

by seed; thus justifying Loudon's remark, that "a variety is often "of as much importance as a species, and sometimes far more so."¹⁶¹ I may mention one rather important point in which this tree occasionally varies; in the classification of the Coniferæ, sections are founded on whether two, three, or five leaves are included in the same sheath; the Scotch fir has properly only two leaves thus enclosed, but specimens have been observed with groups of three leaves in a sheath.¹⁹² Besides these differences in the semi-cultivated Scotch fir, there are in several parts of Europe natural or geographical races, which have been ranked by some authors as distinct species.¹⁶³ Loudon¹⁶⁴ considers *P. pumilio*, with its several sub-varieties, as *mughus*, *nana*, &c., which differ much when planted in different soils, and only come "tolerably true from seed," as alpine varieties of the Scotch fir; if this were proved to be the case, it would be an interesting fact as showing that dwarfing from long exposure to a severe climate is to a certain extent inherited.

The *Hawthorn* (*Cratægus oxyacantha*) has varied much. Besides endless slighter variations in the form of the leaves, and in the size, hardness, fleshiness, and shape of the berries, Loudon¹⁶⁵ enumerates twenty-nine well-marked varieties. Besides those cultivated for their pretty flowers, there are others with golden-yellow, black, and whitish berries; others with woolly berries, and others with recurved thorns. Loudon truly remarks that the chief reason why the hawthorn has yielded more varieties than most other trees, is that nurserymen select any remarkable variety out of the immense beds of seedlings which are annually raised for making hedges. The flowers of the hawthorn usually include from one to three pistils; but in two varieties, named *monogyyna* and *sibirica*, there is only a single pistil; and d'Asso states that the common thorn in Spain is constantly in this state.¹⁶⁶ There is also a variety which is apetalous, or has its petals reduced to mere rudiments. The famous Glastonbury thorn flowers and leafs towards the end of December, at which time it bears berries produced from an earlier crop of flowers.¹⁶⁷ It is worth notice that several varieties of the hawthorn, as well as of the lime and juniper, are very distinct in their foliage and habit whilst young, but in the course of thirty or forty years become extremely like each other;¹⁶⁸ thus reminding us of the well-known fact that the deodar, the cedar of Lebanon, and

¹⁶¹ 'Arboretum et Fruticetum,' vol. iv. p. 2150.

¹⁶² 'Gardener's Chron.,' 1852, p. 693.

¹⁶³ See 'Beiträge zur Kenntniss Europäischer Pinus-arten von Dr. Christ: Flora, 1864.' He shows that in the Ober-Engadin *P. sylvestris* and *montana* are connected by intermediate links.

¹⁶⁴ 'Arboretum et Fruticetum,' vol. iv. pp. 2159 and 2189.

¹⁶⁵ Ibid., vol. ii. p. 830; Loudon's 'Gardener's Mag.,' vol. vi. 1830, p. 714.

¹⁶⁶ Loudon's 'Arboretum et Fruticetum,' vol. ii. p. 834.

¹⁶⁷ Loudon's 'Gardener's Mag.,' vol. ix. 1833, p. 123.

¹⁶⁸ Ibid., vol. xi. 1835, p. 503.