

The work is primarily a contribution to systematic dendrology, and cannot fail to be of interest and value to the systematist. At the same time, the subject is of considerable importance to the practical man, be he nurseryman, forester, gardener, or landscape gardener. In those professions winter operations often occur, in which it is very important to be able to identify accurately the different species.

The special descriptions of the species dealt with in the book, so far as they have been tested, have proved to be quite accurate. There are a few misprints and slips, which are, however, corrected in the errata at the end of the book. There are one or two emendations still required, such as "*Spartium junceum*" instead of "*Sportium unceum*," p. 22, line 3. Also in the reference to the wood body of Fig. 31, given on p. 56, line 33, we would substitute "undermost layer" for "uppermost layer." However, such slips will, no doubt, disappear in a second edition, which we hope to see this work reach, and in which the author will be able to enhance the value of his work by the addition of still more species.

*La Tecnica delle Correnti Alternate.* Vol. i. Parte qualitativa e descrittiva. By G. Sartori. Pp. xv+336; 260 illustrations. (Milano: Ulrico Hoepli, 1903.) Price L.8.

THE course of evening lectures read before a class of artisans is here given in book form. Except for an occasional algebraic expression, mathematics are rigidly excluded, and yet the author tackles the most complex phenomena of alternate currents, and discusses the behaviour of synchronous, asynchronous and rotary-field motors, with their various starting devices; of rotary converters and their tendency to hunt; of alternators running in parallel, and of wave propagation in long lines. And he does this with so much success that the usual treatment on the basis of a sine wave-form compares unfavourably. A mathematical treatment of the subject is practicable only on the assumption of sine-waves, and the evil of this is that students are apt to forget that in practice the wave-form is rarely sinusoidal, and generally so far removed from it that the theoretical deductions are then valueless. To deal with alternate currents is far harder without than with the use of sine waves, and the author is to be congratulated on his success. The book, in fact, is not an elementary manual, but an up-to-date treatise, its language suited to the artisan and its substance to any student.

*Monographie des Cynipides d'Europe et d'Algérie.* Par l'Abbé J. J. Kieffer, Membre de la Société Entomologique de France. Tome Second. Premier Fascicule. Pp. 288; avec les planches 1 à 9. (Paris: Hermann, 1903.) Price 16 francs.

THIS is another instalment of the important series of monographs forming part of the great work on Hymenoptera inaugurated by the brothers André. It includes the portion of the parasitic Cynipidæ comprised in the tribes Allotriinæ, Eucœlinæ, and the commencement of the Figitinaæ. The Allotriinæ must be regarded as very useful insects, for they feed chiefly, if not exclusively, on Aphidæ and Coccidæ; whether they ever attack other insects seems for the present to be somewhat uncertain. The Eucœlinæ, on the other hand, are parasites on the larvæ and pupæ of Diptera, and sometimes on small Coleopterous larvæ, and the single recorded instance of their attacking Aphidæ is considered by Kieffer to require confirmation, while the known larvæ of the Figitinaæ are parasitic on the larvæ of Diptera, Coleoptera, and Neuroptera.

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The subject is treated in a similar manner to that of the first volume, which we have recently noticed, and several species are described as new. The former standard of excellence is well kept up, both as regards the text and plates.

*Spirals in Nature and Art.* By Theodore Cook. Pp. xxi+200. (London: John Murray, 1903.) Price 7s. 6d. net.

THAT spiral curves, or, more strictly, helices, and screw motions should play an important part both in the natural world and in structures constructed by human hands is a fact for which a mathematician can easily suggest an explanation on general grounds. Without professing to bring any extensive scientific or technical knowledge to bear on the subject, Mr. Cook has made a most interesting study of the resemblances between the spiral forms occurring in nature and in art, and has produced a book the study of which will be a delightful recreation to any class of reader. Apart from the mere spiral form, Mr. Cook finds remarkable resemblances between the structure and sculpturing of certain staircases in France and those of the shells of certain mollusca. It is certain that Leonardo da Vinci studied shells, and that he was in France about the time when these staircases were built, and an obvious connection suggests itself. While the author's study of the works of Leonardo da Vinci—illustrated by copies of his drawings—is interesting, the connection of Leonardo's studies of the flight of birds with spiral curves strikes a reader as somewhat doubtful. Even Pettigrew's figure-of-eight-shaped curve, and the oval curve familiar to readers of Marey's "*Vol des Oiseaux*," which represent, according to modern views, the relative paths of points on the wings of a wasp and a bird, can hardly be said to produce a *spiral* curve when compounded with the forward motion of the animal.

*Lois générales de l'Action des Diastases.* Par Victor Henri. Pp. xi+129. (Paris: A. Hermann, 1903.)

AFTER a general introduction on catalysis and a classification of catalysers, the author gives a historical account of the work already done on the action of diastases. Then follows a description of his own researches on the action of invertase on cane-sugar, together with the theoretical deduction of a formula which represents with considerable accuracy the actual course of the reaction under varying conditions of concentration. The book concludes with two short chapters on the action of emulsin on salicin, and of amylase on starch. The author shows an intimate acquaintance with the mode of application of the laws governing the velocity of chemical action, and has been successful in selecting appropriate experiments to solve the problem with which he was confronted.

*Sylviculture.* By Albert Fron. Pp. xii+563. (Paris: J. B. Baillièrre et Fils, 1903.) Price 5 francs.

THIS is one of the volumes of the useful "*Encyclopédie Agricole*" which is appearing in France under the auspices of a "*Réunion d'Ingénieurs agronomes*." It deals succinctly with the methods of cultivation of woods for commercial purposes, gives an account of the chief timber trees, and also deals with the products of forests and the manner of their conversion, in accordance with French practice.

The book has no special feature. It is well adapted to the requirements of students of the "*École Nationale d'Agriculture*," for whom it is intended, and forms a useful addition to its series without replacing the larger text-books on the forestry of France—such as those of Boppe.