BioOne COMPLETE

# The New Miocene Samos Faunas

Author: Costeur, Loïc

Source: Acta Palaeontologica Polonica, 55(2) : 188

Published By: Institute of Paleobiology, Polish Academy of Sciences

URL: https://doi.org/10.4202/app.2010.0001

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

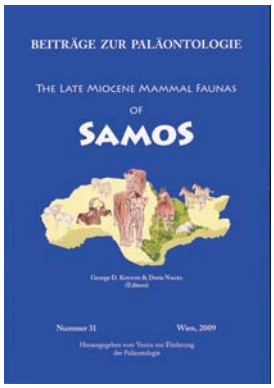
BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

Downloaded From: https://bioone.org/journals/Acta-Palaeontologica-Polonica on 28 Mar 2024
Terms of Use: https://bioone.org/terms-of-use

Book review

*Acta Palaeontologica Polonica* 55 (2): 188, 2010

# The new Miocene Samos faunas




**Koufos, G.D. and Nagel, D. (eds.) 2009. *The Late Miocene Mammal Faunas of Samos*. 438 pp. Beitrage zur Paläontologie 31, Vienna. ISSN 1024-4727. Price: 169 Euros.**

The fossil finds from the Island of Samos constitute classic Greek late Miocene faunas that have yielded noteworthy biochronological and palaeoecological information. The history of collecting at Samos spans more than 100 years, starting in the late 19th century with the excavations of Charles I. Forsyth-Major and going through the most recent excavations in the mid-1990s. This long history resulted in large collections (more than 30,000 fossils, see Solounias 1981) spread in many museums across the world, but also in the lack of basic stratigraphic and field information necessary to better understand the very position of the fossils, thus hampering evaluation of their scientific potential.

The diversity of fossil mammals from Samos was evident from the first discoveries. Of particular interest are the incredibly rich and diverse bovid assemblage (more than 25 species) and the 16 species of carnivores. Such a rich assemblage (>50 mammalian species) is relatively rare in the Neogene of Europe. Palaeontologists from the University of Thessaloniki (Greece) undertook completely new and thoroughly documented excavation of the historical sites to put the faunas in their geological, stratigraphic and evolutionary context, which resulted in the publication of this special volume dedicated to the fossil finds of Samos.

After an interesting introductory chapter constructed around the long history of the fossil discoveries in Samos (Chapter 1), 16 papers are dedicated to systematic descriptions and to the delicate task of analysing their biochronological and palaeoecological messages.

Chapter 2 places "the old quarries" in a comprehensive geologic/stratigraphic framework inside the Mytilinii Formation, and proposes correlation to new sites discovered by the team. The fluvial conditions prevailing in the Turolian are now well-constrained and framed within lacustrine episodes in the middle Miocene and early Pliocene. The fossil sites are now magnetostratigraphically dated and three new faunal assemblages, which seem to succeed to one another from 7.6 to 7.1 mya, are documented. The old collections are also reinterpreted in this new study and span the period from 8 to 6.7 mya (see also Chapter 16).

A short but informative contribution on the palynology of the different geological formations (Chapter 3) proposes an environmental reconstruction independently supported by analysis of the faunas (Chapters 15, 17). Both studies indicate a rather arid "open bushland with rich grass floor" under a warm temperate climate, conditions that prevailed in the area in the Turolian (see also Merceron et al. 2005; Koufos et al. 2006; Strömberg et al. 2008).

Lastly, the taxonomy of the faunas as a whole is described in detail in 11 chapters. All the species described, either new or already known in Samos, are put in their biochronological context at the European and eastern-Mediterranean level. Palaeoecological as well as biogeographical information are given. Although there is no real attempt to statistically characterise the sampling biases in the latter, the results seem to correspond to what is known from the other eastern Mediterranean Turolian faunas. However, no account of the small mammal palaeoecology or palaeobiogeography is given in this contribution, which makes it a little restrictive when one speaks for "mammals" as a whole.

This collection of papers on the new fossil finds of the well known Samos faunas is particularly interesting as it gives a comprehensive idea on the position of the different historical sites of the Mytilinii Formation. This basic stratigraphic framework helps us to better understand the biochronological message of the different Samos faunas and allows a rather complete palaeoecological analysis to be done.

Although the stratigraphy of the old fossil sites is now better understood in the light of the correlations made available by the field and literature work done, a simple comparison of the lists of fossils for each of theses sites would have helped put the old collections in the framework of the new finds. Identically, a comparison of the previously published lists of species with those resulting from new field work would have been interesting. Only less than half of the chapters (carnivores, equids, giraffids and bovids) fulfil this helpful task.

Generally, this volume is timely and very interesting. A lot of raw data are made available and the combination of historical, taxonomical, biochronological and palaeoecological contributions makes it important to any vertebrate palaeontologist or palaeoecologist working on Miocene faunas and palaeoenvironments.

## References

Koufos, G.D., Merceron, G., Kostopoulos, D.S., Vlachou, T.D., and Silvestrou, I. 2006. The late Miocene vertebrate locality of Perivolaki, Thessaly, Greece. 11—Palaeoecology and palaeobiogeography. *Palaeontographica A* 276: 201–221.

Merceron, G., Bonis, L. de, Viriot, L., and Blondel, C. 2005. Dental Microwear of the late Miocene bovids of northern Greece: the Vallesian/Turolian environmental changes as explanation of the disappearance of *Ouranopithecus macedoniensis*? *Bulletin de la Société géologique de France* 176: 475–484.

Solounias, N. 1981. The Turolian faunas from the island of Samos, Greece. *Contribution on Vertebrate Evolution* 6: 1–232.

Strömberg, C.A.E., Werdelin, L., Friis, E.M., and Saraç, G. 2008. The spread of grass-dominated habitats in Turkey and surrounding areas during the Cenozoic: phytolith evidence. *Palaeogeography, Palaeoclimatology, Palaeoecology* 250: 18–49.

*Loïc Costeur [loic.costeur@bs.ch], Naturhistorisches Museum Basel, Augustinergasse 2, 4001 Basel, Switzerland.*



doi:10.4202/app.2010.0001

Downloaded From: https://bioone.org/journals/Acta-Palaeontologica-Polonica on 28 Mar 2024
Terms of Use: https://bioone.org/terms-of-use