TEXT S1: GEOLOGIC SETTING

El Rhaz Formation

The bones of *Nigersaurus taqueti* were found in the El Rhaz Formation of the Tegama Group, which consists of a thick sequence of coarse-to-medium grained, cross-bedded sandstones almost devoid of finer-grained horizons [1,2] (Figure 1S). The beds are considered to be Aptian-to-Albian in age, and the localities in the Ténéré Desert (dubbed “Gadoufaoua”) were a considerable distance from deltaic habitats in the region of the Benue Trough (present day Nigeria) (Figure 2S). The aquatic fauna recovered is entirely freshwater.

*Nigersaurus* was one of the most common large herbivores of its day, judging from the number of specimens collected. Its bones are exceeded in number only by the more robust iguanodontian *Lurdusaurus* [3]. Together, these two herbivores shared their riparian habitat with two relatives, an unnamed titanosaur [2] and the iguanodontian *Ouranosaurus* [4], composing one of the few megaherbivore associations (herbivores more than $10^6$ g) with a balance of sauropods and large ornithopods. Predators would have included the giant crocodylomorph *Sarcosuchus imperator* [5], the spinosaurid *Suchomimus tenerensis* [6], and similar sized basal abelisaurid and carcharodontosaurid theropods [7].

REFERENCES

sauropods from the Sahara and the uneven rate of skeletal evolution among

3. Taquet P, Russell DA (1999) A massively-constructed iguanodont from Gadoufaoua,


predatory dinosaur from Africa and the evolution of spinosaurids. Science 282: 1298-
1302.

7. Sereno PC, Brusatte SL (in press) Basal abelisaurid and carcharodontosaurid