the focal male, it was ignored, suggesting that the honey odour conveys a non-threatening message. However, the focal male stalked and attacked a different, slightly secreting young adult in a dominance interaction (see supplementary information). It is evidently advantageous to be able to recognize the ontogenic degree of musth in conspecifics before initiating physical encounters[3,12,13].

Unravelling this medley of chemical signals helps to clarify the behavioural and physiological mechanisms that underlie the phenomenon of musth and its influence on other males. This knowledge should help in the formulation of deterrence programmes in southern India against crop-raiding wild elephants, most of which are male and are often in musth. Moreover, the moda-musth emanations of young maturing elephants, as poetically observed by the ancient Hindus, have now been substantiated by modern scientific techniques.

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Supplementary information accompanies this communication on *Nature*'s website (www.nature.com).

COMMUNICATIONS ARISING

Geomorphology

Age of long sediment cores from Lake Baikal

The new BDP-98 drill core of the Baikal Drilling Project is a key palaeoclimate record in continental Asia because globally sensitive sedimentary records of such length and continuity are very rare[1–3]. Kashiwaya *et al.*[4] have attempted signal processing of the BDP-98 average grain-size record, but in constructing their age model they excised a 100-metre interval from the 600-metre section, stating that it is "erroneous"[4]. On the basis of our lithological studies, we consider that this excision is unjustified.

Moreover, the interval excised by Kashiwaya *et al.*[4] corresponds to the spatially continuous sedimentary unit between seismic reflection boundaries B7 and B8 at Academician Ridge, Lake Baikal[2,5]. In addition, the lithology of the BDP-98 section reflects a progressive change of facies from shallow-water pro-deltaic to deep-water hemipelagic sedimentation at the drill site (Fig. 1). These findings imply that the sedimentation rates in the lower part of the BDP-98 are significantly higher than those assumed by Kashiwaya *et al.*[4] and that the bottom age of the BDP-98 is significantly younger, perhaps around 9–10 Myr (ref. 2).

We agree that the long-term insolation cycles are imprinted in the Lake Baikal palaeoclimate proxy records[3], but our lithological results indicate that there is a need to revise the age model and the signal-processing results of Kashiwaya *et al.*[4].

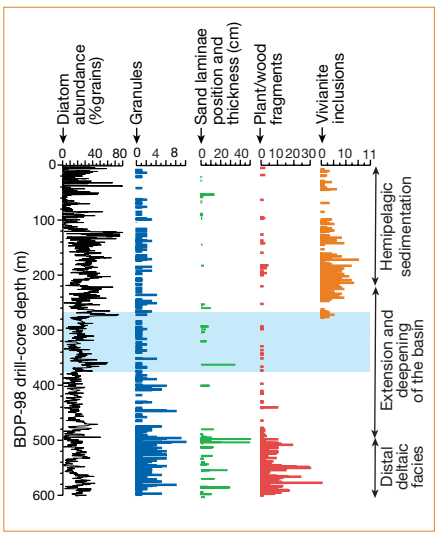

Figure 1 Progressive change of facies at the BDP-98 drill site[2], indicating that average sedimentation rates cannot be almost uniform throughout the section, as suggested by the age model of Kashiwaya *et al.*[4]. The lithology of the section also shows that there is no justification for the excision of the shaded interval in order to fit the age model. All of the components, apart from diatom abundance and sand laminae, are expressed as occurrences per 1-m interval in the split core[3].

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Kashiwaya et al. *reply* — The most important issue in the dating of the long Baikal core (600 m) is whether the segment between the base of C3An.2n and the top of C3Bn (267.67–375.48 m) is distorted. Changes in γ-ray intensity (H. Tsukahara *et al.*, personal communication), which reflects the structure of the cores, indicate that this part is different from the rest (strictly speaking, the upper and lower shifting points seem to be at around 262 m and 362 m, respectively, from the fluctuation). To investigate this difference, we carried out spectral analyses of the upper section of the core (163–261 m), and of the middle (263–361 m) and lower (363–673 m) parts. Prevailing periods for each part are different, particularly in the middle one. There is a distinct common prevailing period of around 4.5–4.9 m in the upper and lower parts, whereas a period of 18 m prevails in the middle part, suggesting that the structure of the middle is different from the upper and lower parts of the core.

We are therefore reluctant to propose an age model that includes the middle part without further information on this section. Another recent age model[1] omits any discussion of this point, although the structure cannot be explained without further information.

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