerella iliaca*) during that period.

In addition to the seasonal weight rhythm, there is a daily variation in the weight of the house-finch which amounts to about 3.5 per cent. There is a steady increase during the forenoon and a more erratic fluctuation in the early afternoon, when the maximum weight for the day is reached between 2 and 4 p.m. Thereafter the weight declines steadily until the onset of the morning's rise. The weight of adult house-finches at their heaviest is 21.58 gm., but there are indications that territorial variations occur in weights, which may be due to food influences, or heredity, or both.

American Passenger Pigeons

In the autumn of 1813, J. J. Audubon recorded one of the largest of the immense migrations of the passenger pigeon (*Ectopistes migratorius*) in Ohio, when birds migrating filled the air in an area of more than fifty-five miles from daybreak to sunset for three days; the last passenger pigeon died in Cincinnati Zoo in 1914. Such is the tragic story of a species that was, a hundred years ago, the commonest bird in North America. Audubon describes the passage: "In the autumn of 1813 I left my house at Henderson on the banks of the Ohio on my way to Louisville. In passing over the Barrens I observed the pigeons flying from north-east to south-west, in greater numbers than I thought I had ever seen them before; and feeling an inclination to count the flocks that might pass within the reach of my eye in one hour, began to mark with my pencil a dot for every flock that passed. In a short time, finding the task impracticable as the birds poured in in countless multitudes, I rose, and counting the dots, found 163 had been made in 21 minutes. I travelled on, and still met more the farther I proceeded. The air was literally filled with pigeons; the light of noonday was obscured as by an eclipse, and the continued buzz of wings had a tendency to lull me to repose. Before sunset I reached Louisville; the pigeons were still passing in undiminished numbers, and continued to do so for three days in succession." One flock he estimated to be one mile in breadth and 180 miles in length, taking three hours to pass, nor was it an unduly large one. In 1876-77 a large nesting colony extending 28 miles by 3-4 miles existed near Petosky (Ogilvie Grant).

The passenger pigeon has frequently been recorded

in the British Isles—Fifeshire, 1825 (Fleming, *Hist. Brit. An.*, p. 145), and Hertfordshire, July 1844—but many were obviously escapes from aviaries, as a Berwickshire specimen in Turnbull's "Birds of East Lothian", p. 41. About 1840, Audubon sent specimens to the thirteenth Earl of Derby for his zoological collection at Knowsley, which, after a few years, increased to such an extent that the doors of the aviary were opened to let them fly away (T. J. Moore, *Proc. Liverpool Biol. Soc.*, 6, 1891), some of them being recorded so far away as Leicestershire (Brown, "Vert. Fauna of Leicest.").

Burrowing of the Burrowing Toad

In November 1928 the tenth known specimen of the rare burrowing toad of India and Ceylon (*Cacopus globulosus*) was discovered in a northern suburb of Calcutta, buried to a depth of eight feet in the soil at the bottom of a tank. It is not known whether the burrowing is seasonal or not, but it seems to account for the scarcity of this toad in collections. The Calcutta specimen was kept in captivity by D. D. Mukerji, who observed its mode of burrowing (*J. Asiatic Soc. Bengal*, 27, 97; 1931). The earth was dug up by alternate quick outward and upward propelling movements of the two hind limbs.

The metatarsal shovels, which have fairly sharp outer edges, do all the cutting and scraping of earth, while the digits of the hind limbs, which are slightly webbed at their bases, sweep away earth on the sides of the burrow. By a forward push on the soil in front by the fore limbs, the toad gradually forces its way backwards and downwards in the burrow. These operations continued until finally the toad reached the bottom of its cage, where it rested quietly and never returned to the surface of its own accord except when the soil became too dry. But its habits in captivity may not have been quite normal, for in spite of the presence of food, it fasted for 390 days and then died.

The specific name describes the globular shape of the toad, and this the author discovered to be due to a temporary inflation of the lungs by which the abdomen was distended for considerable periods.

Electricity on the Farm

In the dark mornings of November the advantage of electric light in and around the farm buildings begins to be realised. Even the best of barns and buildings are not adapted to make the most of the dull light of a winter's morning; and milkers, horse-men and cattlemen grope about their duties in semi-darkness. The convenience of a well thought out lighting system at this period is worth much to the running of the farm, and is a real aid to efficiency. On the majority of farms supplied with electricity, the service of lighting forms the biggest item in consumption, but motor driven barn machinery is increasing and forms a further source of convenience—one might almost say luxury—on cold winter mornings, when an obstinate oil engine can exhaust much time and patience to induce it to start. With the progress of rural electrification, we may look forward to still another step towards the removal of some of the inconveniences that are associated with farm work—minor discomforts accepted as a matter of course and without complaint by agricultural workers, which will gradually disappear as it becomes economic and feasible to overcome them.