

LETTERS

How It Was

Readers point out that protein sequence databases were "pioneered" in the mid-1960s and that "many search and analysis programs" are now available. The behavior of nesting dinosaurs is further discussed (see also Letters, 14 June, p. 1571). The "debate" about tobacco industry money being used to fund research about "tobacco-related disease" continues. And an effort to provide "early warning" of "geomagnetic disturbances" that can disrupt electric power service is lauded.



Not the "Dark Ages"

Nigel Williams (News & Comment, 17 May, p. 946) quotes Mike Waterfield as saying, "you could get by without SWISS-PROT if researchers wrote their own programs to search different databases, but it'd be like going back to the Dark Ages." This misrepresents the state of the art.

Macromolecular sequence databases were pioneered by Margaret O. Dayhoff in the mid-1960s as the Atlas of Protein Sequences and Structure (which also included the first DNA database). It subsequently evolved into the Protein Information Resource (PIR), predating SWISS-PROT by more than 20 years. The PIR is now maintained by an international consortium, called PIR-International (1) which includes the National Biomedical Research Foundation (NBRF) in the United States (2), the Martinsried Institute for Protein Sequences (MIPS) in Europe, and the Japan International Protein Information Database (JIPID) in the Far East. SWISS-PROT for a number of years has relied heavily on data derived from the PIR to compile its entries, according to past SWISS-PROT announcements. Thus we consider PIR and SWISS-PROT to be complementary.

We strongly support the continuation of SWISS-PROT and regret its funding instability. However, reference to the "Dark Ages" is unfortunate because many search and analysis programs are already available on the Internet and the World Wide Web (3).

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References and Notes

1. D. G. George, W. C. Barker, H. W. Mewes, F. Pfeifer, A. Tsugita, *Nucl. Acids Res.* **2**, 17 (1996).

2. Funded by the National Library of Medicine of the National Institutes of Health.
3. BIOSCI/bionet, <http://www.bio.net/>; Blocks search, <http://www.blocks.fhcrc.org/>; European Molecular Biology Laboratory-European Biology Institute, <http://www.ebi.ac.uk/>; George Church Lab, Harvard, <http://twod.med.harvard.edu/>; Institute for Biomedical Computing, Washington University, <http://ibc.wustl.edu/>; Johns Hopkins Bio-Informatics, <http://www.gdb.org/>; NBRF, <http://www.nbrf.georgetown.edu/>; NCBI, <http://www.ncbi.nlm.nih.gov/>; MIPS, <http://www.mips.biochem.mpg.de/>; PDB World Wide Web Home Page, <http://www.pdb.bnl.gov/>; Pedro, http://www.public.iastate.edu/~pedro/rt_1.html/.

Dinosaurs and Their Youth

In their report "Juvenile skeletal structure and the reproductive habits of dinosaurs" (3 May, p. 712), Nicholas R. Geist and Terry D. Jones conclude that juvenile dinosaurs were precocial (mobile and relatively independent) at hatching. This conclusion is not novel, but is expected because both crocodiles and ratite birds (the basal sistergroup to all other living birds) are precocial at hatching. Precociality is a primitive characteristic of Archosauria, as can be determined by its phylogenetic distribution within the group (1).

Geist and Jones state that the pelvic girdle of *Oviraptor* was well ossified as an embryo and that "the discovery [by us (2)] of eggs in close association with an adult *Oviraptor* has been interpreted as evidence of birdlike parental behaviour, including perhaps endothermy and incubation of eggs by adults." This misrepresents statements in our original paper. In our paper about the brooding theropod (3), we defined brooding behavior as "the behaviour of sitting on nests." In living birds, this behaviour is associated with thermoregulatory incubation; however, we explicitly caution that "[a]lthough strongly suggestive, this does not imply that brooding behaviour and endothermy are necessarily correlated" (italics added) (3, p. 776).

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