

Dear Editor,

Please find here our responses of your comments. Given that we have not any native English people in co-authors, we accepted most of your proposed corrections.

The corrections are displayed in red in the manuscript.

Best regards

William Hardy and co-authors

Comments accepted :

line 77: "largest" missing after second

line148: change "added in" to "added to"

line 168-171: change to "...Marret et al.2008). A detailed discussion of limitations and pitfalls of inferring paleoproductivity from dinocyst assemblages in the study area will be discussed in a separate paper. In the present study, we only focus on...."

line189: need to close the bracket after "Figure 3"

line200: suggested wording: "Higher abundances of heterotrophic cysts, mainly..."

line240: "across the whole..."

line251: change to "...the southernmost occurrences ever recorded of this species is observed in core KZAI-01."

line271/272: suggested wording: "It is commonly accepted that in the intertropical band higher primary productivity occurred during periods of global colling..."

line280: move bracket to after core name, i.e. "core GeoB1008 (Schneider et al.; Fig)"

line282: delete "around"

line290/291: change "brings" to "leads"

line294: sensitive cysts PLURAL

line299: delete "then" before "also"

line303: change "forcing in" to "forcing on"

line309: change "it was evidenced" to "it has been suggested" or "it has been inferred"

line310: change "influence in" to "influence on"

line314: change "widespread" to "spread"

line334: delete "consequently"

line335: change "supposedly" to "supposed"

line337: delete "and" before "especially"

line345/346: change "This general and commonly admitted" to "This widely observed pattern"

line357: change "consistently" to "consistent"

line358-360 suggested wording: "Even if an influence of lower sea level on the neritic ecology of both E.spp and L.m. during this time cannot be ruled out entirely, this pattern..."

line363: change to "contribute half of the total discharge"

line364: change "underline" to "note"

line373: change "moisture within" to "moisture to"

line376: change "then" to "thus"

line377, 380: "consistently" to "consistent"

line384: change "scale" to "area" to "expanse"

line387: change "displaying" to "delineating"

line390: change "through" to "from"

line396: change wording to "...when relative abundances of river-plume taxa increase"

line398/399: change to "...the maximum of West African monsoon activity between 8 and 6 ka BP (Figure 7) also corresponds..."

line407/408: change to "This pattern is well correlated with estimates of paleo precipitation inferred from pollen extracted from Burundi mounts"

line415/416: change to "Between 18 +/-0.3 and 15.5 +/- 0.4 ka BP, relative abundances of thermophile and river-plume species dropped sharply, while..."

line420: change "then" to "thus"

line425: change to "which today is typical..."

line429: precipitation SINGULAR

line431: "mean LGM values"

line433: delete "melting"

line435: change to "...would then consist of a southward shift..."

line439: change "all along" to "during"

line447: delete "activities"

line448/449: change to "Our dinocyst data also show a significant increase in percentages of XX and XX at around 15.5 +/-0.4kaBP"

line450: change to "...in the tropics are related to both nutrient-enriched..."

line453: delete "study"

line454: change "occurred" to "appeared"

line455: change to "Relative abundances of L.m.... also increased..."

line461: delete "as"

line468: delete "then"

line474: change to "evidences a reduction of terrigenous input (SINGULAR)..."

line475: delete "then"

line479: change to "...at that time (Figure 8). Wetter tropical conditions...."

line488: change "well abundant" to "highly abundant" or just "abundant"

line492-494: change to "Acknowledging the weak chronostratigraphic constraints (cf Figure2), some major subdivisions of the Holocene (xxx) can be discussed nevertheless"

line505: change to "Similar to these studies, our record..."

line512: delete "also"

line513: "relative" not in CAPS

line519: change to "The timing of the AHP termination varies significantly between studies, i.e. around 2.5....."

line523/524: change to "Consequently, the duration of the AHP termination also varies between these studies, from a few centuries to a few thousand years."

line530: change to "...from eutrophic to less nutrient rich surface waters..."

line550: delete "ever"

line551: delete "within dinocyst assemblages"

line561: delete "reached"

line572: change to "Analysis of dinocyst assemblages in core KZAI-01 has permitted..."

line574/575: change to "...river discharges caused by latitudinal migrations of the tropical rainbelt, forced by different orbital configurations,..."

line577: delete "tropical"

line579: delete "latitudinal"

line581: change to "complex dynamics that warrant model simulations to explore the underlying mechanisms that occurred..."

line588: change to "...in relationship with latitudinal shifts in the tropical rainbelt..."

Discussed comments :

line 271/272: since you state "commonly accepted", you need to provide references here

The references were provided below at line 276-277. We moved them to the line 271-272.

line525/526: I cannot understand what is meant by "degradation steps" and by "heat and moisture decrease". Does the latter mean cooling and drying?

We would explain that the establishment of drier and cooler conditions after Early Holocene was not gradual but established abruptly in two steps : the first at 7 ka BP and the second at 4 ka BP. These recorded transitions appear to be abrupt, less than 500 years.

We change the wording to « **In our data, we observe two events characterised by abrupt cooling and drying conditions.** »

line566: not sure what "mitigated" means here

We would say an intermediate period which still was warm and wet but not as warm/wet as Early Holocene.

We propose to replace "mitigated" by "less"

line578: what is this "expectation" based on?

We changed to « **Furthermore, while most of studies describe the LGM as a "cold and dry" period in the tropics, thermophile and river-plume dinocysts evidence here a pattern relatively similar to modern warm equatorial assemblages.** »