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The *P.Oxy. 5242* and perfume recipes in the ancient world

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Abstract

The *Oxyrhynchus Papyri* are an important source regarding everyday life in Ptolemaic and Roman Egypt. Some of the volumes in which they are published contain medical texts, like the *P.Oxy. 5242* (second century AD) in volume LXXX. This papyrus discusses the preparation of iris, rose and lily oil, whose recipes are also described in a similar way in Dioscorides' *De materia medica*. Moreover, the three ointments are examined in Theophrastus' *De odoribus* and *Historia Plantarum* and in Pliny the Elder's *Naturalis Historia*. Therefore it is possible to compare the *P.Oxy. 5242* with these different sources, highlighting how other authors have discussed the same topic, albeit in different contexts. This article aims to show the interest in the art of thickening oils in the ancient world, focusing on the multiple perceived uses of plants and their products in practices related to perfumery and medicine.

The *P.Oxy. 5242* and the perfume recipes in the ancient world

The documentary papyri from Oxyrhynchus can reveal aspects of everyday life in Ptolemaic and Roman Egypt from the first to the fourth century AD. They comprise both public and private documents, like letters, registers, edicts and texts regarding the activities practiced by common people. Among these documents there are recipes for the preparation of 'φάρμακα', medical remedies made with natural ingredients and used for the care of the human body. The term 'φάρμακα' also entailed what we nowadays call perfumes, which, in the ancient world, were not realised with alcoholic substances, but by thickening oils.¹ In Volume LXXX of the *Oxyrhynchus Papyri*, dedicated to medical texts, there is a fragment related to the art

¹ Preparing an ointment was an intellectual interest: this activity was carried out by the root cutter ('ρίζοτόμος'), the thickeners of oils ('μυρρωσιί'), and the sellers of the final products ('φαρμακοπώλαι'). Fausti 2018: 17; Fausti 2015: 37.

of perfumery, the *P.Oxy. 5242*. Therefore, the aim of this article is to analyze the papyrus and its context, comparing it with other ancient literary evidence which discusses the same ointments.

The *P.Oxy. 5242*, dating back to second century AD, is found on the top of a column which contains thirty lines of text, written by an informal hand. The papyrus, whose measure is 61mm x 178mm, discusses the thickening of three oils used as perfumes and aromatised with different flowers: iris (lines 1-12), rose (lines 13-22) and lily (lines 22-30). In these recipes, there are different units of measurement: 'μήτιον' and 'ἄσαρον'; the editor, David Leith, agrees with W. Benjamin. Henry, who hypothesized that they can indicate a system of measurement specific for personal use, as 'μήτιον' and 'ἄσαρον' are the names of two other plants.² Before talking about the three recipes, we can take a look at the text and its translation:

ἄλλη στῦψις · ὀμφάκ[ινον
ἔλαιον ἐκπλύνας π[ε-
φρασμένον ὕδ[α]τι ο [
ἔψε ξυλοβαλσάμω [μη-
5 τίοις β ἄσαροις ς · εἴ[α ἐξε-
λὼν τὸ ξυλοβαλσάμ[ον
προσένβαλε καλάμ[ου
κεκομμένου μήτια [
καὶ ζμύρνης χόνδρ[ον ἐν
10 οἴνω παλαιῷ εὐώδει, [εἴ[τα
ἀφελῶν ἀφήθησιον τ[ὸ ἔ-
λαιον. βρέχε ὠσαύτω[ς.
στύψεις ῥοδίνου · ἔλα[ιον

² Fausti 2018: 17-18.

- ὀμφάκινον ἔκπλυ[νον
- 15 ὠ[σ]αύτως καὶ ἔψε με[τὰ
 σχοίνου μήτια β ἀσά[ροις
 δ εἰς τὸ ἡμισυ κεκο[μμέ-
 νοις καὶ πεφυραμέν[οις
 ὕδατι · ἔψε δὲ ἀνακειν[ῶν
- 20 τῆ χειρὶ καὶ ἀφηθήσα[ς
 χρω̄ · πρὸς πολλὰ δὲ ἐφαρ-
 μόζει. Στύψις σουσίν[ου·
 ἔλαιον ὀμφάκινον [
 πρώτην ἐκπλύνας ὕ[-
- 25 δατ]ι ἔψε μετὰ καλάμ[ου
 μητίου ἀσάροις ς εἰς τὸ
 ἡ]μισυ μέρ[ος] [] [
 ἀσα[ρ] δ [
 α [
 30] [

Translation:

'Another thickening: after cleaning oil of unripe olives mixed with water, boil with 2 *metia* 6 *asara* of Mecca balsam wood, then, after removing the Mecca balsam wood, add ... *metia* of chopped sweet flag and a lump of myrrh in aged, aromatic wine, then, after removing the oil, strain it. Steep in the same way.

Thickening of rose oil: clean oil of unripe olives and boil with 2 *metia* 4 *asara* of camel grass chopped in half and mixed with water. Boil while swirling by hand and after straining, use. It is suitable for many purposes.

Thickening of lily oil: after cleaning oil of unripe olives ... first with water, boil with a *metion* 6 *asara* of sweet flag ... to half ... 4 *asara*...³

The papyrus opens with the expression 'ἄλλη στύψις'⁴, so it can be assumed that, in the previous part — now missing —, there was another recipe. 'Στύψις', from 'στύφω' — 'to thicken' — indicates a specific preparation for thickening oils: it consists of soaking and boiling different substances, in this case iris, rose and lily. This formula is also mentioned by Dioscorides⁵ in *De materia medica* 28 times.⁶ In this work, another term concerning medical recipes is 'σκευασία', from 'σκευάζω' — 'to prepare' — which denotes a more general preparation.⁷

The iris oil

Even if it is not specified, the first recipe in the papyrus is for iris, as can be hypothesized from Dioscorides' *De materia medica* 1.56. According to *P.Oxy.* 5242, in order to prepare iris ointment, oil had to be cleaned from unripe olives mixed with

³ For this translation see Hirt, Leith, Henry 2014: 116.

⁴ This expression indicates a different recipe from the previous one. Another word used for this purpose was the indefinite pronoun 'ἄλλο', especially for medical recipes like the ones in the *P.Oxy.* 1088 (*The Oxyrhynchus Papyri*, vol. VIII). We can also find these expressions in Hippocrates, for example in *On the Nature of the Woman*: 33 (Bourbon), where at 33.2 every recipe is introduced with "Ἐτερον". In other texts from the *Corpus Hippocraticum* 'ἄλλο', is also used (Hippocrates *On Sterile Women*: 30).

⁵ There is little information on the life of Dioscorides and what we have comes from his work, *De materia medica*: he was born in Anazarbus, Cilicia, around 40 AD and he was a military doctor in the Neronian era. An important contribute to the study of this author is Riddle 1985. For *De materia medica* see Wellmann 1958; for a translation see Beck 2005.

⁶ For example in 1.53 ('ναρκίσσινον δὲ στύψεις', 'the thickening of narcissus') and in 1.56 ('ἱρίνου στύψις' 'the thickening of iris').

⁷ In 1.43 Dioscorides talks about 'ῥοδίνου σκευασία' and in 1.52 about 'σουσίνου σκευασία', the preparation of rose and lily oil. According to TLG the term σκευασία occurs 29 times in *De materia medica*.

water, and then boiled with 2 *metia* 6 *asara* of Mecca balsam wood.⁸ Then, the balsam wood needed to be removed and a certain quantity of chopped sweet flag and a lump of myrrh⁹ had to be added in aged aromatic wine; finally, the oil had to be removed, strained, and steeped. One of the most important ingredients was the oil of unripe olives from a wild olive tree called 'κόπινος', preferred for thickening and different from the cultivated type, the 'έλλάα'.¹⁰

As explained above, the papyrus does not state that the ointment came from iris, but it can be hypothesized from *De materia medica*. Iris is the first flower discussed in this work — after the preface in which Dioscorides presents his medical method — and its description functions as a model for the entries that follow. In *De materia medica* 1.1 Dioscorides recalls the physical characteristics of this plant: its leaves are similar to the gladiolus', but bigger, wider and fatter ('...μείζονα δὲ καὶ πλατύτερα καὶ λιπαρώτερα...'), and the ones near the stem are described as curved ('έπικαμπή') and multicoloured ('ποικίλα'). Iris could be white ('λευκά'), ocher ('ώχρα'), yellowish ('μήλινα'), purple ('πορφυρά') or light blue ('κυανίζοντα'). Its articulated ('γονατώδεις'), stiff ('στερεαί') and odorous ('εύώδεις') roots had to be cut and put in linen in order to dry. The best species, according to Dioscorides, came from Illyria and Macedonia; it was very small, yellowish, fragrant and spicy, with gnarled roots. Libyan iris is described as white, bitter, and increasingly odorous during its growth, thanks to being eaten by worms.¹¹

⁸ For the balsam wood see Dioscorides *De materia medica*: 1.19; he seems to be describing rue leaves; their juice is excellent when it is fresh and it is sometimes mixed with ointment of terebinth, lily, honey, myrtle.

⁹ The myrrh ointment is also called 'στακτή', from 'στάζω' 'to drip', because an oil flows from the myrrh plant. Dioscorides describes it in *De materia medica*: 1.60, highlighting how it is very aromatic and very expensive.

¹⁰ Fausti 2010: 161-162. The wild olive of the papyrus is probably the 'φθινοπωρίς', a wild autumnal olive which is mentioned by Callimachus in the *Hecale* and is distinguished from the olive 'γεργέριμος' and the 'πιτυρίς': the first one is a black olive, the second one has the color of the bran; Callimachus *Hecale*, fr. 36+37 (Hollis).

¹¹ Dioscorides *De materia medica*: 1.1.1: 'έστι δὲ βελτίων ἢ Ἰλλυρικὴ καὶ Μακεδονικὴ, καὶ ταύτης ἀρίστη ἢ πυκνόρριζος καὶ ὑποκόλοβος καὶ δῦσθραυστος καὶ τῆ χροῶ ὑπόκιρρος καὶ σφόδρα εύώδης καὶ τῆ γεύσει πυρωδέστερα τὴν τε ὄσμην εἰλικρινὴς καὶ μὴ νοτίζουσα ππαρμούς τε ἐν τῷ κόπτεσθαι

Dioscorides also shows the properties of the flower:

'δύναμιν δὲ ἔχουσι πᾶσαι θερμαντικὴν, λεππυντικὴν, ἀρμόζουσαι πρὸς βήχας καὶ τὰ δυσανάγωγα ὑγρὰ λεπτοποιοῦσαι. καθαίρουσι δὲ πάχην καὶ χολὰς ποτιζόμεναι μεθ' ὑδρομέλιτος ὀλκὴ δραχμῶν ἑπτὰ. εἰσὶ δὲ καὶ ὑπνοποιοὶ καὶ δακρυοποιοὶ καὶ στρόφους ἰῶνται. μετ' ὄξους δὲ πινόμεναι θηριοδῆκτοις ἀρήγουσι καὶ σπληνικοῖς καὶ σπωμένοις καὶ περιψυχομένοις ἢ ῥιγοῦσι καὶ τοῖς γόνον προιεμένοις, σὺν οἴνῳ δὲ ποθεῖσαι ἄγουσιν ἔμμηνα.'

'All irises have warming and attenuating properties that are suitable for coughs and for thinning fluids hard to bring up. Seven *drachmai* in weight drunk in hydromel purge thick fluids and bile. They induce sleep, they cause eyes to tear, and they cure colic. When drunk with vinegar, they help those bitten by wild animals, splenetics, people who have spasms, hypothermics or shiverers, and those who ejaculate prematurely, and when drunk with wine, they draw down the menses.'¹²

Coming back to the comparison with *P.Oxy.* 5242, the thickening of iris is examined in *De materia medica* 1.56, where Dioscorides reports two recipes. The second one is very similar to the preparation exposed in the papyrus:

'οἱ δὲ· ἐλαίου λίτρας ἑννέα οὐγγίας πέντε, ξυλοβαλσάμου λίτρας πέντε οὐγγίας δύο κόψας, ὡς εἴρηται, σύνεψε· εἶτα ἐξελὼν τὸ ξυλοβάλσαμον προσέμβαλε καλάμου κεκομμένου λίτρας ἑννέα οὐγγίας δέκα, σμύρνης χόνδρον οἴνω παλαιῷ ἐμβρέχων εὐώδει, εἶτα λαβὼν ἐκ τοῦ ἐστυμμένου ἐλαίου καὶ ἡρωματισμένου λίτρας δέκα τέσσαρας ἐναπόβρεχε ἴρεως κεκομμένης ἴσον τῷ σταθμῷ, ἐὼν ἡμέρας δύο καὶ νύκτας δύο, εἶτα ἐξίπτου βιαίως καὶ νεανικῶς. καὶ εἰ βούλει δυναμικώτερον εἶναι, τὸν ἴσον σταθμὸν καὶ δις καὶ τρις ὁμοίως ἐναποβρέχων ἐξίπτου.'

'But others recommend the following procedure: boil nine *litrai* five *oungiai* olive oil with five *litrai* two *oungiai* Mecca balsam wood, chopped as specified; then removing the Mecca balsam wood, add nine *litrai* 10 *oungiai* chopped sweet

κινοῦσα. ἡ δὲ Λιβυκὴ λευκὴ τέ ἐστι τὴν χροῖαν τῇ τε γεύσει πικρά, δευτερεύουσα <δὲ> τῇ δυνάμει. παλαιούμεναι δὲ τερηδονίζονται, εὐωδέστεραι μέντοι τότε γίνονται.'

¹² Dioscorides *De materia medica*: 1.1.2. For this translation see Beck 2005: 5-6.

flag and a lump of myrrh moistened with aged aromatic wine; then taking 14 *litrai* of the thickened and aromatized oil, steep in it an equal weight of chopped iris; leave it for two days and two nights and strain it by pressing hard and vigorously. And should you wish to be stronger steep in like manner two and three times the same weight of iris and strain.¹³

The same ingredients and procedures can be observed in *P.Oxy.* 5242 and *De materia medica*. However, the units of measurement are different, since the ones used in *De materia medica* are typical in the Greek world: the *litrai*, the *oungiai* (corresponding to a twelfth of a *litrai*),¹⁴ and the *cyatho*, an Attic measure.¹⁵ Yet both in *P.Oxy.* 5242 and in this passage by Dioscorides, 'στύψις' is used to define the process of the recipe. Moreover, the use of several technical terms can be highlighted, such as the verb 'έμβρέχω' – 'to bathe' – in *De materia medica* and the simple verb 'βρέχω' (only in *P.Oxy.* 5242, line 12); 'έκπλύνω', 'to wash out', (which occurs six times in *De materia medica*); 'καταχρίω', 'to anoint'; and 'άρωματίζω', 'to thicken'.¹⁶ The expression with which the recipe is introduced in the Dioscoridean text, 'οί δέ', is noteworthy: as Daniela Fausti has noted, it is frequently used in *De materia medica* to refer to popular beliefs, which Dioscorides had come across in his study of other ancient authors.¹⁷

To sum up, it can be argued that Dioscorides' goal could have been the same with that of the papyrus because they both explain how to prepare the oil, but what distinguishes Dioscorides is the context. Dioscorides' work aims to give a new 'τάξις' 'order' for medical remedies (as stated in *De materia medica*'s preface)¹⁸ and to report information related to medical practice, such as the descriptions of substances

¹³ Dioscorides *De materia medica*: 1.56.2. For this translation see Beck 2005: 40-41.

¹⁴ See LSJ, s.v. λίτρα: <http://stephanus.tlg.uci.edu/ljsj/#context=ljsj&eid=65723>.

¹⁵ See LSJ, s.v. κύαθος: <http://stephanus.tlg.uci.edu/ljsj/#eid=62307>.

¹⁶ The term generally means 'to flavour', but Dioscorides uses it for the preparation of perfumes, which required to add astringent substances to the essential oils. About perfume preparation see Fausti 2018: 17.

¹⁷ About the Dioscoridean method see Fausti 2017: 30-31.

¹⁸ Dioscorides *De materia medica*: praef. 5-6: 'μετὰ γὰρ πλείστης ἀκριβείας τὰ μὲν πλείστα δι' αὐτοψίας γνόντες, τὰ δὲ ἐξ ἱστορίας τῆς πᾶσι συμφώνου καὶ ἀνακρίσεως τῶν παρ' ἐκάστοις ἐπιχωρίων ἀκριβώσαντες πειρασόμεθα καὶ τῇ τάξει διαφόρῳ χρῆσασθαι καὶ τὰ γένη κατὰ τὰς δυνάμεις ἐκάστου αὐτῶν ἀναγράψασθαι.'

and how to prepare 'φάρμακα'. Regarding the iris, after the recipe in *De materia medica* 1.56, Dioscorides says that the best iris perfume came from Perge of Pamphilia and Elis of Achaia, and had emollient ('μαλακτικήν') and heating ('θερμαντικήν') properties. He claims it caused the expulsion of fetuses and that it opened the hemorrhoids; taken with vinegar, rue and almond, it was used against chronic catarrh ('πρὸς κατάρρους χρονίζοντας') and polyps ('πρὸς ὄζαινας') by being greased on the nostrils. If drunk in the quantity of one *cyatho*, it was suitable for intestinal colic and it was diuretic ('ποιεῖ καὶ πρὸς εἰλεώδη, κινεῖ καὶ οὔρα'); it was administered to those who had difficulty vomiting and to those suffering from angina. In addition, greased or mixed with honey, it relieved sore throats ('πρὸς τραχύτητα ἀρτηρίας') and it was administered to those who had drunk hemlock or ingested mushrooms or coriander ('δίδονται καὶ τοῖς κώνειον ἢ μύκητας ἢ κόριον πεπωκόσιν'). Such additional information is not included in *P.Oxy.* 5242 but, since the text is fragmentary, it is difficult to tell whether its overall intent was the same as Dioscorides' or not. These considerations, as will be shown, also apply to the rose and the lily, whose recipes in the papyrus can be compared with the *De materia medica*.

The rose oil

The second recipe of *P.Oxy.* 5242 is for the thickening of rose, whose unguent is called 'ρόδινον', a name that relates to the island of Rhodes.¹⁹ As explained in the text, the oil had to be cleaned from unripe olives and then boiled with 2 *metia* 4 *asara* of camel grass, which had previously been chopped in half and mixed with water. Then the mixture had to be boiled while being swirled by hand and, after being strained, it could be used for different purposes, most of which remain unknown.

Like iris, the rose is also examined by Dioscorides in *De materia medica*, in passage 1.99. The juice had to be extracted from the most delicate roses by cutting the end of the flower and, after being squeezed out, it could be stored and used as an eye ointment ('οὕτως τε ἀποτίθεται εἰς τὰς ὀφθαλμικὰς περιχρίσεις'). The juice of the roses, dried and boiled in wine, is described as effective for headaches, eye

¹⁹ The island was called this way because there were lots of roses there. Joret 1989: 117.

diseases, earache, pain in the gums, as well as anal and uterine pains.²⁰ Roses were often cut, without being crushed, and used for hypochondrium inflammation, for excess fluid in the stomach and for erysipelas ('πρὸς ὑποχονδρίων φλεγμονὰς καὶ στομάχου πλάδον καὶ πρὸς ἐρυσσιπέλατα'). On the other hand, when dry, they were sprinkled on the inner thigh and mixed with poultices, wound medications and antidotes;²¹ they could even be used as eyeshadow ('καίεται δὲ καὶ εἰς τὰ καλλιβλέφαρα'). The flower in the center of the rose, if dried, helped the humors of the gums ('πρὸς οὐλῶν ρευματισμοῦς'); the outside part, if drunk, was suitable for intestinal problems ('κοιλίαν ρέουσεν') and it could stop bleeding ('αἵματος ἀναγωγὴν'). After this description, there is a recipe for a particular type of rose, specifically from Rhodes ('ρόδιδες'):

'αἱ λεγόμεναι δὲ ῥοδίδες σκευάζονται τοῦτον τὸν τρόπον · ῥόδων χλωρῶν ἀβρόχων μεμαραμμένων δραχμὰς τεσσαράκοντα, νάρδου Ἰνδικῆς δραχμὰς πέντε, σμύρνης δραχμὰς ἕξ λεία ἀναπλάσσεται εἰς τροχίσκους τριωβολιαίους καὶ ἐν σκιᾷ ξηραίνεται· ἀποτίθεται δὲ εἰς κεραμεοῦν ἀγγεῖον ἀκώνητον περιεσφηκωμένον. ἔνιοι δὲ προστιθέασι καὶ κόστου δραχμὰς δύο καὶ ἴρεως Ἰλλυρικῆς τὸ αὐτὸ μίσγοντες μετὰ μέλιτος καὶ οἴνου Χίου.'

'The so called *rhodides* are prepared this way: 40 *drachmai* fresh roses, free of moisture and withered, five *drachmai* Indian spikenard, and six *drachmai* myrrh, ground up, are molded into small disks of three obols and are dried in the shade; they are stored in an unpitched earthen jar sealed tightly all around. But some add also two-*drachmai* costusroot and an equal amount of Illyrian iris, mixing them with honey and Chian wine.'²²

Dioscorides adds that women used those discs instead of garlands ('τῷ τραχήλῳ ἀντὶ ὄρου ἡδύπνου') to remove the smell of sweat, and as ointments ('συγχρίσμασι') after bathing.

²⁰ Dioscorides *De materia medica*: 1.99.1: 'ποιεῖ δὲ τῶν ξηρῶν ἐψηθέντων ἐν οἴνῳ τὸ ἀπόθλιμμα πρὸς ἄλγημα κεφαλῆς, ὀφθαλμῶν, ὠτων, οὐλῶν, δακτυλίου ἀπευθυσμένου, [ἐντέρου] μήτρας περῶ ἐγχριόμενον καὶ προσκλυζόμενον.'

²¹ Dioscorides *De materia medica*: 1.99.2: 'ξηρὰ δὲ λεία παραμηρίοις προσπάσσεται καὶ ἀνθηραῖς καὶ τραυματικαῖς καὶ ἀντιδότοις μείγνυται.'

²² Dioscorides *De materia medica*: 1.99.3. For this translation see Beck 2005: 70.

The thickening of rose oil, as in *P.Oxy.* 5242, is also discussed in *De materia medica* 1.43.1:

ῥοδίνου σκευασία· σχοίνου λίτρας πέντε ούγγιας ὀκτώ, ἐλαίου λίτρας εἴκοσι ούγγιας πέντε κόψας καὶ φυράσας ἐν ὕδατι ἔψε ἀνακινῶν, εἶτα ἀπηθήσας εἰς τὰς εἴκοσι λίτρας καὶ ούγγιας πέντε τοῦ ἐλαίου βάλε ῥόδων ἀβρόχων ἀριθμῶ χιλίων τὰ πέταλα, καὶ τὰς χεῖρας μέλιτι χρίσας εὐώδει ἀνακίνει πλεονάκις ὑποθλίβων ἡρέμα, ἔπειτα ἐάσας τὴν νύκτα ἔκθλιβε. ὅταν δὲ τὸ τρυγῶδες ὑποστῆ, ἄλλαξον τὸ ὑποδεχόμενον ἀγγεῖον, ἀποτίθεσο δὲ εἰς κρατῆρα μέλιτι κατακεχρισμένον. βαλὼν δὲ εἰς λουτηρίδιον τὰ ἐξίπτωθέντα ῥόδα ἐπίχει λίτρας ὀκτὼ ούγγιας τρεῖς τοῦ ἐστυμμένου ἐλαίου καὶ πάλιν ἐξίπτου.'

'Preparation of unguent of roses: five *litrai* eight *oungiai* of camel hay, 20 *litrai* five *oungiai* of olive oil. After chopping and softening the camel hay with water, boil while stirring, then strain, add into the 20 *litrai* five *oungiai* of the oil the petals of 1,000 unmoistened roses, and having rubbed your hands with aromatic honey, stir several times applying gentle pressure. Then leaving it alone overnight, express it. After the dregs have settled, change the receiving vessel and lay it aside in a bowl that was coated with honey. Then placing the pressed petals into a washing tub, pour over them eight *litrai* three *oungiai* of the thickened oil and squeeze the liquid out again.'²³

After explaining the preparation, Dioscorides gives some additional advice: for the optional addition of more rose petals to the first oil, it was recommended to use fresh petals, because they made it stronger. However, rose petals could be added no more than seven times, while the container had to be greased with honey each time, and the oil had to be separated from the juice.²⁴

Mentioning again some popular practices, it is noted that some people only immersed the petals of well-pounded roses in the oil and then changed the oil once a week, putting it aside after changing it three times²⁵. Meanwhile, others thickened the

²³ Dioscorides *De materia medica*: 1.43.1. For this translation see Beck 2005: 32.

²⁴ *De materia medica*: 1.43.3: '...ἄχρι δὲ ἐβδόμης ἐμβροχῆς ἐπιδέχεται τὸ ἐλαιον τὴν ἐμβολὴν τῶν ῥόδων, ἔπειτα δὲ οὐκέτι· κεχρίσθω δὲ καὶ ἡ ληνὸς μέλιτι...'

²⁵ *De materia medica*: 1.43.3: '...ἐνιοὶ δὲ αὐτὰ μόνον τὰ ῥόδα θάσαντες ἐναποβρέχουσι τῷ ἐλαίῳ καὶ ἀλλάσσοντες παρ' ἡμέρας ἐπὶ τὰ ἄχρι τρίτης βροχῆς οὕτως ἀποτίθενται...'

oil and added chopped sweet flag and aspalathus; still others, to give a more beautiful colour to the oil and to prevent it from spoiling, added aspalathus and salt.

Finally, the properties of rose unguent are explained: it was astringent and refreshing ('δύναμιν δὲ ἔχει στυπτικήν, ψύχουσαν'); it loosened the bowel and calmed heartburn ('λύει δὲ καὶ κοιλίαν ποτιζόμενον καὶ καῦσον σβέννυσι στομάχου'). It was meant to be used for deep wounds and cutaneous eruptions, and even for headache ('κεφαλαλγίας ἔμβρεγμα'), toothache ('ὀδονταλγίας τε διάκλυσμα'), and intestine and uterus inflammations ('πρὸς τε ἐντέρων ἐρεθισμοὺς καὶ ὑστέρας <φλεγμονὰς>').

In the rose oil recipe in *De materia medica*, the term 'σκευασία' can be found, denoting a general preparation, as mentioned above. The first part is somewhat analogous to *P.Oxy.* 5242, even if Dioscorides stops at the end of the thickening process without describing the phase in which roses are added. However, in the papyrus there is a clarification which is omitted in *De materia medica*: it is recommended to mix with the hand ('τῇ χειρῖ'). Besides this, the context between the two texts differs again: *De materia medica* is defined as a medical treatise which intends to include as much information as possible about medical practice, while the papyrus only attests the recipes without giving other details, at least in its extant form.

The lily oil

The last oil examined in the *P.Oxy.* 5242 is the one from lily, but the text is incomplete. Once again, the reader is instructed to clean oil from unripe olives and to boil it with sweet flag. The text then becomes illegible, except for a fragmented reference to 'the half of' some substance and to the measurement *asara*. However, some observations can be made; for example, here the lily is called 'σοῦσινον', but *De materia medica* uses synonyms, like 'κρίνον' and 'λείριον'²⁶

In particular, in *De materia medica* 3.102 there is a description of the flower's properties. It is mentioned that the leaves, if smeared, benefited those who had been bitten by reptiles ('...τῆς πόας τὰ φύλλα δύναμιν ἔχει καταπλασσόμενα ἔρπετο δῆκτοις βοηθεῖν...'); if boiled, they were useful for burns ('πρὸς κατακαύματα

²⁶ In 1.52 Dioscorides talks about 'σοῦσίνου σκευασία' and in 3.102 about 'κρίνον', but in both cases the plant is also called 'λείριον'.

ζεσθέντα'); if those leaves were preserved in vinegar, they could be used as a remedy for wounds. The juice of the lily leaves, mixed with vinegar and honey and boiled in a copper container, was a remedy for old and fresh wounds ('πρὸς παλαιὰ ἔλκη καὶ πρόσφατα τραύματα'). According to the text, lily root — boiled and grounded with rose ointment — could heal burns, soften the uterus, cause menstruation and heal sores; if it was triturated with honey, it could heal tendon wounds and sprains, purify leprosy, decrease dandruff, and reduce wrinkles; if shredded with vinegar or hyoscyamus leaves and wheat flour, it could calm testicular inflammation.²⁷ The seed functioned as an antidote for reptile bites and, when crushed with wine, it could relieve erysipelas, with the leaves also having this property ('...τὸ δὲ σπέρμα ἐρπετῶν <δηγμάτων> πότημα ἀντιφάρμακον, ἐρυσσιπελάτων τε κατάπλασμα σὺν οἴνῳ λεανθέντα τό τε σπέρμα καὶ τὰ φύλλα...'). Dioscorides then recognizes that some people supported the existence of a purple lily ('...φασὶ δὲ τινες καὶ πορφυρᾶ ἄνθη κρίνων γίνεσθαι...'). Finally, it is noted that the most suitable species for ointments was the one that grows in Syria, Pisidia and Pamphylia.²⁸

In chapter 1.52.1 of *De materia medica*, the thickening of lily oil is described, with the same method used for the previous recipes:

'σουσίνου σκευασία, ὃ ἔνιοι λείρινον καλοῦσιν· ἐλαίου λίτρας ἑννέα οὐγγίας πέντε, καλάμου λίτρας πέντε οὐγγίας δέκα, σμύρνης δραχμὰς πέντε φυράσας οἴνῳ εὐώδει ἔψε, εἶτα ἀπηθήσας τὸ ἔλαιον ἀπόχει κατὰ καρδαμώμου κεκομμένου καὶ βεβρεγμένου ὕδατι ὀμβρίῳ λιτρῶν τριῶν οὐγγιῶν ἕξ καὶ ἑάσας βραχῆναι ἀπόθλιβε· καὶ λαβῶν ἐκ τοῦ ἐστυμμένου ἐλαίου τρεῖς ἡμισυ λίτρας, κρίνα ἀριθμῶ χίλια ἀποφυλλίσας θὲς ἐν λουτήρι πλατεῖ, μὴ βαθεῖ, ἐπιχέας τε τὸ ἔλαιον ἀνακίνει ταῖς χερσὶ μέλιτι κεχρισμέναις. ἑάσας δὲ ἡμέραν μίαν καὶ νύκτα, πρῶτὸν δὲ ἀνελόμενος εἰς κυρτίδα ἐξίπτου.'

²⁷ Dioscorides *De materia medica*: 3.102.2-3: 'ἡ δὲ ρίζα ἐψηθεῖσα <λεία> σὺν ροδίνῳ πυρίκαυτα ἰᾶται καὶ ὑστέραν μαλάσσει καὶ ἔμμηνα ἄγει καὶ ἔλκη κατουλοῖ· σὺν μέλιτι δὲ λεανθεῖσα νεύρων διακοπὰς καὶ στρέμματα ἰᾶται καὶ ἀλφούς ἀποκαθαίρει καὶ λέπρας καὶ πίτυρα καὶ ἀχῶρας σμήχει, τό τε πρόσωπον καθαίρει καὶ ἀρρυτιδῶτον ποιεῖ σημηχομένη· σὺν ὄξει δὲ λεία ἢ σὺν ὑοσκυάμου φύλλοις καὶ ἀλεύρω πυρίνῳ ὄρχεων φλεγμονὰς παραιτεῖται.'

²⁸ Dioscorides *De materia medica*: 3.102.3: 'ἐνεργέστατα δὲ γεννᾶται ἐν τῇ Συρίᾳ καὶ ἐν Πισιδίᾳ τῆς Παμφυλίας πρὸς τὴν τοῦ χρίσματος κατασκευήν.'

'Preparation of unguent of lily, which some call *leirion*: mixing nine *litrai* five *oungiai* olive oil, five *litrai* 10 *oungiai* sweet flag, and five *drachmai* myrrh with fragrant wine, boil; then filtering the oil, pour it over three *litrai* six *oungiai* cardamom that was chopped and soaked in rain water and after allowing it to become well soaked, strain. Then taking three and one-half *litrai* of the thickened oil and after stripping the leaves of 1,000 white lilies, place them in a wide basin, not a deep one, and pouring the oil over them, stir with your hands having first coated them with honey. Leaving it alone for a day and night, in the morning, transfer into a strainer and press out.'²⁹

Dioscorides adds that, once filtered, the oil needed to be separated from the water, which would putrefy it, similarly to the rose unguent.³⁰ Thus, it was necessary to pour the oil in a bowl greased with honey, sprinkling it with fine salt and removing the impurities that would have emerged on the surface. Then, the aromatic herbs and the flavoured oil were poured, along with 10 'ὀκλὰς' of cardamom, and stirred with the hands.³¹ The process could be repeated, but the best ointment would be the one obtained from the first squeezing.³² This first extraction, which was the best, was then poured in a bowl with 1,000 white lilies and treated with the same procedure as in the first pressing; two *drachmai* of good myrrh, two of cinnamon and ten of saffron could have been further mixed.

Thanks to this information, acquired by Dioscorides' research, popular beliefs about the preparation of lily oil can be found, just like for iris and rose:

οἱ δὲ κρόκου καὶ κινὰμώμου τὸ ἴσον κόψας σήσας ἔμβαλε εἰς τὸν λουτήρα μεθ' ὕδατος καὶ ἐπίχει τὸ πρῶτον ἐκπιεσθὲν μύρον, εἶτα ἐάσας μικρὸν ἀναλάμβανε εἰς ἀγγεῖα ξηρά, προκεχρισμένα κόμμει καὶ σμύρνη καὶ κρόκῳ καὶ μέλιτι μεθ' ὕδατος διειμένοισι· τὸ δ' αὐτὸ ποίει καὶ ἐπὶ τοῦ δευτέρου ἐκπίεσματος καὶ τοῦ τρίτου. ἔνιοι δὲ τὸ ἀπλοῦν ἐξ ἐλαίου βαλανίνου ἢ ἄλλου καὶ κρίνου σκευάζουσι.

²⁹ Dioscorides *De materia medica*: 1.52.1. For this translation see Beck 2005: 36-37.

³⁰ Dioscorides *De materia medica*: 1.52.2: '...οὐ γὰρ ὑπομένει ὡς τὸ ρόδινον, συνθερμαινόμενον δὲ ἀναζει καὶ σήπεται...'

³¹ Dioscorides *De materia medica*: 1.52.2: '...ἀνακινήσας χρησίμως ταῖς χερσὶ...'

³² Dioscorides *De materia medica*: 1.52.3: '...καὶ ἔσται τὸ μὲν πρῶτον ἐκπιεσθὲν ἄριστον, ἐχόμενον δὲ τὸ ἐξῆς, τρίτον δὲ τὸ τελευταῖον...'

δοκεῖ δὲ διαφέρειν τὸ ἐν Φοινίκη καὶ ἐν Αἰγύπτῳ γινόμενον· ἄριστον δὲ ἐστὶν αὐτοῦ τὸ ὄζον κρίνων.'

'But others recommend to make it this way: having chopped and sifted equal quantities of saffron and cinnamon, place them in the basin with water and pour over them the first batch of strained unguent; then allowing a short time to pass, transfer into dry vessels previously daubed with gum, myrrh, saffron, and honey diluted with water. Do the same to the second and third pressings. Still others prepare the unguent uncompounded, using oil from the nut of the ben tree or some other oil and white lilies. The best is reputedly made in Phoenicia and Egypt. It is excellent if it smells of white lilies.'³³

The chapter ends stating that the best lily ointment was produced by the Phoenicians and Egyptians. The concoction was useful for uterine problems, facial exanthems, dandruff, eczemas and bruises; if ingested, it expelled bile from the intestine and it stimulated diuresis.³⁴

As in the chapter dedicated to rose oil, in this one Dioscorides once again uses 'σκευασία' and not 'στῦψις' to refer to the recipe.³⁵ Moreover, in *De materia medica*, the chopped sweet flag is presented as one of the most important ingredients for the preparation of this oil, like in the papyrus. However, the last part of *P.Oxy. 5242* is fragmentary, so it is impossible to extensively compare the two texts.

Iris, rose and lily in Theophrastus and Pliny the Elder

Now that the three recipes of *P.Oxy. 5242* have been examined and compared to Dioscorides', other texts in which the three ointments are mentioned can be noted. The first author to consider is Theophrastus of Eresus, who lived between 371- 287 BC, about four centuries before the papyrus was written.³⁶ As a student of Aristotle and a Peripatetic philosopher, he talks about iris, rose and lily in his botanical

³³ Dioscorides *De materia medica*: 1.52.4-5. For this translation see Beck 2005: 37.

³⁴ Dioscorides *De materia medica*: 1.52.5: 'δοκεῖ δὲ διαφέρειν τὸ ἐν Φοινίκη καὶ ἐν Αἰγύπτῳ γινόμενον· ἄριστον δὲ ἐστὶν αὐτοῦ τὸ ὄζον κρίνων. δύναμιν δὲ ἔχει θερμαντικὴν, μαλακτικὴν, ἀναστομωτικὴν τῶν περὶ μήτραν μύσεων καὶ φλεγμονῶν, καὶ καθόλου πάντων ἐστὶ χρησιμώτατον πρὸς τὰ γυναικεῖα.'

³⁵ As explained before, 'σκευασία' refers to a more general preparation and 'στῦψις' to a specific one.

³⁶ About Theophrastus see Sharples 2012 [1949]: 1461.

treatises *De odoribus* and *Historia Plantarum*, paying particular attention to the context of natural science.³⁷ Theophrastus connects odors with botany (and not with the human body)³⁸ and describes the substances, their nature and their use in everyday life. Therefore, the aim of these two works differs from *P.Oxy.* 5242, where the intention is — for what can be understood from the surviving fragments— to detail specific preparations of oils, and not to give information about the oils themselves.

For example, regarding the iris, in *De odoribus* Theophrastus underlines its intense fragrance, perceptible only up close, and its warm and astringent scent, that could burn the skin.³⁹ Its root, before being processed, had to be left to mature in cold oil for a minimum of three to a maximum of six years.⁴⁰ The ointment made from iris, 'ἴρινον', became more intense if extracted from the dried root of the plant and not subjected to heat.⁴¹ It was produced by very few ingredients and had diuretic and laxative properties due to its heat; anchusa roots⁴² were often added to 'ἴρινον' as a colouring agent.⁴³ Theophrastus recognises 'ἴρινον' as a particularly long-lasting fragrance, recalling a perfumer who had an iris perfume still in good condition after twenty years.⁴⁴

³⁷ The first treatise is dedicated to the art of perfumery, the second one to the classification of plants by their way of reproducing, the place where they grow, their physical characteristics and their medical uses. For *De odoribus* see Squillace 2010; for *Historia Plantarum* see Amigues 1988.

³⁸ Squillace 2014: 72.

³⁹ Theophrastus *De odoribus*: 32: '...θερμὴ δὲ καὶ συτυπτικὴ καὶ ἡ ἴρις, καθ' ὑπερβολὴν δὲ καὶ πικρὰ νέα οὔσα καὶ τὸν χρωῖτα τῶν ἐργαζομένων ἀφελκοῖ...'

⁴⁰ Theophrastus *De odoribus*: 34: '...οἶον ἡ ἴρις εἰς μὲν τὴν ἐργασίαν ἀκμάζει μετὰ τὴν συλλογὴν τρία ἔτη, καὶ διαμένει δὲ πλεῖστον χρόνον ἕξ ἔτη...'

⁴¹ Theophrastus *De odoribus*: 24: '...γίνεται δὲ τὸ βέλτιον ἴρινον ἐὰν ᾗ ξηρὰ καὶ ἀπύρωτος ἡ ἴρις· ἀκρατεστέρα γὰρ ἡ δύναμις ἢ ἐὰν φυραθεῖσα καὶ πυρουμένη...'

⁴² Anchusa, whose scientific name is *Anchusa tinctoria*, is a plant described by Dioscorides in *De materia medica*: 4.23. Some also call it *calyx*, others *onocleia*; the leaves resemble those of lettuce and the root has astringent properties.

⁴³ Theophrastus *De odoribus*: 33: '...συνεργεῖ δὲ καὶ τῆς ἀγχούσης τὸ ρίζιον εἰς τὴν χροῖαν τοῦ ῥοδίνου καὶ τῆς ἴριδος...'

⁴⁴ Theophrastus *De odoribus*: 38: 'μυροπώλης δὲ τις ἔφη παρ' αὐτῷ μεμενηκέναι Αἰγύπτιον μὲν ὀκτῶ ἔτη, ἴρινον δὲ εἴκοσι, καὶ ἔτι διαμένειν βέλτιον ὄν τῶν ἀκμαζόντων.'

Theophrastus also gives some information about iris and iris oil in the *Historia Plantarum*, especially in the fourth book discussing aromatic species. He points out that these plants were not found in the northern regions of Greece — except for iris, which grew in Illyria and on the Adriatic coast and which was superior to irises growing elsewhere.⁴⁵ Instead, the species found in warm Southern places grew in contrast to medicinal plants.⁴⁶ In the ninth book, iris is again mentioned: 'ἴρινον' was often made with the root of hellebore, due to its good smell.⁴⁷

Concerning the rose, Theophrastus in *De odoribus* explains that this flower showed its perfuming properties as soon as it was picked. The oil thickened from the rose, 'ρόδα', was the lightest and weakest perfume, although it could eliminate other smells and fragrances.⁴⁸ Salt was added in its preparation, making it useful for earache.⁴⁹ To realise rose oil, 'ρόδινον', one needed rush, aspalathus and chopped sweet flag, which had to be macerated in sweet wine.⁵⁰ Theophrastus also talks about this unguent in book VI of the *Historia Plantarum*, noting the existence of various species of this flower, distinguished for the number of their petals, their harshness, the beauty of their colour and their perfume.⁵¹ Most of them had five petals ('πεντάφυλλα'), but some had twelve ('δωδεκάφυλλα') or twenty petals ('είκοσίφυλλα'), and others even reached a hundred ('έκατοντάφυλλα'); the latter grew near Philippi, had very small internal petals, and some of them were neither scented nor large ('...σμικρὰ δὲ σφόδρα τὰ ἐντὸς φύλλα...').

⁴⁵ Theophrastus *Historia Plantarum*: 4.5.2: '...φαρμακώδεις γὰρ καὶ αὗται. τῶν δὲ εὐωδῶν οὐδὲν ἐν ταύταις, πλὴν ἴρις ἐν τῇ Ἰλλυρίδι καὶ περὶ τὸν Ἀδρίαν · ταύτη γὰρ χρηστὴ καὶ πολὺ διαφέρουσα τῶν ἄλλων...'

⁴⁶ Theophrastus *Historia Plantarum*: 4.5.2'...ἀλλ' ἐν τοῖς ἀλεινοῖς καὶ τοῖς πρὸς μεσημβρίαν ὥσπερ ἀντικείμενα τὰ εὐώδη...'

⁴⁷ Theophrastus *Historia Plantarum*: 9.9.2: '...χρησὶμη δὲ καὶ πρὸς τὸ ἴρινον μύρον διὰ τὴν εὐωδίαν...'

⁴⁸ Theophrastus *De odoribus*: 45: '...κουφότατον γὰρ ὄν καὶ ἀσθενέστατον ἀφανίζει τὰς τῶν ἄλλων ὀσμάς ὅταν προμυρισθῶσι...'

⁴⁹ Theophrastus *De odoribus*: 35: '...τὸ δὲ ρόδινον τοῖς ὤσιν ἀγαθὸν ὅτι ἐν ἀλσὶν ἢ ποίησις...'

⁵⁰ Theophrastus *De odoribus*: 25: '...εἰς δὲ τὸ ρόδινον σχοῖνον ἀσπάλαθον κάλαμον...'

⁵¹ Theophrastus *Historia Plantarum*: 6.6.4: '...Τῶν δὲ ρόδων πολλαὶ διαφοραὶ πλήθει τε φύλλων καὶ ὀλιγότητι καὶ τραχύτητι καὶ λειότητι καὶ εὐχροίᾳ καὶ εὐοσμίας...'

Regarding the lily, Theophrastus in *De odoribus* just states that its ointment was one of the lightest and that it was suitable for men, like *ρόδινον*.⁵² But it is in the *Historia Plantarum* that more information about lily oil is provided: in Book III it is called '*λείρινον*', and it is described as having a white colour and a very pleasant perfume.⁵³ In Book VI, however, Theophrastus defines lilies as '*κρίνα*' and gives a brief description: they only had one stem, which could be divided into two depending on the location and climatic conditions; the root was large, fleshy and round.⁵⁴

Another ancient author who examines the three flowers listed in *P.Oxy.* 5242 is Pliny the Elder, a natural philosopher contemporary to Dioscorides, who lived between 23-79 AD.⁵⁵ His *Naturalis Historia*, an encyclopedic work, aims to collect the knowledge of the ancient world, from the cosmos to minerals, from animals to plants, from geography to the position of man in the world.⁵⁶ Talking about nature and vegetable species, Pliny mentions the iris, the rose and the lily, giving some interesting information about their characteristics and use. His intent is similar to Dioscorides and Theophrastus', even if the *Naturalis Historia* deals with the entire natural world and not only plants (to which Books XII-XXIII are dedicated).

Regarding the iris, Book XXI reveals that the best species was the Illyrian, including both the red *raphanitis* iris and the white *rhizotomos*; African and Pisidian irises are also mentioned. Pliny highlights the properties of iris *rufa*, which was considered the best: it was helpful in infantile teething, for bites from spiders and snakes, for headaches and vomiting.⁵⁷

⁵² Theophrastus *De odoribus*: 42: '*...έλαφρότατα δὲ τὸ ρόδινον καὶ ἡ κύπρος, ἃ καὶ τοῖς ἀνδράσι μάλιστα ἀρμόττειν δοκεῖ, καὶ πρὸς τούτοις τὸ κρίνον...*'

⁵³ Theophrastus *Historia Plantarum*: 3.18.11: '*...ἄνθος δὲ λευκὸν καὶ εὐώδες λείρινον...*'

⁵⁴ Theophrastus *Historia Plantarum*: 6.6.8: '*...ρίζαν δὲ ἔχει πολλὴν σαρκώδη καὶ στρογγύλην...*'

⁵⁵ Since the three flowers are also dealt with in the work of Dioscorides, it is striking that Pliny and Dioscorides are contemporaries and may have used the same sources for their writings, without one mentioning the other. For Pliny the Elder see Purcell 2012 [1949]: 1162; Beagon 1992.

⁵⁶ For *Naturalis Historia* see A.A. V.V. 1951-1972; Conte 1982-1988.

⁵⁷ Pliny the Elder *Naturalis Historia*: 21.83: '*...Iris rufa melior quam candida. Infantibus eam circumligari salutare est, dentientibus praecipue et tussientibus taeniarumue uitio laborantibus instillari...*'

Talking about the rose, Pliny notes that it grew from a thorn and not from a shrub; it sprouted closed in an envelope, which later swelled until it opened.⁵⁸ As in *P.Oxy.* 5242, the thickening of rose is described: the flower was macerated with oil to obtain perfumed ointments, and even eye drops.⁵⁹ The best-known roses were the *Praenestinam* and the *Campanam*, but there also were the *Milesiam*, the *Trachiniam* and the *Alabandicam*. As in Dioscorides' *De materia medica*, Pliny recalls the astringent properties of the rose, but he distinguishes its three parts: the leaves, called 'nails'; the flowers, in which the seed and the filament were found; and the top, made up of the bark and the calyx.⁶⁰

Finally, Pliny reports the characteristics of the lily, noting its resemblance to the rose. Two main species are listed, the white ('*alba lilia*') and the red ('*rubens*'); in particular, Greeks called this last one '*crinon*', which was highly appreciated in Antioch, Laodicea and Phaselis.⁶¹ There was also a species from Italy⁶²; then, Pliny mentions the purple-colored lilies, the so-called *narcissi*, which sometimes had a double stem, a fleshy root and a large single bulb.⁶³ The fact that Pliny offers more information compared to Dioscorides can be explained with the structure of the *Naturalis Historia* as an encyclopedic work, with the intent to include as much material as possible related to the natural world. In the Dioscoridean treatise, the focus lies in details concerning medical practice.

⁵⁸ Pliny the Elder *Naturalis Historia*: 21.10.14: '*Rosa nascitur spina uerius quam frutice, in rubo quoque proueniens, illic etiam iucundi odoris, quamuis angusti. Germinat omnis primo inclusa granoso cortice, quo mox intumescente et in uirides alabastros fastigato paulatim rubescens dehiscit ac sese pandit in calices, medio sui stantes complexa luteos apices. Vsus eius in coronis prope minimus est.*'

⁵⁹ Pliny the Elder *Naturalis Historia*: 21.10: '*... Oleo maceratur, idque iam a Troianis temporibus Homero teste. Praeterea in unguenta transit, ut diximus...*'

⁶⁰ Pliny the Elder *Naturalis Historia*: 21.73: '*Rosa adstringit, refrigerat. Usus eius dividitur in folia et flores, capita. foliorum partes, quae sunt candidae, ungues uocantur. In flore aliud est semen, aliud capillus, in capite aliud cortex, aliud calix.*'

⁶¹ Pliny the Elder *Naturalis Historia*: 21.11: '*... Laudatissimum in Antiochia ac Laodicea Syriae, mox in Phaselide.*'

⁶² Pliny the Elder *Naturalis Historia*: 21.11: '*... Quartum locum optinet in Italia nascens...*'

⁶³ Pliny the Elder *Naturalis Historia*: 21.12: '*... Sunt et purpurea lilia, aliquando gemino caule, carnosiore tantum radice maiorisque bulbi, sed unius; narcissum uocant...*'

Conclusions

This article has discussed the interest in the art of thickening oils in antiquity, starting from *P.Oxy. 5242* and comparing it with other authors who talked about the same topics, albeit in different contexts. First of all, while Dioscorides' *De materia medica* has some similarities with the papyrus, there are significant differences, suggesting that the two texts cannot be identified with one another. Regarding the similarities with *De materia medica*, it can be hypothesized that the two texts originate from a common exemplar or that one may have used the other as a source: examining their possible relation wasn't the aim of this article, but this could be a starting point for future research. For what concerns the differences, instead, if Dioscorides' interests mostly lie in medical practices, other authors discuss about oil-thickening in a context of natural science: in Theophrastus, the three ointments are analyzed in two botanical treatises, whereas in Pliny they are studied in an encyclopedic work which comprises different sections, one of which is botany. Moreover, the preparation of the ointments is described by Dioscorides, whereas Theophrastus and Pliny focus only on aromatic plants and their uses. Therefore, their comparison with *P.Oxy. 5242* helps understand the meaning of the papyrus itself, relating it to previous or following evidence concerning the same substances. To conclude, this permits an understanding of the ancient origins of an activity still practiced today, in recognition that, after all, the ancient world was not so different from ours and that many aspects of our society originated from that world, so far and so close to us.

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