However, when we speak about the characteristic aroma of rose there is one very important group of components involved. As we said earlier, the most abundant components of the oil, as listed above, account for over 95% of the physical structure of the oil, but amazingly account for only about 5%-10% of the aroma of rose oil! The next group of components we will talk about represent less than 1% of the physical structure of the oil but account for up to 90% of the aroma of the oil. These minor components, because of their impact on the aroma are crucially important in terms of the quality of rose essential oil, representing a kind of aromatic fingerprint. The best way to think about this is by imagining the major components of the oil as a kind of skeleton giving basic structure and shape to the aroma of rose oil whilst the minor components are the flesh, the muscles, the sinews, and blood, filling it out, giving it life, body and personality, animating it. A basic list of these components that are so important to the overall aroma would be as follows:

- *The rose ketones:* this group of components is represented by the damascenones and the ionones.
- *The rose oxides:* cis and trans rose oxide.

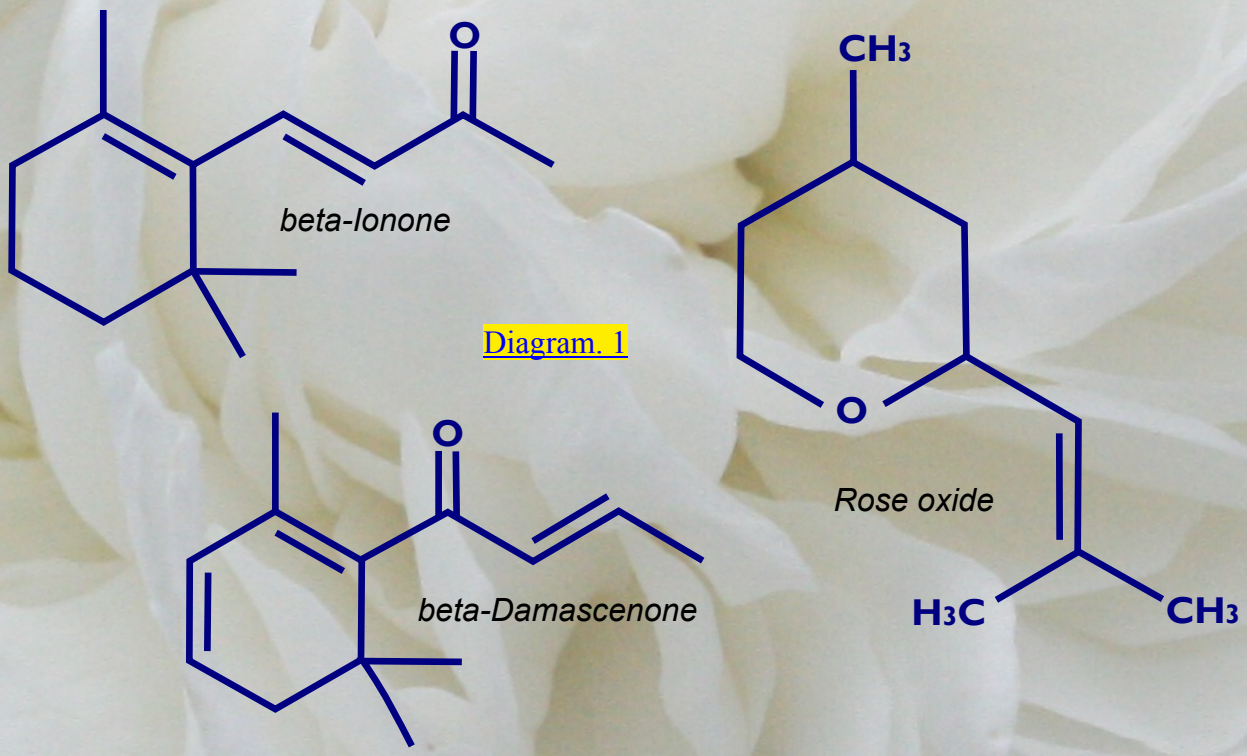

Diagram. 1

The reason why these minor components of rose oil contribute so much to the characteristic aroma is because they have what is known as a "low odour detection threshold". This would be defined as; *the smallest concentration of a substance that can be detected by the human nose*. The different scent molecules that we are talking about are, to put it simply, different shapes and sizes. For us to smell them they have to fit into receptor sites on the nerve endings responsible for detecting scent in our noses. It's a bit like a lock and key mechanism. The scent molecule has to be the right shape to fit the lock. The more perfect the fit, the better we are at sensing it. The molecules, such as the damascenones and rose oxides have such a low odour detection threshold because they fit the receptors so well. They fit so well, in fact, that our senses can detect minute traces of them (49). Researchers measuring the effects of the different components in rose oil and their relative impact on the overall aroma of the oil have shown that beta-damascenone and beta-ionone between them account for almost 90% of the aroma of rose oil. Citronellol (the most abundant component of the oil), on the other hand, accounts for only just over 4% of the aroma of the oil! In fact,

If we look at the use of damask rose in Ayurvedic medicine we immediately confront the "translation" problem. In Ayurveda, damask rose is known by the Sanskrit word "satapatri". However, you will find the word "satapatri" spelt in many different ways. Secondly, it is not clear when damask rose itself came to be a full blown member of the Ayurvedic materia medica, although I think we can safely say (taking into account European knowledge of the plant) it must have been there for a thousand years at least. Remember, King Edward's doctors were using damask rose water in England in the 1200's and 1300's. This use was probably based on the Arabic tradition (observed during the crusades), which in turn was heavily influenced by the Ayurvedic tradition.

Satapatri is an interesting word and is made up of two parts; "sata" or often "zata", meaning "hundred" and "patri", meaning "petals" (or "leaves"). The overall meaning of the word we are left with is really just "an unspecified rose with lots of petals". However, we confront an old problem in this name. The name refers to a rose with a hundred petals, or a rose with many petals at the very least. I say we meet an old problem here because, if you remember, we spoke in the chapter on the origins of the damask rose about Pliny and Theophrastus remarking on the fact that roses with a hundred petals may also have existed in their time. This is before the time when it is thought the cultivated varieties of roses, with many petals, such as damasks etc. were first bred. Assuming there were only wild roses with their five petals at the time of writing the Ayurvedic texts (i.e. around two thousand years ago), then what exactly were these "roses with the hundred petals"? Some suggest they may have been Rosa centifolia. Centifolia being Latin for hundred petals. But we know centifolias originate centuries after the time of Pliny and Theophrastus and way after a time when Sanskrit was the main language of India! I must be careful to point out here also that just because sanskrit is an old language does not mean the application of "satapatri", the word, to Damask rose, is as old as the language. We do not find the word used in the original Charaka samhita (43) for example. Some authorities believe that "satapatri" may even refer to plants other than roses, lotus flower for example. To qualify my ramblings though I would add that some of the earliest myths of Hinduism (obviously written in sanskrit and extremely ancient) are thought to make reference to roses, specifically in connection with the God Vishnu, demonstrating that the roses are there, even before the origins of Ayurvedic medicine itself. My rational mind tells me that "satapatri" (Rosa damascena) was probably added to the Ayurvedic texts as and when they became available, with my, rather conservative guess, being some time during the first millennium AD. Remembering always that wild roses must have been used all along. My heart, on the other hand, tells me that these ancient sightings of multi-petal roses in different areas suggests a possibly earlier origin for damasks than we realise. We must not forget either that the Indians were traders, even during these early times, and had links with Persia, home possibly, to the first damask roses. In fact, India and Persia are linked as far back as the stone ages and there is no doubt that roses from either country would have been shared as soon as they appeared.


Pic. 28

Just to confuse the issue further, Rosa centifolia is also official in the modern day Ayurvedic materia medicas along with Rosa damascena, and guess what? It is also called "satapatri"! Both are sometimes called "taruni" by different authors, and this just means "girl". Even more confusion arises