

A Key to Common Genera of Slime molds - For Children and Beginners

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Abstract: Myxomycetes can be fascinating for children and people who are not familiarized with them. However, very commonly, identification keys are dense, highly technical and not easy to find in a wide variety of languages. As an attempt to address some of these shortcomings, the present note demonstrates the power of both education and citizen science. An ongoing collaborative effort for the translation of the key is currently taking place in different parts of the world.

Keywords: bioliteracy, biophilia, education, dichotomous key, taxonomy

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Unlike many other living creatures on the planet, slime molds have relatively little information about them available for beginners. This is particularly true when it comes to keys for the identification of different genera and species. While there are a few keys published in books or online, they are usually text-based with language that can be difficult to follow for people beginning in the field.

In the past two years, this became evident as I discovered that students from the primary school in which I work were fascinated by slime molds. The minute size, the beautiful shapes and colours, interesting life cycle stages and the challenge of searching for them in the field captivated them. Children came along to the science room in their recess and lunch breaks to look at slime molds, growing them in moist chambers and learning to prepare specimens for microscopy.

The children in this group wished to learn identification but using the text-based keys in books was difficult for them. To help them understand, it was necessary to explain or reword much of the vocabulary and resulted in them being unable to use the keys independently.

This key was developed to make the scientific language around the identification of slime molds accessible for children and beginners. It is primarily a key to common genera of myxomycetes, presented in the style of a flow chart with diagrams to accompany each of the descriptions. The language is directed at children and some of the genera which normally appear together in keys have been separated from each other for ease of following the steps through.

Some obscure genera such as *Alwisia* and *Elaeomyxa* have been included because they are relatively common in Australia but may not be so common in the Northern Hemisphere. Other very tiny genera such as *Echinostelium* and *Macbrideola* were included because the children have grown them in moisture chambers; however, these are unlikely to be encountered in the field by amateurs.

While this key is aimed at children, hopefully the visual presentation encourages slime mold enthusiasts of all ages to have a try at identification. It has been made freely available through Wikimedia commons and is currently available in English, Dutch, and Spanish. More translations are underway, and links will be added as they become available.

Links to keys

English version

https://commons.wikimedia.org/wiki/File:A_Key_to_Common_Genera_of_Slime_Moulds.pdf

Dutch version

https://commons.wikimedia.org/wiki/File:Sleutel_tot_veelvoorkomende_soorten_slijmzwammen.pdf

Spanish version

https://commons.wikimedia.org/wiki/File:Una_clave_para_los_g%C3%A9neros_comunes_de_mixomicetes.pdf

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References

McDonald P [Internet]. 2022. Wikimedia: A key to common genera of slime molds; [cited 2022 Feb 20].

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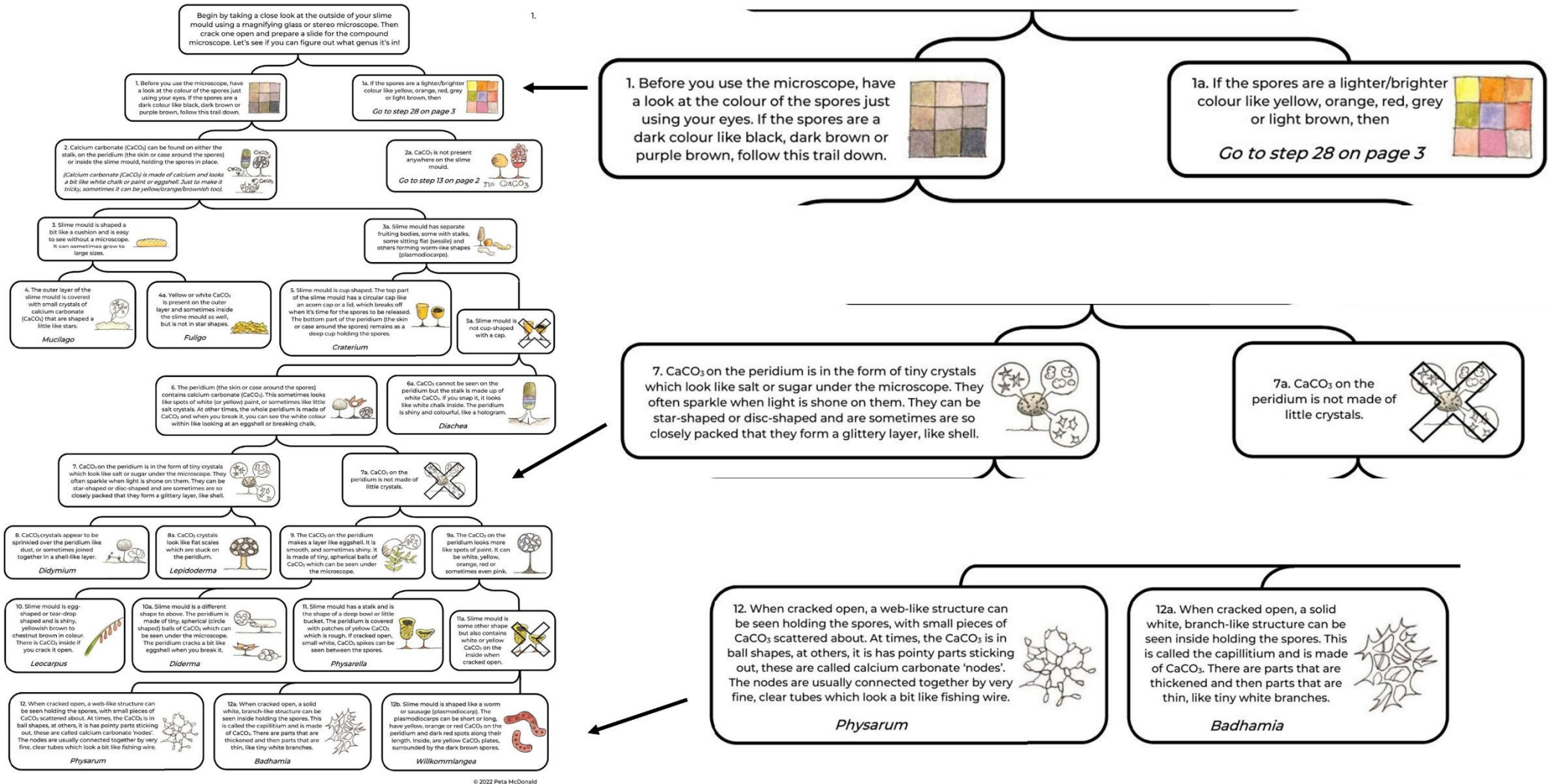


Figure 1. Example of the layout, text and illustrations in the key of slime molds. Left: general appearance. Right: selected boxes showing three different levels of decision, top: for general features, medium: for specific features, bottom: for myxomycete genera.