



Update on the Validity of a Recipe within Chapter 23 of Book XX in Elderly Pliny's *the Natural History*¹

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Abstract: In January 2022 I published an article about a particular recipe within chapter 23 of Book XX in Elderly Pliny's *The Natural History*. The content of this formula, when ingested, combats asthma. But because I am a historian and a philosopher – hence not a scientist, when I published that piece I did so in order to emphasize that the work of the Naturalist should receive more consideration; I didn't do it having chiefly in mind technical details. Nevertheless, I had a preliminary hypothesis, thus: if one formula within that collection compiled by the Roman Naturalist is valid, it is very likely that more are so. Therefore, I stated that to verify this, further research to focus on other recipes in *The Natural History* is needed. This in addition to more tests to be carried on people in order to strongly confirm the formula in the fragment of the work mentioned above; that was my second proposition.

Since the publication of the above-mentioned article I learnt that, in fact, some scientific experiments based on the ingredients Pliny mentions have already been successfully conducted, even though the researchers involved in them do not expressly refer to Pliny. I am introducing the results of these assessments in the current text, and I will publish more about them as the research on Pliny's work advances.

I hope that in the light of the information provided here it will become clear why Pliny's work deserves more scholarly attention than it receives now.

Update on the Validity of a Recipe within Chapter 23 of Book XX in Elderly Pliny's *the Natural History*

1. INTRODUCTION

The aims of this article are thus: firstly, to reinforce an idea from my piece published in January 2022, “The validity of a recipe against asthma within chapter 23 of Book XX in Pliny the Elder's *The Natural History*”.² This refers to the fact that the work of the Roman Naturalist is more valuable to the culture of the twenty-first century than some researchers assume and, therefore, it should receive more

¹ In addition to The Loeb Classical Library and Budé editions there are a few others impressions as part of recent projects on-line; in the section I dedicated to Bibliography I have included those. Throughout the paper I used quotations from Pliny the Elder's *Naturalis Historia/Natural History* published via the Perseus project, thus: for the Latin edition Pliny the Elder, *Naturalis Historia* edited by Karl Friedrich Theodor Mayhoff, Lipsiae: Teubner, 1906;

<http://www.perseus.tufts.edu/hopper/text?doc=Perseus%20text%3D20%20Achapter%23> [Book XX, chapter 23 (tufts.edu)]. For the English translation (also via Perseus) the details are as follows:

Pliny the Elder, *The Natural History* translated by John Bostock and H. T. Riley, London: Taylor and Francis, 1855. Bostock and Riley's translation is based on that by Ajasson de Grandsagne; I am specifying this because Ajasson is mentioned as a source in Book XX, on which my piece focuses.

Perseus Project for the English translation: <https://www.perseus.tufts.edu/hopper/text?doc=Plin.Nat.+toc>.

² Elena Ene D-Vasilescu, “The validity of a recipe within chapter 23 of Book XX in Pliny the Elder's *The Natural History*”, *International Journal of Humanities, Social Sciences and Education*; volume 9, Issue 1, 2022, pp. 205-216;

<https://arcjournals.org/international-journal-of-humanities-social-sciences-and-education/volume-9-issue-1> <https://doi.org/10.20431/2349-0381.0901017>

scholarly attention. The second aim of my text is to introduce scientific experiments which have recently been carried out that are based on the ingredients in Pliny's recipe presented within his compendium mentioned above. I indicated in my previous published text that the recipe in Book XX refers to the use of boiled garlic as a treatment against asthma. Even though the researchers who carry out experiments that use garlic to alleviate problems of the respiratory system do not always know that Pliny speaks about recipes based on this plant, they have reached the same positive results which the Roman Naturalist thought as possible.

Another remark is needed at this point: in order to conduct the research necessary for the publication of my two pieces about Pliny's *oeuvre*, I have made an exception from my usual academic preoccupations. I am a historian and philosopher and my work focusses on later periods of the Eastern Roman Empire (Pliny lived in AD 23/24 -79). Therefore, I still labour on matters pertaining to Byzantium in parallel with my research about the Naturalist.

2. UPDATE. SCIENTIFIC EXPERIMENTS THAT USE GARLIC TO ALLEVIATE RESPIRATORY PROBLEMS

Despite not working myself in the field of science, I provide here a few specifics from within it, i.e. I indicate research articles in which garlic is described as being used in experiments to treat asthma in animals. I also communicate the titles of a few scientific publications that discuss how garlic and spices with strong flavours have a positive effect on breathing in human beings.

The most relevant scientific experiment for our discussion is one in Taiwan; it focuses on: "Comparing the Protection Imparted by Different Fraction Extracts of Garlic (*Allium sativum*) against Der p-Induced Allergic Airway Inflammation in Mice". The collective of scientists that conducted the research have also published its data in an article that has the same title as that of the project.³ This piece has demonstrated the beneficial action of the ingredients contained within the garlic in the case of mice's breathing. Among the studies – some conducted in the UK – which prove that the use of garlic and spices with strong flavours have positive consequences when employed to improve the respiration of human beings one is that carried out by Mahyar Dorrigiv, Armin Zareiyan, and Hossein Hosseinzadeh; its published output is entitled "Garlic (*Allium sativum*) as an antidote or a protective agent against natural or chemical toxicities".⁴ Another article, which partially explains why is possible for the garlic to positively affect breathing is "Neuropeptides in the respiratory tract". The researchers involved in it, who work in London, are P. J. Barnes, J.N. Baraniuk, and M.G. Belvisi.⁵ A published piece that has only a loose connection with the topic of my article – it explains the 'mechanism' of breathing under a strong stimulus – is "The human nasal response to capsaicin"; it was published by a group of scientists from Baltimore in the *Journal of Allergy and Clinical Immunology*.⁶ [Capsaicin is a substance found in chillies]. Its authors are George Philip; Fuad M. Barood; David Proud; Robert M. Naclerio, and Alkis G. Togias. These scientific endeavours reinforce the positive results of the testing that I carried out on myself with respect to Pliny's recipe against asthma found in chapter 23 of Book XX within *The Natural History*.

³ "Comparing the Protection Imparted by Different Fraction Extracts of Garlic (*Allium sativum* L.) against Der p-Induced Allergic Airway Inflammation in Mice", in the *International Journal of Molecular Sciences*, published on line 1 October 2019 (*Int J Mol Sci.* 2019 Oct; 20(19): 4879); DOI: 10.3390/ijms20194879. Its authors are: Chia-Chen Hsieh, Keng-Fan Liu, Pei-Chun Liu, Yaw-Tsan Ho, Wei-Sung Li, Wen-Huang Peng, and Jen-Chieh Tsai.

⁴ Mahyar Dorrigiv, Armin Zareiyan, and Hossein Hosseinzadeh, "Garlic (*Allium sativum*) as an antidote or a protective agent against natural or chemical toxicities: A comprehensive update review", in *Phytotherapy Research (Phytother Res.)*, vol. 34 (Issue 8):1770-1797, Aug; 2020 (DOI: 10.1002/ptr.6645); published on line on 18 Feb, 2020.

⁵ P. J. Barnes, J.N. Baraniuk, and M.G. Belvisi, "Neuropeptides in the respiratory tract", in *The American Review of Respiratory Disease*, vol. 144, 1991: (Part I) 1187-1198 (DOI: 10.1164/ajrccm/144.5.1187); Part II: 1391-1399 (DOI:10.1164/ajrccm/144.6.1391).

⁶ George Philip; Fuad M. Barood; David Proud; Robert M. Naclerio, and Alkis G. Togias, "The human nasal response to capsaicin"; in the *Journal of Allergy and Clinical Immunology*, vol. 94, Issue 6, pp. 1035-1045, 1994; on-line 1 Dec. 1994.

Based on the state of affairs presented above, and despite not being a scientist I advance the hypothesis (perhaps it is more than a preliminary one) that since one recipe within *The Natural History* has been positively verified by contemporary science it is likely that more could be so.

The research on the use of treatment based on garlic to improve breathing should continue because it is expected, as in similar cases, that its experimentation will extend to a large sample of people. That in addition to the continuation of the process of testing the content of other recipes in Pliny's work. My role as a researcher in History and Philosophy lies primary in recording the output of what the scientists discovered. Therefore, I will register and publish more on the content of Pliny's *The Natural History* and on the trials that confirm its value.

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