

Interactive comment on “Pollen-based reconstruction of Holocene vegetation and climate in Southern Italy: the case of Lago di Trifoglietti” by S. Joannin et al.

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C1086

GENERAL COMMENTS

Overview

The paper “Pollen-based reconstruction of Holocene vegetation and climate in Southern Italy: the case of Lago di Trifoglietti” by Joannin and colleagues is supported by new and consistent data from a region poorly investigated from a palynological point of view. Moreover, the Calabria region, in the heart of Mediterranean, has high mountains very close to the sea featuring its environment and climate. The Trifoglietti record fills a gap existing not only in southern Italy, but in the whole Mediterranean.

I liked the integration between present and past vegetation visible in the whole manuscript draft. Pollen analysis is accurate and precise, and supplied with basic sediment data. I regret the fact that a concentration/influx diagram, at least for AP and main taxa was not included. The radiocarbon dating was carried out properly too, and on a good number of terrestrial plant macroremains.

There are some important mismatches between palynological data (presence of high water demanding trees like fir and beech) and reconstructed P_{poll} (pollen-based annual precipitation). Present-day mean annual precipitations do not fit with the reconstruction for pollen top-samples. I do suggest to check the climate reconstruction procedure you followed to check if there was something wrong.

Once the quantitative reconstruction of past precipitation is adjusted, some sentences in the discussion should be better addressed too.

The bibliography is updated, even if some recent articles can be added and few ones are misquoted. I just wonder why most pollen records from Latium (Lagaccione, Vico, Stracciaccappa, Mezzano, Albano and Nemi) are not considered, while you refer to northernmost Italian sites.

Paper organization

I wonder if the paragraphs 4.2.2 (Pollen sequence and terrestrial vegetation dynamics) and 4.2.3 (Pollen sequence and hygrophilous vegetation) could be joined. It's not easy to start again with the diagram description, even if I understand that the authors want to link water plant remains data and lake level oscillations.

Is Table 3 necessary? This information can be read in the pollen diagram. I wonder if it could be included as supplementary file.

SPECIFIC COMMENTS

2225 line 16

“... and the Neoglacial climate cooling at ca. 6000–5000 cal.BP (Magny et al., 2006b; Miller et al., 2010).”

Have also a look at the very recent paper by Zanchetta and colleagues (2012), Quaternary Research.

2226 line 20

“Lago di Monticchio (656m a.s.l.; Allen et al., 2002) and Lago di Pergusa in Sicily (667m a.s.l.; Sadori et al., 2011) are located in the collinean belt, but they are separated by 450 km and therefore provide a forest development asynchronism of ca. 4000 yr.” **It's not the distance to make the difference, but the very different climatic and geomorphological features of the sites. In my opinion it's not proper to speak of asynchronism.**

2227 line 8

“Lake Trifoglietti” **Lago Trifoglietti. Can you call it properly at least when you describe its**

Fig. 1.

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