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INDIAN LOCAL FLORAS.

The Flora of the Nilgiri and Pulney Hill-tops (above 6500 feet), being the Wild and Commoner introduced Flowering Plants round the Hill-stations of Ootacamund, Kotagiri, and Kodaikanal. By Prof. P. F. Fyson. 2 vols. Vol. i., pp. xxvi + 475. Vol. ii., 286 illustrations. (Madras: The Superintendent, Government Press; London: Thacker and Co., 1915.) Price 10 rupees or 15s. 2 vols.

THE need for guides to the plants of particular Indian districts has been felt since English rule was established in the East. The wish to meet it, perhaps stimulated by the posthumous publication of Roxburgh's "Flora Indica" in 1832, led to the preparation of Graham's Bombay "Catalogue" in 1839, of Munro's "Hortus Agrensis" in 1844, and of Voigt's "Hortus Calcuttensis" in 1845. The appearance in 1855 of that fine fragment, the "Flora Indica" of Hooker and Thomson, led to Sir W. Elliot's "Flora Andhrica" for Madras, of which the only part was issued in 1859, and to Dalzell and Gibson's "Bombay Flora," published in 1861. In 1872 Sir Joseph Hooker commenced as an official undertaking his masterly "Flora of British India." After this date, except as regards Bombay, the requirements of forest officers involved the provision of Beddome's Madras "Flora Sylvatica" and Brandis's "Forest Flora of North-west and Central India" in 1874, Kurz's "Forest Flora of British Burma" in 1877, and Gamble's "List of the Trees, etc., of the Darjeeling District" in 1878. With these exceptions, between 1872 and 1897, when the last volume of Hooker's "Flora" appeared, the energies of Indian botanists were directed to assisting that author in his arduous task.

The official scheme involved the preparation, using Hooker's pioneer work as a basis, of local floras of Bombay, Madras, the Panjab, Upper and Central India, Bengal, the North-west Himalaya, the Eastern Himalaya, Assam, and Burma. These provincial floras were in turn to serve as the foundation, where required, of floras of still narrower areas. The necessary local flora of Bengal was completed in 1903; that of Bombay in 1908; that for Upper and Central India, begun in 1903, is nearly complete; that for Madras is in hand and has made considerable progress. Delays have attended the preparation of those for the Panjab and the North-west Himalaya; the time is not yet ripe for those of the Eastern Himalaya, Assam, or Burma. Based on the Bengal work, divisional or district floras of Chutia Nagpur and

the Sundribuns have been issued; similar works for Central India and Dehra Dun, the district in which the Imperial Forest School is situated, have been based on that for Upper India.

India is a country where public officers aim at efficiency; the letter is never there permitted to kill the spirit of a prescribed programme. Hence the appearance in 1902 of Sir Henry Collett's "Flora Simlensis" for a North-west Himalayan district, before the preparation of the corresponding provincial flora could be undertaken, and the appearance now of a similar work by Prof. Fyson for a South Indian district, before the Madras local flora has been completed. The justification in both cases is the same and is ample. The Palnis and the Nilgiris, like the Simla hills, are holiday resorts, the visitors to which during vacation leisure take an intelligent interest in natural objects and desire to learn something of what they see.

The area dealt with by Prof. Fyson is not a continuous one and, apart from this, does not lend itself readily to physiographical delimitation. The author has therefore wisely confined his attention to the constituents of the relatively temperate and herbaceous vegetation met with above the level of 6500 feet, where there is a rapid, if not abrupt, change from the tropical and sub-tropical arborescent flora lower down, rather than endeavoured to include every species that occurs within a definitely circumscribed area. His descriptions are clear and full, and his field experience has led him to deal not only with species that may be regarded as indigenous, but with those that have almost certainly been introduced. How important the introduced element in his area is we gather from the fact that one-seventh of the species dealt with are thoroughly established aliens.

As in the case of the corresponding work for Simla, illustrations of a considerable number of the Nilgiri and Palni plants described by the author are provided. For the original drawings he has been particularly indebted to Lady Bourne, herself for many years a close and critical student of the vegetation of the Palnis; a number of the illustrations are by Mrs. Harrison and Mrs. Fyson. In order to secure most of the others, Prof. Fyson has successfully adopted the method of Roxburgh at the close of the eighteenth century and of Wight in the earlier half of last century, by enlisting the services of a skilful young Indian artist. The result has been satisfactory, and the flora before us should serve its purpose well. There are a few misprints in addition to those enumerated in the list of errata; perhaps the most obtrusive, if intrinsically one of the least important, is Thompson for Thomson on p. 277.