

Lesson Plan: "Natural Products Chemistry: Major Classes of Medically Relevant Compounds"

By: Cassandra L. Quave Ph.D., 1/2012

** This module covers two class lecture periods.

Learning Objectives

After completion of this module, you should be familiar with:

- The major classes of medically relevant natural products from plants;
- What are plant secondary metabolites and why do plants make them;
- Examples of compounds from the different chemical classes described in lecture and the reading;
- How indigenous people use sensory clues from plants to understand the plant chemistry and potential for medicinal value.

Reading Assignment

- Chapter 6 from *Fundamentals of Pharmacognosy and Phytotherapy* (Heinrich et al)

Tasks

- Watch the video on sensory clues used by the indigenous people of Indonesian Borneo to detect the medicinal properties of certain plants. <http://www.erajournal.org/ebovideo/senseplantmed/>
- Think about how these indigenous sensory practices tie in to what we learn about plant chemistry in the lecture.

Assessment

- Take the quiz

Extra stuff

If you have a deep interest in plant chemistry and would like to learn more about the chemical pathways involved in the production of many important products, I suggest that you look into reading this book:

Medicinal Natural Products: A Biosynthetic Approach by Paul M. Dewick, Wiley Publishers

NOTE to Instructor

In the 1st class, get through the majority of the slide deck. In second class, continue remaining slides and have a discussion about sensory chemistry. Bring in different plants (orange peel for limonene, basil, and other aromatics) and discuss the specific chemistry of these plants, explaining how this is linked to their characteristic odors or colors.