



Corrigendum: The Legacy of Pre-Columbian Fire on the Pine-Oak Forests of Upland Guatemala

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A Corrigendum on

The Legacy of Pre-Columbian Fire on the Pine-Oak Forests of Upland Guatemala

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In the original article, there was an error. After discussions with the wider scientific community, the pollen taxa identified as *Corylus* is more likely to be *Myrica*; and the pollen taxa identified as *Cercocarpus* is more likely to be *Terminalia*.

A correction has therefore been made to the **Results**, subsection **Palaeoecological Trends**, paragraph two and three:

“Results from the CCA show that microscopic and macroscopic charcoal are significant environmental variables most associated with Zones 2 and 3, while *Sporormiella* is most associated with Zone 1 and is not statistically significant (**Figure 4A**). The PCA displays a distinct gradient and several associations between taxa and samples (**Figure 4B**). The first axis represents 20.2% of the variation, while axis two represents 10.5% of the variation. The arch between samples suggests that there is only one clear gradient. When the independently calculated palynological Zones are superimposed upon these quadrants, the top, and bottom right quadrants are most associated with Zone 1, the top left quadrant is most associated with Zone 2 and the bottom left quadrant is most associated with Zone 3 (**Figure 4B**). The first taxonomic association comprises canopy taxa *Quercus*, understory taxa Leguminosae, *Myrica*, Ericaceae, and the herbaceous and agrarian taxa *Capsicum*, which is most associated with Zone 1. The second taxonomic association comprises of understory taxa *Juniperus* and *Terminalia*, herbaceous taxa Polygalaceae, Apiaceae, Compositae *Aphelandra*, and agrarian taxa *Capsicum* most associated with Zone 2. The third taxonomic association comprises canopy taxa *Pinus*, *Alnus*, and *Liquidambar* together with understory taxa *Morella cerifera*, and herbaceous taxa Poaceae, and Campanulaceae, which is most associated with Zone 3 (**Figure 4B**).”

“Zone 1 (545.75–421 cm, 14 samples, 4000–2200B.C.E.) spans c.1800 years concurrent with the last 2000 years of the Archaic Period (10,000–2000B.C.E.) (**Figure 5**). This Zone is predominantly defined by POF taxa *Quercus* (25.9%) and *Pinus* (11%) alongside herbaceous taxa Compositae (27.6%). Between 4000 and 3300 B.C.E. there is evidence for a decline in canopy taxa (from 61.3 to 37.3% of the total pollen sum), particularly *Quercus* (18–9.7%). In contrast, *Pinus* became abundant during this period, rising from 4000B.C.E. (2.3%) to 3300B.C.E. (16.7%). *Myrica* and *Alnus* are mostly present throughout this Zone, peaking at 3100B.C.E. (15.3%). *Brosimum* (0–4.3%),

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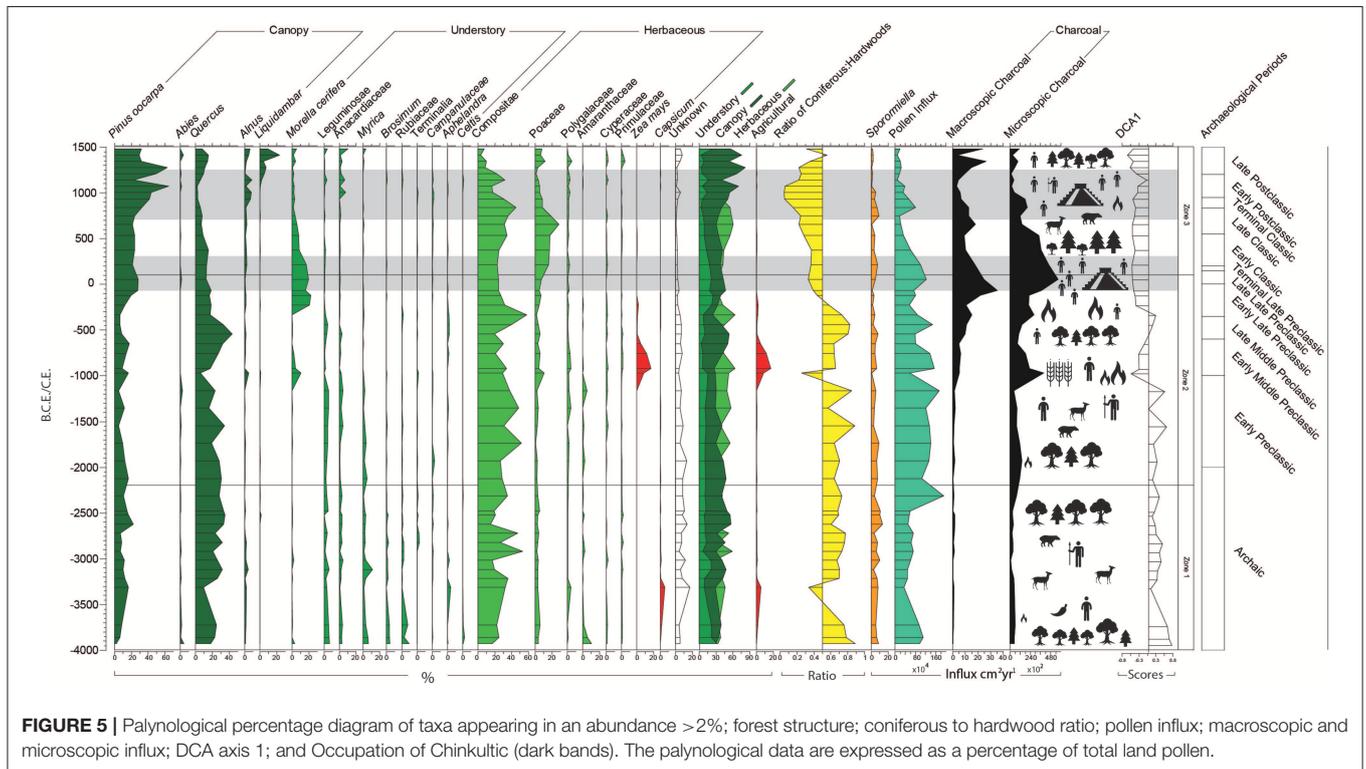
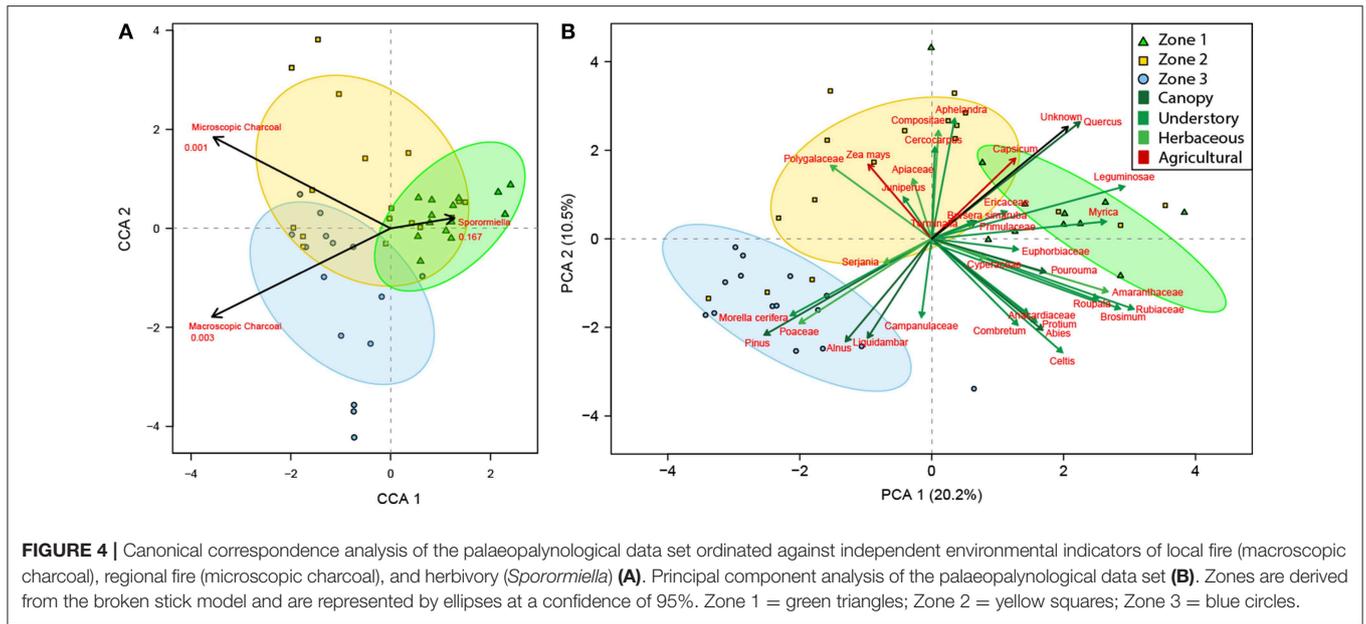
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Anacardiaceae (0.3–4.3%), Leguminosae (0–6.3%), *Morella cerifera*, and Rubiaceae (0–9%) are present in low abundance and on average decrease from 4000 to 2200B.C.E. The ratio of coniferous to MHWF is on average 30:70. The coniferous to MHWF ratio changes from 25:75 to 66:34 between 3700 and 3300B.C.E. Compositae abundance increases between 4000 and 3200B.C.E. (17.3–35.3%) and peaks at 2900B.C.E. (53.3%) and

2700B.C.E. (47.3%). Amaranthaceae is present at 10.3% from 4000B.C.E. but subsequently declines leading up to 3700B.C.E. (1.3%). *Capsicum* appears and increases from 3850 to 3300 B.C.E. (0.3–5.3%), and Polygalaceae follows a similar trend, peaking at 3300B.C.E. (4.3%). Poaceae is stable and in low abundance throughout the record (2.3–5.6%). Pollen influx is low, decreasing from 4000 to 3300B.C.E. (965–344 grains $\times 10^3$

cm² per year) and increasing after 2300B.C.E. (1,919 grains x10⁴ cm² per year). *Sporomiella* abundance is relatively high and stable (2.6–10.5%), falling below 4% abundance at 3100B.C.E. (2.6%), 2700B.C.E. (2.9%), and 2320B.C.E. (3.8%); there is a sustained high abundance of >10% between 2600 and 2500B.C.E. (10.2–13.3%). Macroscopic and microscopic charcoal are relatively low, decreasing between 4000 and 3000B.C.E. (macroscopic charcoal: 0.44–0.32 particles cm² per year; and, microscopic charcoal: 552–86 particles cm²yr⁻¹) then increasing through to 2300B.C.E. (macroscopic: 1.2 particles cm² per year; and, microscopic: 770 particles cm² per year).”

A correction has also been made to the **Discussion**, subsection **Anthropogenic Impacts and Agrarian Practices**, paragraph two:

Archaic populations from the Maya Area combined agriculture (e.g., pepper, beans, maize, squash, and chili) with hunting and gathering from as early as 5200B.C.E. (Pope et al., 2001). Evidence for agriculture from Centote Kail is first indicated by vegetation changes from 4000B.C.E. The observed changes include (i) a decline in canopy and understory taxa; (ii) increases in weedy disturbance taxa; (iii) a very small increase in local and regional burning; (iv) and the presence of cultivated taxa such as *Capsicum* (White, 1999), between c.3850 and 3300B.C.E. or *Zea mays* between c.970 and 550B.C.E. (**Figure 5**). A mixture of traditional hunter-gather practices combined

with limited agriculture is exemplified by the abundance and variety of edible fruits and nuts (e.g., *Brosimum*, *Myrica*, and Anacardiaceae) and high abundance of fauna as indicated by the influx of *Sporormiella*.

Additionally, a correction has been made to **Discussion**, subsection **Forest Structure, Composition and Successional Regeneration**, paragraph one:

“Relatively equal abundances of canopy, understory, and herbaceous taxa from 4000 to 3700B.C.E. indicate a diverse and stratified forest structure comprising at least three vegetative levels. The high diversity of taxa, particularly in the understory (e.g., Leguminosae, Anacardiaceae, *Myrica*, and Rubiaceae), suggests a relatively low and open canopy allowing light to penetrate to the forest floor (Bush, 2000). This structure is typical of middle succession in mixed POF after a large clearance event (Peterson and Reich, 2001).”

Corrections have also been made in **Figure 4** and **Figure 5**. The correct figures appear above.

Lastly, the **Supplementary Material** (including Supplementary Tables 1 and 2 and the raw data) has also been updated to reflect the correct taxa.

The authors apologize for this error and state that this does not change the scientific conclusions of the article in any way. The original article has been updated.

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