ing the sea, about two miles to the west of the city. The porches of this are handsomely ornamented, and about a hundred feet from it rises a tall campanile, the inner walls of which have been covered in parts with frescos of religious subjects, though these are now much defaced. But the most remarkable memorial of the Middle Ages that exists in all this district is the monastery of Sumelas, which is situated among the mountains, about 25 miles from Trebizond, at the side of a rocky glen, at a height of 4000 feet above the sea. Its position is most extraordinary, for it occupies a cavern in the middle of the face of a perpendicular cliff a thousand feet high, where the white buildings offer a marked contrast to the brown rock which forms their setting. It is approached by a zigzag path at the side of the cliff, from which a flight of stone steps and a wooden staircase give access to the monastery. The valley below is filled with the richest vegetation, the undergrowth being largely composed of azaleas and rhododendrons. An antiquity of 1500 years is claimed for the foundation of the monastery, but it is certain that the first person who raised it to importance was the emperor Alexius Comnenus III. of Trebizond; he rebuilt it in 1360, and richly endowed it. The golden bull of that emperor, which became thenceforth the charter of its foundation, is still preserved ; it is one of the finest specimens of such documents, and contains portraits of Alexius himself and his queen. The monastery also possesses the firman of Mohammed II. by which he accorded his protection to the monks when he became master of the country. (H. F. T. )

TREDEGAR, a town of Monmouthshire, England, is situated on the Sirhowy river, and on the London and North Western Railway system, 7 miles east-north-east of Merthyr Tydvil and 249 west of London. The town owes its existence to the establishment in the beginning of the century of the works of the Tredegar Iron and Coal Company, who lease the soil and minerals from Lord Tredegar. The iron-works, chiefly for the smelting of iron and the manufacture of iron and steel rails, are of enormous extent, and employ upwards of 4000 men. The town is also surrounded by iron and coal mines, the pro­perty of the company. It consists chiefly of workmen’s houses, but is built with regularity and neatness, the prin­cipal streets diverging from an open space called the Circle, in the centre of the town, where there are a number of good shops. The church of St George is a tasteful modern building in the Norman style. The temperance hall, union workhouse, and literary institute and library deserve notice. The population of the urban sanitary district (area 7029 acres), a small portion of which is in Brecknockshire, in 1871 was 16,989 and in 1881 it was 18,771.

TREE-CREEPER, one of the smallest of British birds, and, regard being had to its requirements, one very gene­rally distributed. It is the *Certhia familiaris* of ornitho­logy, and remarkable for the stiffened shafts of its long and pointed tail-feathers, aided by which, and by its com­paratively large feet, it climbs nimbly, in a succession of jerks, the trunks or branches of trees, invariably proceed­ing upwards or outwards and generally in a spiral direc­tion, as it seeks the small insects that are hidden in the bark and form its chief food. When in the course of its search it nears the end of a branch or the top of a trunk, it flits to another, always alighting lower down than the place it has left, and so continues its work.

Inconspicuous in colour, for its upper plumage is mostly of various shades of brown mottled with white, buff, and tawny, and beneath it is of a silvery white, the Tree-Creeper is far more common than the incurious suppose ; but, attention once drawn to it, it can be frequently seen and at times heard, for though a shy singer its song is loud and sweet. The nest is neat, generally placed in a chink formed by a half-detached piece of bark, which secures it from observation, and a considerable mass of material is commonly used to partly stuff up the opening and give a sure foundation for the tiny cup, in which are laid from six to nine eggs of a translucent white, spotted or blotched with rust-colour. The Tree-Creeper inhabits almost the whole of Europe as well as Algeria, and has been traced across Asia to Japan. It is now recognized as an inhabitant of the greater part of North America, though for a time examples from that part of the world, which differed slightly in the tinge of the plumage, were accounted a distinct species (*C.* *americana),* and even those from Mexico and Guatemala (*C*. *mexicana)* have lately been referred to the same. It therefore occupies an area not exceeded in extent by that of many Passerine birds, and is one of the strongest witnesses to the close alliance of the so-called Nearctic and Palæarctic Regions.

Allied to the Tree-Creeper, but wanting its lengthened and stiff tail-feathers, is the genus *Tichodroma,* the single member of which is the Wall-Creeper (*T*. *muraria)* of the Alps and some other mountainous parts of Europe and Asia, and occasionally seen by the fortunate visitor to Switzerland fluttering like a big butterfly against the face of a rock, conspicuous from the scarlet-crimson of its wing-coverts and its white spotted primaries. Its bright hue is hardly visible when the bird is at rest, and it then presents a dingy appearance of grey and black. It is a species of wide range, ex­tending from Spain to China ; and, though but seldom leaving its cliffs, it has wandered even so far as England. Merrett (*Pinax,* p. 177) in 1667 included it as a British bird, and the correspondence between Marsham and Gilbert White (*Proc. Norf. and Norw. Nat. Society,* ii. p. 180) proves that an example was shot in Norfolk, 30th October 1792 ; while another is reported (*Zoologist,* ser. 2, p. 4839) to have been killed in Lancashire, 8th May 1872.

The genus *Certhia* as founded by Linnæus contained 25 species, all of which, except the two above mentioned, have now been shewn to belong elsewhere ; and for a long while so many others were referred to it that it became a most heterogeneous company. At present, so few are the forms left in the Family *Certhiidæ* that systematists are not wanting to unite it with the *Sittidæ (cf.* Nuthatch), for the two groups, however much their extreme members may differ, are linked by so many forms which still exist that little violence is done to the imagination by drawing upon the past for others to complete the series of descend­ants from a common and not very remote ancestor, one that was possibly the ancestor of the Wrens *(q.v.)* as well. One thing, however, has especially to be noticed here. The *Certhiidæ* have not the least affinity to the *Picidæ (cf.* Woodpecker, *infra),* but are strictly Passerine, though the Australian genus *Climacteris* may possibly not belong to them. (a. n.)

TREE-FERN. In old and well-grown specimens of some of the familiar ferns of our temperate climates the wide-spreading crown of fronds may be observed to rise at a distance often of a good many inches above the surface of the ground, and from a stem of considerable thickness. The common male fern *Nephrodium (Lastræa)* furnishes the commonest instance of this ; higher and thicker trunks are, however, occasionally presented by the royal fern *(Osmunda regalis),* in which a height of 2 feet may be attained, and this with very considerable apparent thick­ness, due, however, to the origin and descent of a new series of adventitious roots from the bases of each annual set of fronds. Some tropical members and allies of these genera become more distinctly tree-like, *e.g., Todea ; Pteris* also has some sub-arboreal forms. *Oleandra* is branched and shrub-like, while *Angiopteris* and *Marattia (Marat- tiaceæ)* may also rise to 2 feet or more. But the tree-ferns proper are practically included within the family *Cyathe- aceæ.* This includes five genera *(Cyathea, Alsophila, Hemitelia, Dicksonia, Balantium)* and nearly 200 species, of which a few are herbaceous, but the majority arboreal and palm-like, reaching frequently a height of 50 feet or more, *Alsophila excelsa* of Norfolk Island having some­times measured 60 to 80 feet. The fronds are rarely simple or simply pinnate, but usually tripinnate or decom­pound, and may attain a length of 20 feet, thus forming a splendid crown of foliage. The stem may occasionally branch into many crowns. The genera are of wide geo­graphical range, mostly of course within the tropics of the Old and New World ; but South Australia, New Zealand, and the Southern Pacific islands all possess their tree-ferns. In Tasmania *Alsophila australis* has been found up to the snow-level, and in the humid and mountainous regions of the tropics tree-ferns are also found to range up to a con­siderable altitude. The fronds may either contribute to the apparent thickness of the stem by leaving more or less