

Pim de Klerk

Peatland prose from the past:
the trembling soils of Pliny the Elder (23-79 CE)

IMCG Bulletin February - March 2019: page 3.

*“Quaedam vero terrae ad ingressus tremunt, sicut in Gabiensi agro
non procul urbe Roma iugera ferme ducenta equitantium cursu,
similiter in Reatino”*



Peat plateau mire Storflaket, Abisko, Sweden. Photo: Hans Joosten.

IMCG Bulletin: February – March 2019



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- Net ecosystem exchange from two formerly afforested peatlands undergoing restoration in the Flow Country of northern Scotland. [G. Hambley, R. Andersen, P. Levy, M. Saunders, N.R. Cowie, Y.A. Teh & T.C. Hill] Volume 23: Article 05 <http://mires-and-peat.net/pages/volumes/map23/map2305.php>
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Papers

Peatland prose from the past: the trembling soils of Pliny the Elder (23-79 CE)

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Pliny the Elder was one of the most important authors on natural science of ancient Roman times. His only preserved work 'Natural history' is an encyclopaedia of 37 books that covers numerous themes including geography, animals, plants, diseases and remedies, metals, stones, and arts. There are many passages that relate to peatlands and wetlands. Pliny died in a fall-out of hot ashes and pumice from the Mount Vesuvius eruption in 79 CE, as was described by his nephew Pliny the Younger (61-c. 113 CE) in a letter to the historian Tacitus. Currently the type of volcanic outburst is known as "Plinian eruption".

Pliny wrote: "*There are soils that tremble when treaded, e.g. near Gabii, not far from Rome, about 200 iugera [c. 50 ha] shake when horse riders pass it; the same in Rieti.*" ("*Quaedam vero terrae ad ingressus tremunt, sicut in Gabiensi agro non procul urbe Roma iugera ferme ducenta equitantium cursu, similiter in Reatino*") ('Natural history' Book II chapter 96).

The quote refers to peat soils bouncing back after being compressed when treaded upon, especially under the heavy weight of a horse with rider. Rieti (70 km northeast of Rome) lies in a large former lake basin (see Coccia & Mattingly 1992). Large water level fluctuations occurred during the Holocene, and in early Roman times the area will have consisted of some relict lakes within a large marsh: Coccia & Mattingly (1992) specify 'marsh deposits' as silt with a peat admixture. Consul Manius Curius Dentatus had the lake drained completely in the early 3rd century BCE by the construction of a canal, which is told by Cicero (106-43 BCE) in a letter to Atticus. At present most peats have vanished due to drainage and oxidation, but in the time of Pliny peat soils will still have been prominent. The ruins of the city Gabii (18 km east of Rome) are located in a region with various lakes, and hydrological regulation dates back to the early 4th century BCE (Bersani & Castellani 2005). Also here peaty soils originating from lake-marginal terrestrialisation zones will have been common. Both in Rieti and Gabii some wetland regeneration took place after Roman times because of negligence of the hydrological constructions, but the lakes were drained again in the 17th-19th centuries CE.

Probably neither Pliny nor his audience comprehended the processes at work, as there are clear indications in Roman literature that the substance peat was not known nor understood. But at least the processes were noticed and reported upon, leaving an eye-witness report for present-day peatland scientists.

Roman Literature:

Cicero (Marcus Tullius Cicero): *Epistulae ad Atticum* (Letters to Atticus). - Original text and English translation by Shuckburgh, E.S.: Complete works of Cicero. Delphi Classics, Hastings, 2014 (kindle edition).

Pliny the Elder (Gaius Plinius Secundus): *Naturalis Historia* (Natural History). – German translation by Wittstein, G.C.: *Die Naturgeschichte des Caius Plinius Secundus* Band 1 / Band 2. Marix Verlag, Wiesbaden, 2007. – Original text and English translation by Bostock, J. & Riley, H.T.: *The complete works of Pliny the Elder*. Delphi Classics, Hastings, 2015 (kindle edition). – Original text and English translation by Rackham, M.A. and Jones, W.H.S.: *Pliny Natural History* in ten volumes. Loeb Classical Library: volumes L330, L352, L353, L370, L371, L392, L393, L394, L418, L419; various editions.

Pliny the Younger (Gaius Plinius Caecilius Secundus): *Epistulae* (The Letters). – Original text and English translation by Firth, J.B. & Lewis, J.D.: *Complete works of Pliny the Younger*. Delphi Classics, Hastings, 2014 (kindle edition). - Original text and English translation by Radice, B.: *Pliny letters volume 1; Pliny letters volume 2 Panegyricus*. Loeb Classical Library: volumes L055 & L059; various editions.

References:

Bersani, P. & Castellani, V. (2005): Considerations on water flow regulation in ancient time in the Alban hills / Considerazioni sulla regolazione delle acque in epoca antica nell'area dei colli Albani. *t&a* 1/2005: 59-102.

Coccia, S. & Mattingly, D. (1992): Settlement history, environment and human exploitation of an intermontane basin in the central Apennines: The Rieti survey 1988–1991, part I. *Papers of the British School at Rome* 60: 213-289.
doi:10.1017/S0068246200009831