cumstances it is natural that monographers should have expressed diverse opinions as to the limits of the species, and that different characters and parts of the plant should have been taken as a basis for classification. Bentham grouped the species according to the shape and mode of dehiscence of the anthers, and von Mueller followed his lead. Prof. Tate has proposed a system based upon the structure of the fruit, whilst of vegetative characters, the cotyledons, leaf-veins, stomata, gums, and timber have all been tested in the hope of finding satisfactory criteria. Mr. Maiden attaches considerable importance to the bark and timber for the guidance of the forester, but recognises that the anthers and fruit are the best characters for the systematist.

In the present monograph the object of the author has been to include, with a description of the important characters, the substance of all recorded observations and investigations which might assist in determining the position and value of species or varieties. Synonyms are considered in detail, with the original description of each where it has been proposed as a species, and the range of each species is noted; finally, the author's views are crystallised in a discussion of the affinities of allied species. These views are based not only on the examination of specimens from important herbaria, but also upon much careful study of the growing trees in their native localities. Whilst recognising the desire of the author to render the work as comprehensive as possible, it must be said that its practical value would be increased by a considerable reduction in the amount of material, in the size of print and in the spacing. The five parts issued amount to 145 pages, and contain twenty-four plates for eight species, so that the complete work will be bulky and exclusive as to price. It may be suggested that a supplement to this treatise in the shape of a compendium suitable for foresters and students generally would be most useful.

Hymenopteren-Studien. By W. A. Schulz. Pp. 147. (Leipzig: Engelmann; London: Williams and Norgate, 1905.) Price 4*s.* net.

THE present work consists of three essays, the first relating to African Hymenoptera (chiefly Vespidæ and Fossores), the second describing new genera and species of Trigonalidæ, and the third discussing Vespidæ and Apidæ from the Amazons. The work is chiefly descriptive, and will hardly appeal to any but specialists, who must of course consult it when working at the faunas and groups which are discussed in it.

LETTERS TO THE EDITOR.

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of* NATURE. *No notice is taken of anonymous communications.*]

The High-frequency Electrical Treatment.

THE inquest on a lady who died in the Charing Cross Hospital on April 11 must be of interest to those who employ the high-frequency electrical treatment. The report of the case in the *Standard* of April 17 is as follows:—"On April 11 she (the deceased) was under treatment, lying on the electrical couch. Suddenly witness observed the perspiration break out on her face, and immediately stopped the current. He watched her for a while, and as she seemed to be in a collapsed state he administered a spoonful of sal volatile. Then he recognised symptoms which pointed to 'a serious state of affairs,' and sent for Dr. Bailey. The lady was removed to another ward and died in the evening. Death was caused by hemorrhage of the brain, following a rupture of an artery. This was not a consequence of the electrical treatment; she would probably have died just the same if she had been sitting in the waiting-room, instead of on the electrical couch. It was a mere coincidence. Dr. Bailey and Dr. Freyberger gave evidence supporting this view of the case." The treatment was that of the high-frequency electrical current.

Now that high-frequency electrical discharges are much employed in medical work, being the newest and most up-to-date method of treatment for many diseases, it is somewhat important that even "mere coincidences," such as that cited, should not be overlooked or treated lightly; it is only by collecting evidence on such points that any real knowledge respecting the action of the treatment can be obtained. Shortly after the experiments of N. Tesla on electrical discharges, I carried on many experiments on the subject, and from somewhat painful experience I have learned that one source of trouble may be overlooked by many, since it is a secondary action, so that while the utmost attention may be given to the behaviour of the discharge itself, but little may be given to the action of the air which has been subjected to an electrical discharge. The danger of breathing such air was pointed out by me long ago (NATURE, 1896), and by many other workers with electrical discharges since then. Air which had been acted on by the high-frequency discharge, when breathed, caused irritation to the throat and lungs, and a feeling of suffocation, in some cases very severe. This is rather to be expected, since ozone and ozonised air act on blood, albumen, and organic substances readily. Profs. Roscoe and Schorlemmer write thus in their treatise on "Chemistry," p. 243, vol. i. (subject, ozone):—"Whilst blood is completely decolorised, the albumen being entirely, and the other organic matters being nearly all destroyed.")

The trouble mentioned was removed to a considerable extent by inducing a strong draught of warm air across the chamber where the apparatus was used. I feel that I am taking a great liberty in suggesting anything to the high-frequency specialist, who will give me at once the reason why self-induction is expressed as "a length," and why a rapidly varying electromagnetic field causes flashes of light to be seen when the head is placed in such a field. I would suggest that in connection with the method of treatment with the high-frequency discharge, all evidence of new phenomena should be collected and sifted in a scientific spirit, whether it be for or against it.

Operators now take every possible precaution to guard themselves against the evil effects of the X-ray, which at first was treated as quite innocuous. May not the high-frequency discharge in a modified form have a somewhat similar kind of action, and should it not be treated with as much, or at least some, caution?

F. J. JERVIS-SMITH.

The Critical Temperature and Pressure of Living Substances.

IT is well known that living substance is in a labile state, its constructive or destructive metabolism being determined by minute changes, sometimes of temperature or pressure, sometimes of other dynamic conditions. But Mr. Geoffrey Martin's suggestion (NATURE, April 27, p. 609) that the lability is due to the great number of atoms in the molecules of living substance, or to the complex "carbon compounds" present, gives only a partial explanation.

The decomposition of a chemical compound under raised temperature, diminished pressure, &c., depends not only on the size and complexity of the molecules, but also on the tendency of the atoms to re-arrange themselves and form more stable compounds, generally with dissipation of energy. For instance, the paraffins with large molecules are fairly stable, the products of their decomposition being hydrocarbons still. Fatty acids with equally large molecules are less stable, for there is a tendency to split off substances of higher oxidation, leaving a hydrocarbon residue. This tendency increases with the increase of oxygen in compounds, and so the small molecule of glucose is less stable than the large molecule of fatty acid. The presence of nitrogen is often a cause of instability, especially when the nitrogen forms a link between elements (or groups) of opposite polarity; and the instability is most marked when the nitrogen is combined with oxygen on the