jects. I have held plates over the lamp or stove and burned them by the thousands, yet in twenty-four hours as many more would appear. Where do they come from? Leave them alone, and they will eat the refuse and disappear as mysteriously as they came. A dead bird, animal, or glass in which there has been sugar; a piece of cake or bread, even—it is just the same.

I have made some interesting observations in watching these small, apparently insignificant animals. They march in long slender lines and with the regularity of clock work. I have dropped a small crust of moist bread in the centre of a room and of a tapestry carpet, and in half a day or less found it one living, red mass of these small red ants. They seem to be everywhere. I believe they have regular scouts, always roving about, seeking food.

An ant that has found a bit of food will turn and retrace his steps until he finds a companion, they will put their heads and their antennæ, or both, together, touching each other a number of times, as if really in communication with one another (as I do not doubt they are), when the first ant will return to the food, and the one bearing the message will rove round until *he* can communicate with another ant, when *he* will return, likewise, to the same food. And so it goes on. It seems to be necessary that each communicate with some other before he can take his course to where the food is. So each communicates with another or some others. I have, in this way, seen a single ant turn the course of a procession of five hundred and over.

I have had much amusement in keeping these ants from the table of a sick person, upon which were an assortment of provisions. First the ants crawled up the legs of the table,—then I tied papers of naphthaline around the legs. This kept them off for awhile, but they soon walked fearless over the naphthaline and were up the table again. Old lemon did no good, various kinds of "sure cure" did no good; finally I cut four squares of sticky fly paper, a foot square, and put a piece under each leg. The ants came up to it, walked all around it, tried it in various places and then backed out. They would daintily step here and there upon it, feeling all about with their antennæ, and retreat again. About a dozen, and no more, lost their lives by venturing on it. But let the dust collect or the paper bend or break, and in less than half an hour the table was alive with them. They appeared in a procession orderly, and, when the food was gone, disappeared in a procession orderly. They often come from the least crack in the wall or floor in the centre of a room,—whether they crawl around the room, in and out of the chinks, or come directly from the walls in which they live, I cannot tell. I once had a nest of them between the leaves of a book catalogue in the interior of my writing secretary. When and how they came there I do not know. I could, doubtless, fill a whole issue of *Science* with the results of my watching of these interesting scavengers, for they are nothing else, but space forbids. I have had them *all over the body of a sick person*, without any attempt to bite the person and only intent upon eating or carrying away crumbs of bread left there and in the immediate vicinity. I have put food in various situations for them and watched them find it. Some kinds of food they do not touch, apparently; others they are greedy for and swarm to. Is it possible to clear the building of these pests? I call them pests, as they are so active, so abundant, and will not let food placed for others, and not for them, alone.

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On the Coloration of the Ruffed Grouse.

ONE is rather left to suppose that Mr. J. H. Bowles believes from what he says in his article of the above title (*Science*, No. 571, p. 16) that the Eastern forms of *Bonasa* exhibit a dichromatism of plumage such as we find in the screech owls of the genus *Megascops*. This is the more likely to be so from the fact that he nowhere has stated in his article that ornithologists recognize at least two forms of *Bonasa* in New England. He simply explains his "meaning by selecting three birds from a bag taken in this vicinity (Ponkapog, Mass.), as they show to perfection the three different phases seen in this species, viz.: gray, brown or red, and intermediate." Now *Bonasa* in the matter of plumage is *not* dichromatic as is *Megascops*, but two of the forms described by Mr. Bowles are either well-recognized species or sub-species of ruffed grouse.

In his "Manual of North American Birds" Mr. Ridgway gives us the following representatives of this genus, viz.: *Bonasa umbellus*, *B. u. umbelloides*, *B. u. togata* and *B. u. sabini*. Of these I compare *Bonasa umbellus* and *Bonasa umbellus togata* with Mr. Bowles's specimens.

Mr. RIDGWAY.	Mr. BOWLES.
B. umbellus.	
*a*¹. Paler, with brown markings on lower parts rather indistinct (except on flanks), and more or less concealed on breast and belly by broad whitish tips to the feathers, these brown markings usually without distinct edges; bars on flanks usually clear; hair, brown.	
*b*¹. (*B. umbellus.*) Upper parts mostly or entirely rusty, the tail usually rusty ochraceous. Hab., eastern United States, west to edge of Great Plains (?), north to Massachusetts (lowlands), south to Georgia (uplands), Tennessee, Arkansas, etc.	("The Southern form.") The phase found in the southern portions. Its fan is of a decided rufous tint, appearing in no way like that of the northern bird, except for proportions, and the transverse black bands. (These bands are always black, having a decided tinge of rufous in but *very* few cases). The tail coverts and upper parts are also of a reddish tint, the ruffs being a strong brownish red, tipped with dark brown and tinged with iridescent brown."
Bonasa u. togata.	
*a*². Darker, with brown markings on lower parts very conspicuous, everywhere exposed and bordered by very distinct dusky bars; bars on flanks very dark brown or brownish black.	
*b*¹. (*B. u. togata.*) Upper parts with more or less gray, often mostly grayish, the tail usually gray (sometimes tinged with ochraceous). Hab., eastern Oregon and Washington Territory, east to Moose Factory, Nova Scotia, Maine, etc., southward on mountains of New England, New York, etc.	("The Northern form.") "Taking the one in the gray plumage, which is the type found most commonly in Maine and the other northern parts, the fan of long tail-feathers is of a decided grayish cast, the back, upper and lower tail coverts being of the same shade. (The tail coverts and back vary in intensity to a greater or less extent in individuals). The ruffs are black throughout, with a strong tinge of iridescent green."

Of these two forms Mr. Bowles simply remarks "All things considered, the northern and the southern bird, when laid side by side, would hardly be taken for the same species." Mr. Bowles's third or intermediate form is accounted for by Bendine, in his handsome work upon "Life Histories of North American Birds," where he says: "In the New England States north of Massachusetts it (*Bonasa umbellus*) intergrades with *B. umbellus togata*, the majority of the specimens found throughout southern Maine, New Hampshire, Vermont and northern New York being scarcely referable to either form, birds found in the high lands approaching the Canadian ruffed grouse, while those in the valleys are nearer typical *Bonasa umbellus*."

The charge of Mr. Bowles that "comparatively little has been *printed* concerning the variety of colors worn by the ruffed grouse (*Bonasa umbellus*),—which seems surprising, as it is a favorite game bird,"—can hardly be sustained. It would have been better had your contributor consulted the *very extensive* literature upon this genus before he undertook to *print* his article in *Science* on the coloration of the bird. R. W. SHUFELDT.

Takoma, D. C., Jan. 23, 1894.

Late-blooming Trees.

THE remarks in a recent issue of *Science* on fruit-trees blooming in autumn are of much interest in that connection, but when it is found that many of our wild-flowers show a tendency to bloom at this season, the causes suggested seem hardly sufficient to explain the phenomenon. Some plants that bloom in spring habitually bloom again in September or October. In this class are the common blue violet (*V. palmata* var. *cucullata*) and the dog violet (*V. canina* var. *mulenbergii*). Specimens of these may be found in bloom every autumn, and often the arrow-leaved and Canada violets as well. It is not uncommon to find the red raspberry producing flowers and ripe fruit as late as the middle of October in this latitude. Among the twenty-two species of spring flowers that I have found blooming in late autumn may be mentioned *Hepatica triloba*, *Epigaea repens*, *Houstonia caerulea*, *Ranunculus fascicularis*, *Rosa blanda*, *Hieracium venosum* and *Potentilla canadensis*. When the whole list is examined it will be found that this trait of blooming twice runs through certain floral orders. The rose family (to which the fruit trees belong) is easily first, followed by violets, crowfoots, etc. The list contains few, if any, representatives of those plants that spring from bulbs, corms, or thickened rootstocks, although their buds are formed in autumn. Having a stock of food to draw upon, it would seem that these should be the first to respond to warmth and moisture. It appears to be quite rare for the trillium, dog-tooth violet, spring beauty, rue anemone or blood-root to bloom in autumn, and I should be pleased to hear from those who have found them in blossom at that season.

Apropos of this subject it may be mentioned that the blooming of plants out of season has long been considered an unlucky omen. An old saw runs, "When roses and violets flourish in autumn it is a sign of plague or pestilence during the coming year." In certain parts of the United States the blooming of fruit trees in autumn is supposed to be the precursor of a death in the owner's family. WILLARD N. CLUTE.

Binghamton, N. Y., Jan. 19, 1894.

—Mr. A. C. Cowley, of Trinity College, Oxford, and Mr. T. G. Stenning, Magdalen College, Oxford, have just left for St. Catherine's Convent, Mount Sinai, in order to continue the investigations begun by Mrs. Lewis and Prof. Rendel Harris.

Postage on Natural History Specimens.

IN *Science* for Nov. 17, 1893, p. 267, appeared a circular issued by the Academy of Natural Sciences of Philadelphia, concerning the transmission of specimens of natural history by mail between different countries. This circular asked scientific bodies in certain countries therein named to request their respective governments to favorably reconsider a proposition, made by the United States Post Office, to admit such specimens to the international mails under the rates for "samples of merchandise," this proposition having been once rejected by those countries.

In *Science* for Dec. 22, 1893, p. 348, a Canadian correspondent, Mr. W. Hague Harrington, criticises this circular as follows: "It is sought to throw the blame upon the countries in question, whereas the trouble arises solely from the fact that the United States have not yet advanced far enough to have a *parcel post*, as is in operation among these other countries. There is no difficulty in transmitting specimens from Canada to the most remote countries, but the United States by their policy make it impossible to receive or to send them. The scientific societies should exert their influence at home, and endeavor to have the United States Congress adopt the more advanced and liberal postal arrangements of the countries which your correspondents blame for their troubles."

As chairman of the committee appointed by the Academy to prepare the circular, I have obtained from Mr. N. M. Brooks, Superintendent of Foreign Mails, U. S. P. O., the following official information, which, it is believed, will sufficiently justify the means adopted by this Academy to secure the end desired. It gives me great pleasure to acknowledge here the unfailing courtesy of Mr. Brooks throughout our correspondence on this subject.

The Superintendent's letter, dated Jan. 12, 1894, reads: "With respect to the criticisms (quoted in your letter under reply) upon this Department's failure to more generally establish the parcels post service, it may be well to say that so far as *small packages* of natural history specimens are concerned, the parcel post would afford but few additional facilities over those offered in the regular mails if the rates were assimilated to those in force in Great Britain and Canada; for instance, the lowest charge in Great Britain on a package weighing 3 pounds *or less* addressed for delivery in Belgium is 1 shilling 3 pence (=30 cents), and to France 1 shilling 4 pence (=32 cents), while in Canada the charges for a pound *or less* would be to Belgium 46 cents, and to France 48 cents. While the sums named above may be low for the transmission of three-pound or one-pound packages, it must be remembered that these sums are the minimum charges and must be paid also on smaller packages, even on packages weighing only one or two ounces. If the proposition of this Department, to admit natural history specimens to the mails as 'samples,' had been adopted, small packages of such specimens would have been transmissible throughout the extent of the postal union at the rate of one cent for each two ounces, while the facilities offered by the parcels post for the transmission of larger packages would not have been curtailed. For example, under present conditions a package weighing 4 1/2 ounces may be sent from Canada to Belgium or France as *a letter* upon the prepayment of 45 cents; as a parcels post package the charge would be 46 and 48 cents, respectively; as a 'sample' the charge would be 3 cents."

It may also be mentioned that the United States *have* a parcels post to certain American countries at the rate of 12 cents per pound or fraction of a pound.

Mr. Harrington's criticism is inaccurate when he says that this Academy's circular "suggested that the various scientific bodies of the United States should use their influence to induce the governments of certain enumerated