



# PENELOPE M. JENKIN

1902-1994, UNITED KINGDOM

Limnologist and zoologist from United Kingdom;  
Lecturer at the University of Bristol.

She took part in the Percy Sladen expedition (1929) and led comprehensive limnological studies in lakes, rivers and ponds of the Rift Valley, in Kenya.

She conducted significant work on food webs by investigating flamingos feeding, describing several Cladocera species and using algae species to measure daily photosynthetic rates.

## HERSTORY

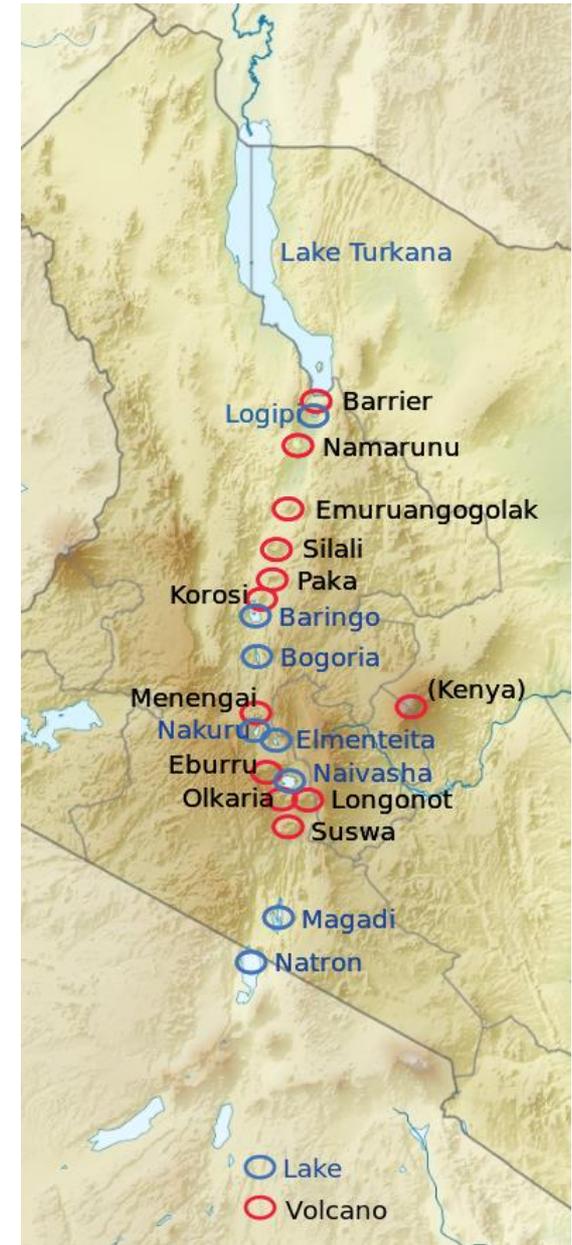
Penelope was the first person to conduct independent research at the Freshwater Biological Association in England, and possibly the first woman to be approved for a postgraduate degree at the University of Cambridge (1948). She and her father were the creators of a corer and surface mud sampler.

# COMMUNITY ECOLOGY IN AFRICA LAKES

## Community of aquatic organisms

of three lakes in the Rift Valley:

- Cyanobacteria (*Microcystis*)
- Algae (Diatoms)
- Aquatic plants  
(*Potamogeton* sp., *Myriophyllum* sp.)
- Microscopic fauna (*Rotifera*)
- Crustacean (*Entomostraca*)
- Fish
- Bird life  
(flamingoes, pelicans, gulls, ducks)



Penelope M. Jenkin (1929). *Nature*.

# COMMUNITY ECOLOGY IN AFRICA LAKES

**Example:** Seasonal variability of aquatic organisms in lakes of Kenya.

The 'water-bloom' blue green algae (*Spirulina*) play an important part in the bionomics of these lakes. These algae are the main diet of flamingos, even if they are only abundant during some seasons.



Penelope M. Jenkin (1929). *Nature*.

# ALKALINITY & AQUATIC ORGANISMS

**Alkalinity** is a measure of the ability of the water to neutralize acids and bases (i.e., ability to maintain a fairly stable pH level).

It is important for aquatic life because it protects or buffers against rapid pH changes.

## **Base cations important for alkalinity:**

Calcium: England hard waters

Sodium: Africa 'soda' lakes. In these systems, sodium derived from the surrounding alkaline lavas (Jenkin 1929).



Penelope M. Jenkin (1929). *Nature*.

# RELEVANT CONTRIBUTIONS

**Jenkin, P. M.** (1927). The relation of *Spirostomum ambiguum* to the hydrogen ion concentration (alkaline range). *Journal of Experimental Biology*, 4(4), 365-377.

**Jenkin, P. M.** (1929). Biology of lakes in Kenya. *Nature*, 124(3128), 574-574.

**Jenkin, P. M.** (1937). Oxygen production by the diatom *Coscinodiscus excentricus* Ehr. in relation to submarine illumination in the English Channel. *Journal of the Marine Biological Association of the United Kingdom*, 22, 301-343.

**Jenkin, P. M.** (1957). The filter-feeding and food of flamingoes (Phoenicopteri). *Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences*, 401-493.

**Jenkin, P. M.,** Harris, J. E. (1962). *Animal hormones: A comparative survey. Kinetic and metabolic hormones.* Pergamon Press.

**Jenkin, P. M.** (1970). *Control of growth and metamorphosis: animal hormones: A comparative survey (Vol. 47).* Elsevier.

## LOOKING FOR MORE?

**You can find more information about her story and research at:**

Lund, J., Monaghan, E. (2000). Dr P. M. Jenkin and the earliest days of the FBA's laboratory at Wray Castle. *Freshwater Forum* 13, 2-15.

Haines, C. M., Stevens, H. M. (2001). *International women in science: a biographical dictionary to 1950.* Abc-clio.