

## 9. DESCRIPTION OF NATURAL MILIEU

### 9.1 A Peatbog in Drenthe

Literature at Botanical Laboratory Leiden.<sup>1</sup>

[Four concentric circles.]

### 9.2 A Dune Lake on the Island of Voorne

Literature at Botanical Laboratory Leiden.<sup>2</sup>

### 9.3 Freshening of the Zuyderzee

Literature at Botanical Laboratory Leiden.<sup>3</sup>

(Baas Becking, 1936a).

### 9.4. A Desert Lake, Bumbunga<sup>4</sup>

[Baas Becking left this section blank.]

### 9.5 A Desert Salt Lake, Searles<sup>5</sup>

*Rhopalophylla salina*, Kirby, 34.8 % salt, 1934.

### 9.6 Solar Salt Works

Gersik Puthih, island of Madura.<sup>6</sup>

See literature!

Freshwater floating brine.

### 9.7 Volcanic Lake Kawah Tijwedédh

Literature L. Baas Becking. *Royal Academy*.<sup>7</sup>

### 9.8 Water of Unusual Composition<sup>8</sup>

To outline the so called forbidden area, are given below in % equivalent (data recalculated from Clarke, 1916).

1 Baas Becking and Nicolai (1934).

2 See Section 5.7.4.

3 In the 1953 version of *Geobiology*, Baas Becking (1953a) referred in the Section *Phosphorus* to the freshening of Zuyderzee (p. 528):

When after the construction of the sea dyke at the north end of the Zuiderzee the freshening of the waters set in (Baas Becking, 1936a), a speedy increase of phosphate occurred after the decrease of the chlorinity below 2000 ppm. Values as high as 2 mg of phosphate per litre were observed due to the mass death of many fishes and other marine animals. Taking an average of 1 mg per litre this would amount to an accumulation of 1500 tons of phosphate corresponding to more than 2000 tons of collophane. This, however, only represented the soluble part of the phosphate. It may be seen, therefore, that the total accumulation would be several hundred times as large. An estuary or shallow littoral which becomes land locked may therefore well account for large accumulations of this mineral.

4 In the 1953 manuscript of *Geobiology* (p. 393-396), Baas Becking inserted a description of Lake Bumbunga which he visited March 27, 1936.

5 Baas Becking described experiments in Searles lake in *Geobiology* (1934 and 2016, p. 125). In the 1953 manuscript of *Geobiology* (Baas Becking, 1953a, p. 310-313) he inserted a description of Lake Searles.

6 In the 1953 manuscript of *Geobiology* (p. 358-361) Baas Becking inserted a description of the Governmental salterns at Gersik Putih, Madura, which he visited on July 4-11, 1936, together with Dr. J. Reuter.

7 Reference to Baas Becking (1938a). In the 1953 manuscript of *Geobiology* (1953a, p. 399) Baas Becking referred to this volcanic lake on the slope of the Patuha, Java. In the manuscript of *Geobiology* (1953a), he referred to Ruinen and Baas Becking (1938), Rhizopods living in unusual environments.

8 In the Table of Contents, Baas Becking mentioned the last section of the manuscript as *A Dutch Provincial Town*. Apparently, he changed his mind and inserted a section *Waters of Unusual Composition*.



## REFERENCES SECTION 9

- Baas Beeking, L.G.M. (1934) Geobiologie of Inleiding tot de Milieukunde. W.P. van Stockum, Den Haag.
- Baas Beeking, L.G.M. (1936a) The Zuiderzee, its past, present and future. Proceedings 6th International Botany Congress Amsterdam, 2-7 Sept. 1935. Brill, Leiden 1, 108-121.
- Baas Beeking, L.G.M. (1938a) On the cause of the high acidity in natural waters, especially in brines, *Proceedings of the Koninklijke Nederlandse Akademie van Wetenschappen* 41, 1074-1085.
- Baas Beeking, L.G.M. (1953a) Geobiology. (Typescript with handwritten notes 830 pages by Baas Beeking. The original manuscript was given to the KNAW Amsterdam in 1977 and is lost now. Copies of the manuscript are in the University libraries of Leiden, Nijmegen and Wageningen. In the library of NIOO KNAW Wageningen there is a bound copy of Geobiology formerly owned by the freshwater ecologist Dr H.L. Golterman (1928-2018)).
- Baas Beeking, L.G.M. (2016) Baas Beeking's Geobiology, or Introduction to environmental science. Edited by D.E. Canfield. Translation of Geobiologie 1934. Wiley Blackwell. <https://doi.org/10.1002/9781118295472>
- Baas Beeking, L.G.M., Nicolai, E. (1934) On the ecology of a sphagnum bog. *Blumea* 1, 10-45.
- Clarke, F.W. (1916) The data of Geochemistry. Third edition. U.S. Geological Survey, Water-Supply Paper, B616.
- Ruinen, J., Baas Beeking, L.G.M. (1938) Rhizopods living in unusual environments. *Archives Néerlandaises de Zoologie* Tome 3, 183-198.

