

something very unusual in the behaviour of the raven and unfortunately I made no note. Now, however, after the lapse of many years, it has been suggested to me that the facts are worth recording.

The observation was made in July 1917, when I was staying in Patterdale. One morning, between nine and ten o'clock, I was standing in front of Patterdale Hotel watching a pair of ravens flying across the Dale from Place Fell towards the wooded heights above Patterdale Hall. They passed by me rather low down and within about 200 yards. It was a clear, bright morning, and the sun being behind me the observing conditions were favourable. I was using an excellent pair of field-glasses, magnifying eight times, and with a field of about 5°. The two birds were flying close alongside each other, as is the habit of ravens. As they were passing by, the one nearer to me suddenly, and without any warning action, rolled over sideways and after falling in a confused fashion ended on his back, some five or six feet below his mate. In this position, and without losing horizontal speed, he continued flying; or to describe more precisely what I saw, he remained on his back, flapped his wings, and travelled along in what appeared to be level flight. He kept pace with his mate, who continued stolidly on her way entirely unconcerned by the antics of her partner down below. After flying upside down for a considerable distance, the raven rolled over again and got himself right side up; not without a flutter of wings and loss of height. By this time the birds were a good deal farther off and observation had become more difficult, but before they finally passed out of sight I noticed that they were once more flying side by side, as a pair of self-respecting ravens should do.

It was not easy to estimate the distance the raven flew upside down. Anyone who has had to do with the range-finding of aircraft, as I had to do during the War, will appreciate the difficulty of estimating, even roughly, the distance travelled by a flying bird. However, doing the best I could, I judged the distance the raven flew while he was upside down to be not less than 100 yards and very possibly a good deal more. That, at all events, was the judgment of the observer at the time and on the spot.

Some years later I began to wonder how the wings of a bird would work, if at all, when the bird was on its back; and whether, in the absence of aid from the flapping wings, the kinetic energy acquired in tumbling downwards would have sufficed to carry the raven on a level course over the observed distance. But such speculations as these do not affect what I saw, and the sight has remained vividly present in my mind from that day to this.

SYDNEY EVERSLED.

40 Woodville Gardens, London, W.5,  
Nov. 9.

#### Masking of Spike-disease Symptoms in *Santalum album* (Linn.).

DURING the course of disease transmission studies, it was found that certain stocks for long periods did not exhibit the characteristic symptoms of the disease, and were therefore believed to represent disease-resistant varieties. The leaf tissue from such operated and disease-resistant varieties was found non-infective as shown by transmission experiments conducted with the leaf on susceptible stocks. Two such plants on being accidentally injured—in one case by a borer, and by wind in the other, both involving the removal of much foliage—exhibited the characteristic symptoms during the course of 15 days after the accident, with sprouting of the dormant buds. This suggested the possibility of accelerating the manifestation of disease symptoms by defoliation and by light pruning, which has met

with great success. Foliage tends to inhibit the external manifestation of the disease symptoms. In one instance the infected stock remained apparently healthy for 417 days and more than doubled its girth and size during this period; but on light pruning and defoliation the stock exhibited the symptoms during the course of 16 days, with bursting of the dormant buds. A study of the physiological changes in the composition and reaction of the cell sap induced by defoliation should reveal the true cause of this remarkable phenomenon.

In diseased forest areas, therefore, external appearance of sandal is not the true criterion of its freedom from infection, which, if dormant, manifests itself on pruning the plant. This curious masking of symptoms in the case of sandal appears to be influenced by intense sunshine, and temperature. During this masked period the virus appears to be localised in certain tissues (phloem) of the plant, where it multiplies and exists in a highly virulent form.

M. SREENIVASAYA.

Department of Biochemistry,  
Indian Institute of Science,  
Bangalore, Nov. 4.

#### The Designation of Women Biologists.

MANY years ago, Dr. Eigenmann, of the University of Indiana, finding certain small fresh-water fishes of South America very perplexing, decided to turn them over to one of his most capable students, Miss Marion Durbin. In due course of time Miss Durbin published a new genus and twelve new species of Tetragonopterid Characins, small fishes of a type which has since become very popular in parlour aquaria. Miss Durbin married Dr. Max Ellis, and papers on South American fishes, with new species, were afterwards written by each. As the species are usually cited, they are credited to Ellis, and the reader may or may not know that if they belong to a certain family they are of Max Ellis, if of another they were described by the former Miss Durbin. The first initial being the same in both cases, it is necessary to cite two initials to indicate which is which. In 1921 some new South American birds were published by G. K. Cherrie and Mrs. E. M. B. Reichenberger. There has just appeared an admirable revision of the birds of Matto Grosso, by Mrs. Naumburg. But Mrs. Naumburg is identical with the former Mrs. Reichenberger.

These examples suggest that, in view of the constantly increasing number of taxonomic papers by women, and the confusion which must result from the customary method of designating them, it would be an advantage to all concerned if, for the purposes of publication and citation, the maiden name were used without any change. It would always be possible to add the married name, as "By Mary Smith (Mrs. Wm. Jones)". Should this reform be supported by councils of societies and editors of journals, it is probable that little or no opposition would be met from the authors themselves. There is at least one well-known case of a woman author of taxonomic papers retaining her maiden name, though married.

T. D. A. COCKERELL.

University of Colorado,  
Boulder, Nov. 12.

#### Transmission of Infantile Kala-azar.

WITH reference to Drs. Adler and Theodor's note entitled "Infection of *Phlebotomus perniciosus* Newstead with *Leishmania infantum*", published in NATURE of Sept. 20, I would like to add that the insect concerned has not as yet been recognised as a distinct species, but only as a variety of *Phlebotomus major*