

ance with the price wished for. Camphor is also added to conceal this addition. Oil of spike is used in the arts and also in veterinary practice. It is not produced in Britain, the climate being too cold.

THYME.—Another plant of this natural order Labiatae is *Thymus vulgaris*, which yields an oil used in perfumery. It is imported into this country from France; it grows also in the Western Peninsula, Lombardy, and the mountainous shores of the Adriatic and Greece, and is to be found in almost every English country garden for culinary purposes.

The distillation in Southern France is made from June to September, and the two samples of oil of thyme—red and white—are obtained from the same plant, the redistilling keeping back the coloring matter, but at the same time destroying some of the aroma. I should recommend the red oil in preference to the white, and if the color (which is often intensified by alkanet) is not desired, animal charcoal will remove it very considerably.

ROSEMARY (*Rosmarinus officinale*) may be now added as belonging to the same natural order, growing in the same localities and under similar circumstances. It is also grown in Britain, and a small quantity of oil is distilled, but, owing to the small amount used, quite a fancy price is the rule.

The last three oils—lavande d'aspiée, thyme, and rosemary—are used mostly for soap-scenting, their terebinthinate odor excluding them from the category of the more delicate perfumes.

OIL OF PATCHOULI, from the plant *Pogostemon patchouli*, which is grown in the Malayan archipelago. The oil is much used in perfumery, though, owing to circumstances, not to such an extent as formerly. Chiefly used in conjunction with otto de rose. Owing to its lasting odor a very small quantity only should be used in proportion to other ingredients.

LILY OF THE VALLEY (*Convallaria majalis*), with its pure white, bell-shaped, and delicately-scented flowers, is made into essence and pomade in the Grasse manufactories, and found of great use for perfume compounding. The plant flowers in early spring, February and March being the best months for manufacturing the essence.

DAFFODIL. (*Narcissus pseudonarcissus*)—Daffy-down-dilly—which is found in almost every country in Europe, yields a little later in England. It flowers in Grasse about April, and a yield will soon be found greatly in excess of the wishes of the cultivator.

ESSENCE OF LEMON.—This oil, so largely used in flavoring, etc., is also employed in perfumery. Like oil of orange, it is very uncertain in its results, owing to changes in composition consequent on keeping for any length of time. Essence of lemon is prepared in the same manner as essence of bergamot, but there is a variety termed "essence de citron zeste," which is prepared by simply puncturing the oil-vessels and allowing the oil to run out, collecting it in a receiver, and filtering. This is the best article for use in perfumery, as commercial essence of lemon is generally contaminated with very inferior distillates, or with rectified oil of turpentine, which can be detected by adding some liquor potassæ to a sample and applying heat.

OIL OF ORANGE (*Citrus vulgaris*, *Citrus aurantium*, and *Citrus bigaradia*).—From the fruits are obtained the oils of bitter and sweet orange. This perfume is not very extensively used in perfumery in the shape of oil. The water obtained from the flowers, distilled during the month of May, is imported in large quantities from the south of France.

From the flowers is also obtained an essential oil termed "oil of neroli." The best test to ascertain its purity is to shake up a small quantity with a saturated solution of sodium bisulphite, when a permanent crimson color will be produced. The sp. gr. is .890, and the oil is neutral to test-paper. There are two varieties of oil—essence de neroli bigaradia, and essence de neroli Portugal.

Oil of petit grain is obtained from the leaves and shoots of the above-mentioned varieties, and called "essence de petit grain bigaradia et Portugal."

A mixture of oil of orange and oil of neroli, with other essences, makes a very good substitute for essence of ylang ylang (a sample prepared from a formula by myself is on the table for your inspection). Oil of petit grain is used extensively in the manufacture of eau de Cologne.

MIGNONETTE (*Reseda odorata*) is well known and is much esteemed for its fragrance. Flowering in March and April, it is then prepared for use in perfumery. The cold March winds sometimes spoil the crops for the season. Several imitations are in use, and are very similar to the genuine perfume.

PELARGONIUM ROSEUM.—Rose geranium is grown for perfumery in Provence, and there is an Algerian product known as "essence de geranium d'Afrique," inferior to that distilled at Grasse. This oil is used to adulterate otto de rose. Owing to the small yield—viz., 1 lb. from 1000 lbs.—it is expensive, and its characteristic odor is greatly esteemed as an addendum to the numerous items in millifleur essence. Ol. geranii E. I. is not to be confounded with pelargonium, but is obtained from several species of the genus *Andropogon*, and termed "ginger-grass oil."

ROSE.—First, the species *Rosa Gallica*, cultivated in Southern Europe, Asia Minor, and Britain. The petals of this flower are obtained in their most perfect state for druggists' use from Mitcham. The quantity there obtained is very small, and Mitcham rose petals therefore command a high price; the same remark applies to all English-cultivated rose leaves. The dried Continental leaves are often dyed with aniline, which may be detected by macerating in spirit to which is added a few drops of ammonia. The true state of the leaves can soon be seen.

Rosa Damascena.—From this is obtained the much-prized otto, or attar, of roses, which now rules at a high price. When first introduced into this country it was subject to duty about 10s. per oz.; this was greatly reduced, and in 1880 was taken off altogether.

Otto of roses is imported from Bulgaria and Turkey, principally from the southern side of the Balkan range—from Kizanlik and Philippopolis—and from Smyrna (Asia Minor). It is also made in India, in the valley of the Ganges, but is never exported thence. There is also a little manufactured in France, but the quality will not bear comparison with Kizanlik. Otto is largely adulterated, as I mentioned previously, with oil of rose geranium (pelargonium), and also with oil of *Andropogon schœnanthus*, a grass grown in India, which is exported to Turkey solely for the purpose of adulterating otto.

The best tests for genuine otto are the degree at which it congeals, which should be 55° Fahr., and the appearance of the mass. The crystals, or laminae, should be shiny, feathery, and nearly transparent. When thick and milky, and more deposited at the bottom of the bottle than at the top, spermaceti is present, and perhaps paraffin wax, which latter is hardly so readily detected as spermaceti.

Rose-water is also prepared from *Rosa Damascena*, together with the essence and pomade, and imported from Grasse, Cannes, and Nîmes.

TUBEREUSE.—Tuberose grows in the neighborhood of Grasse, and is a bulb which requires to be replanted each spring, not being of sufficient hardiness to stand the winter. It blooms from July to October, and is not very extensively cultivated. Being a very delicate perfume, it is prepared by the cold "enfleurage process."

VIOLET (*Viola odorata*) is the most esteemed of all perfumes. It is cultivated over a large expanse of country, extending as far west as Avignon; in fact, wherever the olive is grown, being planted chiefly in olive orchards, which protect the plants from the cold winds, to which they are very susceptible. The flowers are gathered in February and March. The crop is often a failure, the result being a considerable increase in the price of the pomade and essence, in addition to bad quality.

VERBENA.—That variety which is used in perfumery is *Lippia citriodora*—lemon-grass plant—and is prepared at Travancore and Singapore, in the Straits Settlements. The oil should be redistilled before use for compounding.

AMBERGRIS.—A very useful adjunct to a toilet essence. When preparing essence of ambergris macerate in hot water, to which is added the same quantity, by weight, of liquor potassæ as the ambergris; spirit to be added after a day or two, and maceration continued for two months before using.

MUSK.—The same remarks apply here. Always rub down the grain with sand or pumice-stone before using. The addition of one pint of any simple essence made from pomade—jasmin preferred—increases the permanence of musk. A few