The oil, obtained by distilling the wood in chips, is largely used as a perfume, few native Indian attars or essential oils being free from admixture with it. In the form of powder or paste the wood is employed in the pigments used by the Brahmans for their distinguishing caste-marks.

*Red sandalwood,* known also as *red Sanders wood,* is the product of a small leguminous tree, *Pterocarpus santalinus,* native of S. India, Ceylon and the Philippine Islands. A fresh surface of the wood has a rich deep red colour, which on exposure, however, assumes a dark brownish tint. In medieval times red sandalwood possessed a high reputation in medicine, and it was valued as a colouring ingredient in many dishes. I is pharmacologically quite inert. Now it is little used as a colouring agent in pharmacy, its principal application being in wool-dyeing. Several other species of *Pterocarpus,* notably *P. indicus,* contain the same dyeing principle and can be used as substitutes for red sandalwood. The barwood and camwood of the Guinea Coast of Africa, from *Baphia nitida* or an allied species, called *santal rouge d'Afrique* by the French, are also in all respects closely allied to the red sandalwood of Oriental countries.

As a substitute for copaiba (*q.v.*)*,* sandalwood oil, distilled from the wood of *Santalum album,* is more expensive and pleasanter to take, but it is less efficient, as it does not contain any analogue to the valuable resin in copaiba.

SÅNDÅRACH (Fr. *sandaraque,* Lat. *sandaraca,* Gr. *σανδαράκη,* realgar or red sulphide of arsenic, cf. Pers. *sandarus,* Skt. *sindura,* realgar), in mineralogy realgar or native arsenic disulphide, but generally (a use found in Dioscorides) a resinous body obtained from the small coniferous tree *Callitris quadriυalυis,* native of the north-west regions of Africa, and especially char­acteristic of the Atlas mountains. The resin, which is procured as a natural exudation on the stems, and also obtained by making incisions in the bark of the trees, comes into commerce in the form of small round balls or elongated tears, transparent, and having a delicate yellow tinge. It is a little harder than mastic, for which it is sometimes substituted. It is also used as incense, and by the Arabs medicinally as a remedy for diarrhoea. It has no medicinal advantages over many of the resins employed in modern therapeutics. An analogous resin is procured in China from *Callitris sinensis,* and in S. Australia, under the name of pine gum, from *C. Reissii.*

SANDBACH, a market town in the Crewe parliamentary division of Cheshire, England, 5 m. N.E. of Crewe, on the London & North-Western and North Staffordshire railways. Pop. of urban district (1901) 5558. It lies on a headstream of the small river Wheelock, a tributary of the Weaver. The parish church of St Mary is Perpendicular, with a fine carved roof of the 17th century. A few old timbered houses, of the same period, remain. In the market-place are two remarkable crosses covered with rude carvings, and assigned by some to the 7th century, being similar to those at Monasterboice and elsewhere in Ireland. There are boot and shoe factories, chemical works and a manu- factory of fustians, with salt-works and iron-works in the adjacent township of Wheelock.

SANDBERGER, KARL LUDWIG FRIDOLIN VON (1826-1898), German palaeontologist and geologist, was born at Dillenburg, Nassau, on the 22nd of November 1826. He was educated at the universities of Bonn, Heidelberg and Giessen, at the last of which he graduated Ph.D. in 1846. He then studied at the university of Marburg, where he wrote his first essay, *Übersicht der geologischen Verhältnisse des Herzogtums Nassau* (1847). In 1849 he became curator of the Natural History Museum at Wiesbaden, and began to study the Tertiary strata of the Mayence Basin, and also the Devonian fossils of the Rhenish provinces, on which he published elaborate memoirs. In 1855 he was appointed professor of mineralogy and geology at the Poly­technic Institute at Karlsruhe, and he took part in the geological survey of Baden. From 1863 to 1896 he was professor of mineralogy and geology at the university of Würzburg. His great work *Die Land- und Süsswasser-Conchylien der Vorwelt* was published in 1870-1875. Later he issued an authoritative work on mineral veins, *Untersuchungen Über Erzgänge* (1882-1885). He died at Würzburg on the 11th of April 1898. His brother Guido Sandberger (1821-1869) was an authority on fossil cephalopoda, and together they published *Die Versteinerungen deì rheinischen Schichtensystems in Nassau* (1850-1856).

SANDBY, PAUL (1725-1809), English water-colour painter, was bom at Nottingham in 1725. In 1746 he was appointed by the duke of Cumberland draughtsman to the survey of the Highlands. In 1752 he quitted this post and retired to Windsor, where he occupied himself with the production of water-colour drawings of scenery and architecture. Sir Joseph Banks com­missioned him to bring out in aquatint (a method of engrav­ing then peculiar to Sandby) forty-eight plates drawn during a tour in Wales. Sandby displayed considerable power as a caricaturist in his attempt to ridicule the opposition of Hogarth to the plan for creating a public academy for the arts. In 1768 he was chosen a foundation-member of the Royal Academy and appointed chief drawing-master to the Royal Military Academy at Woolwich. He held this situation till 1799. Sandby is best remembered, however, by his water-colour paintings. They are topographical in character, and, while they want the richness and brilliancy of modern water-colour, he nevertheless impressed upon them the originality of his mind. His etchings, such as the *Cries of London* and the illustrations to Ramsay’s *Gentle Shepherd,* and his plates, such as those to Tasso’s *Jerusalem Delivered,* are numerous and carefully executed. He died in London on the 9th of November 1809.

**SANDEAU, LÉONARD SYLVAIN JULIEN** [Jules] (1811-1883), French novelist, was bom at Àubusson (Creuse) on the 19th of February 1811. He was sent to Paris to study law, but spent much of his time with unruly students. He met Madame Dudevant (George Sand) at Le Coudray in the house of a friend, and when she came to Paris in 1831 she joined Sandeau. The intimacy did not last long, but it produced *Rose et Blanche* (1831), a novel written in common under the pseudonym Jules Sand, from which George Sand took the idea of her famous *nom de guerre.*

Sandeau continued for nearly fifty years to produce novels and to collaborate in plays. His best works are *Marianna* (1839), in which he draws a portrait of George Sand; *Le Docteur Herbeau* (1841); *Catherine* (1845); *Mademoiselle de la Seiglière* (1848), a successful picture of society under Louis Philippe, dramatized in 1851 ; *Made­leine* (1848); *La Chasse au roman* (1849); *Sacs et parchemins* (1851) ; La *Maison de Penarvan* (1858) ; *La Roche aux mouettes* (1871). The famous play of *Le Gendre de M.Poirier* is one of several which he wrote with Emile Augier—the novelist usually contributing the story and the dramatist the theatrical working up. Meanwhile Sandeau had been made conservateur of the Mazarin library in 1853, elected to the Academy in 1858, and next year appointed librarian of St Cloud. At the suppression of this latter office, after the fall of the empire, he was pensioned. He died on the 24th of April 1883. He was never a very popular novelist, and the quiet grace of his style, and his refusal to pander to the popular taste in the morals and incidents of his novels, may have disqualified him for popularity.

See G. Planche, *Portraits littéraires* (1849), vol. i.; J. Clarétie, *J. Sandeau* (1883); F. Brunetière in the *Revue des deux mondes* (1887).

SAND-EEL, oγ-Sand-Launce. The fishes known under these names form a small family *(Ammodytidae)* now included with the *Scombresocidae* in the sub-order Percesoces. They were formerly placed in the Anacanthini and supposed to be allied to the *Gadidae,* but a fossil form *Cobitopsis* has recently been described in which the pelvic fins are present, and are abdominal in position as in *Βelone* and *Scombresοx.*

Their body is of an elongate-cylindrical shape, with the head terminating in a long conical snout, the projecting lower jaw forming the pointed end. A low long dorsal fin, in which no distinction be- tween spines and rays can be observed, occupies nearly the whole length of the back, and a long anal, composed of similar short and delicate rays, commences immediately behind the vent, which is placed about midway between the head and caudal fin. The caudal is forked and the pectorals are short. The total absence of ventral fins indicates the burrowing habits of these fishes. The scales, when present, are very small ; but generally the development of scales has only proceeded to the formation of oblique folds of the integuments. The eyes are lateral and of moderate size; the denti­tion is quite rudimentary.

Sand-eels are small littoral marine fishes, only one species attain­ing a length of 18 in. (*Ammodytes lanceolatus*)*.* They live in shoals at various depths on a sandy bottom, and bury themselves in the sand on the slightest alarm. Other shoals live in deeper water. When they are surprised by fish of prey or porpoises they are frequently driven to the surface in such dense masses that numbers of them can be scooped out of the water with a bucket or hand-net. Sand-