

white, pleasing tints of a flat brown, of the pheasant-egg cast, are obtained. This colour has met with approval among artist friends to whom it was shown.

The beauty of colour and fastness to light of this pigment, from such an unpromising material, may be of interest to artists' colourmen.

DAVID PATERSON.

Leabank, Rosslyn, Midlothian.

#### Early Spring Flowers.

YOUR readers will doubtless have been observing how the mildness of the weather this winter, so far, has hastened on the spring flowers. I am inclined to think that some of the dates mentioned below have not often been paralleled. The dates in brackets, of the usual flowering times, have been taken from Babington's "Manual of Botany" and Johnson's "Gardeners' Dictionary." December 10, 1897, *Helleborus fetidus* (February); December 23, 1897, *Eranthis hyemalis* (February, March); December 31, 1897, *Iris histrio* (December to March); January 14, 1898, *Mercurialis perennis*, ♂ (April and May); January 14, *Corylus avellana*, ♂; January 29, ♀ (March, April); January 15, *Galanthus nivalis* (February); January 19, *Anemone hepatica* (March, April); January 20, *Anemone fulgens* (February 20, 1897), (March, April); January 20, *Ranunculus Ficaria* (February 20, 1897), (April, May); January 20, *Viola odorata*, wild (March, April); January 21, *Iris histrioides* (March); January 21, *Tussilago Farfara* (February 20, 1897), (March, April); January 21, *Berberis Aquifolium* (April); January 22, *Potentilla Fragariastrum* (April, May); January 24, *Primula vulgaris*, wild (March to May); January 24, *Crocus aureus* (February); January 26, *Omphalodes verna* (March); January 29, *Aucuba japonica*, ♂ (June). On the ♀ plant there is no sign of flower yet, and the berries have just turned red. January 29, *Ulmus surculosa* (February 21, 1897), (March to May); January 29, *Daphne Laureola* (February, March); January 29, *Arabis albidia* (February 21, 1897), (February). Among other plants which began to flower in November, and have gone on until now with unusual luxuriance, we have noted *Garrya elliptica*, ♂ (just over), *Viburnum Tinus*, *Petasites fragrans*, *Lonicera fragrantissima*, *Ionopsidium acule*, *Erica carnea*, garden violets, and primroses, single and double, and forget-me-not. I may add that on December 1, 1897, in the course of an hour, in and around the garden here, I noted upwards of 120 different kinds of plants in flower. A few were winter flowers, but most of them were belated summer and autumn ones.

Aphides are feeding on young rose and iris leaves, and slugs are playing havoc with young shoots of herbaceous and alpine plants.

A young rabbit was seen ten days ago in Devonshire, and in Gloucestershire a nest containing eggs of the blackbird and one of the robin with eggs were found about the same time.

Dadnor, Herefordshire, January 31.

E. ARMITAGE.

#### Insusceptibility of Insects to Poisons.

In your review of "Notes of a Naturalist and Antiquary" in the issue of November 18, it is said that the caterpillar of the Spurge Hawk Moth "feeds exclusively on the Sea Spurge, although the plant secretes an acrid juice 'so painfully poisonous that it is difficult to imagine a digestive apparatus competent to deal with it.'"

This recalls to me a case, which came under my notice some years ago, in which a druggist had prepared a quantity of poisoned wheat for killing sparrows, then lately introduced here and a great nuisance, by soaking it in a solution of strychnine coloured with magenta. He found that on keeping it for some time in cardboard boxes it became infested with weevils; so I examined it to find if it really contained the alkaloid. The boxes were full of weevils and their excrement, and the wheat was more than half of it eaten. Strychnine was present in the wheat in the weevils, and in apparently larger proportion in the excrement, so that it had evidently passed through the digestive apparatus unchanged.

WILL. A. DIXON.

Sydney, December 31, 1897.

MR. DIXON'S letter supplies a further illustration of the curious fact that certain insect larvæ are able to feed upon poisonous plants with impunity, and can pass through their digestive system an amount of poison sufficient to kill many a

more highly organised being. It is perhaps owing to their being less highly organised that they are not susceptible to the poison. Although various instances in support of the fact have been placed on record, I have not met with any attempted explanation.

M. Félix Plateau, in a paper on the phenomena of digestion in insects, published in the *Mémoires de l'Académie Royale de Belgique* (tome xii.), an abstract of which may be found in the *Annals and Magazine of Natural History* (ser. 4, vol. xvi.), has remarked that some substances resist the digestive action and are passed with the excrement—as in the case of the weevils examined by Mr. Dixon. Such, he says, are the chitine of the integuments of insects, vegetable cellulose, and chlorophyll, which by the aid of the micro-spectroscope may be detected at all parts of the alimentary tube of herbivorous insects; but he says nothing of the effects of poison.

Dr. T. R. Fraser has shown (*Ann. and Mag. Nat. Hist.*, ser. 3, vol. xiii.), that the caterpillar of *Deiopeia puichella* feeds on the virulent poison contained in the kernel of the seed of *Physostigma venenosum*, and is unaffected by the poisonous principle of the kernel—"eserinia." Yet he ascertained by experiment that the caterpillars subjected in various ways to the action of hydrocyanic acid quickly died, proving that this species possesses no universal panacea against all poisons.

Curious to relate, another insect, a weevil *Anthonomus druparum*, feeds with impunity on the very poison which is fatal to the last-mentioned insect, namely on the kernel of *Prunus cerasus*, the poisonous properties of which depend on the hydrocyanic acid it contains. It appears, therefore, that what is one insect's food is another insect's poison, and *vice versa*. The subject offers a fine field for investigation, and the results of further experiments, if made known, would be of interest to many besides professed entomologists.

THE REVIEWER.

#### Variation of Water-Level under Wind-Pressure.

IN confirmation of Mr. Wheeler's observations as to the variation of water-level under wind-pressure, two interesting beaches in the Great West Bay may be cited.

At the Chesil Bank (where all forces combine to raise the water-level) a height of 42 feet 9 inches above normal spring tide, high-water, is the height of the shingle-barrier raised by winds, waves, and currents to bar their own progress. Within the same bay, in the minor inlet of Torbay, the beach at Goodrington Sands (exposed to an easterly drift of more than 200 miles, and to waves exceeding 300 feet from crest to crest) rises 5 feet above the mark of fine weather spring tides; and this low bank is, or was when I saw it in 1889, the sole barrier between a grass field and the English Channel. The explanation clearly is that the harder it blows from the east, the more the level of the English Channel is lowered and the waters of Torbay with it.

Torquay, February 4.

A. R. HUNT.

#### Bipedal Lizards.

My correspondent, Mr. H. Prestoe, has taken the trouble to examine the collections at the Natural History Museum, and by so doing has identified the bipedally-running Diamond Lizard of Trinidad, referred to in my last week's communication, with the *Ameiva surinamensis* of Gray. This identification is of additional interest, since it associates the faculty and habit of bipedal locomotion with yet a third family group of the lizard tribe, namely, that of the Teiidae.

A good illustration of the species under notice, in a state of repose, is given in vol. v. of Lydekker's "Royal Natural History."

W. SAVILLE-KENT.

#### THE TOTAL ECLIPSE OF THE SUN.

THE first Indian mail dispatched after the total eclipse of January 22 has now arrived, and it brings a number of details of the work done and results obtained during the two minutes of totality. It is therefore now possible to supplement the information derived from cablegrams already published in *NATURE* (January 27, p. 294) with extracts from the reports of the various eclipse parties. The Government of India appears to have rendered assistance to all the observers, and it has earned the gratitude of men of science