may be indicative of CO freezing out onto dust grains, it might also indicate that the gas is depleted relative to the dust (*1*), the opposite effect of the gas enrichment expected if dust grains are forming planetesimals.

Besides the concern regarding the habitability of terrestrial planets in planetary systems without a Jupiter to eject killer comets (*2*), there was the concern of whether or not giant planets actually existed elsewhere. At least one dedicated search had yielded no evidence for Jupiter-mass extrasolar planets (*3*), raising the chance that our solar system happened to be anomalous in containing such a massive planet, thereby calling into question any parallels between the solar system and extrasolar planetary systems.

Alan P. Boss
Carnegie Institution of Washington, 5241 Broad Branch Road, NW, Washington, DC 20015–1305, USA
E-mail: boss@axp1.ciw.edu

References

1. S. V. W. Beckwith and A. I. Sargent, *Nature* **383**, 141 (1996).
2. G. W. Wetherill, *Astrophys. Space Sci.* **212**, 23 (1994).
3. G. A. H. Walker *et al.*, *Icarus* **116**, 359 (1995).

Tail Evolution

Elizabeth Pennisi and Wade Roush (Special News Report, 4 July, p. 34), commenting on the elegant experiments of Billie J. Swalla and William R. Jeffery (Reports, 15 Nov. 1996, p. 1205) (*1*), which show that the development of a tunicate larva's tail is regulated by a single gene called *Manx*, state that the observations raise "the possibility that a single genetic change could be responsible for the innovation that led to a tail in primitive vertebrates." This seems to extrapolate beyond the conclusions of the original paper. Embryos of species with tailless larvae, such as *Molgula occulta* and a number of other species, possess all the different groups of progenitor cells of the tissues that form the tail in tadpole larvae (*2*). The difference between the two types is that one group of cells becomes differentiated and the tail subsequently becomes elongated in the species with tadpole larvae, whereas the differentiation is suppressed in the tailless larvae; the differentiation process appears to be regulated by the *Manx* gene. So the evolution of the chordates has likely involved not only the gene for differentiation and elongation of the elements of the tail, but also a series of genes regulating the formation of (and the cell groups that may become) tail muscles, chorda, and notochord with all the well-known interactions between these tissues.

Claus Nielsen
Zoologisk Museum (University of Copenhagen), Universitetsparken 15, DK-2100 Copenhagen, Denmark
E-mail: cnielsen@zmuc.ku.dk

References

1. W. R. Jeffery and B. J. Swalla, *BioEssays* **14**, 219 (1992).
2. N. J. Berrill, *Philos. Trans. R. Soc. London Ser. B* **219**, 225 (1931); W. R. Jeffery and B. J. Swalla, *Dev. Biol.* **1**, 253 (1990).

■

Permian Pollen Eating

The Random Samples item "Permian pollen eaters" (16 May, p. 1035) provides a stimulating account of the discovery by Russian paleobiologists Alexander Rasnitsyn and Valentin Krassilov of identifiable pollen in the guts of Early Permian insects. Paleobotanist William Chaloner is quoted as saying that inadvertent consumption of pollen could explain the occurrence of this pollen. One of the preserved insects is a

member of the Synomaloptilidae, ancestral to modern bark lice and a member of a Paleozoic insect clade that was postulated by Rasnitsyn to consume "plants by feeding primarily on their reproductive organs . . ." (*1*, p. 27, translated from the Russian). In 1997, Rasnitsyn predicted that these and related taxa possessed head and mouthparts that consumed material nutritionally equivalent to pollen (*2*, p. 65).

It has been known that Late Carboniferous coal-ball permineralizations include fossilized fecal pellet assemblages containing histologically pristine plant tissues, some of which consist entirely of spores, pollen, and associated tissue (*3*). And insect consumption of wind-dispersed pollen has been demonstrated repeatedly in such consummate pollenivores as syrphid flies (*4*), bees (*5*), and other pollenivorous insects (*6*). The occurrence of pollen interpreted as wind-dispersed in the guts of Permian insects is thus unlikely to be accidental. A more parsimonious conclusion is that several lineages of Early Permian insects were actively consuming nutritionally rich pollen, regardless of the mode of dispersal. Such a diet was a necessary prelude to pollinator mutualisms between seed plants and insects that occurred subsequently in geologic time (*7*).

Conrad C. Labandeira
Department of Paleobiology, National Museum of Natural History, Smithsonian Institution, Washington, DC 20560, USA
E-mail: labandec@nmnh.si.edu

References

1. A. P. Rasnitsyn, *Tr. Paleontol. Inst.* **174**, 1 (1980).
2. ———, *Paleontol. J.* **11**, 60 (1977).
3. R. W. Baxendale, *Palaeontology* **22**, 537 (1979); S. V. Meyen, *Z. Geol. Wiss.* **12**, 269 (1984).
4. P. Stelleman and A. D. J. Meeuse, *Tijd. Entomol.* **119**, 15 (1976).
5. J. Pojar, *Am. Midl. Natl.* **89**, 448 (1973).
6. O. Hagerup, *Dan. Vidensk. Sels. Biol. Meddel.* **18** (no. 4), 1 (1950).
7. C. C. Labandeira, *Ann. Rev. Ecol. Syst.*, in press.

Corrections and Clarifications

Gaetano Di Chiara's name was incorrectly spelled (as was his university affiliation—the University of Cagliari) at the end of his letter of response (8 Aug., p. 750). In the same letter, the first sentence of the last paragraph should have read, "A secondary argument made by Grinspoon *et al.* is that marijuana is even less addictive than coffee." These errors, which *Science* regrets, were introduced during editing.

The Research News article "High-speed materials design" by Robert Service (25 July, p. 474) should have stated that the work of Amir Hoveyda and Marc Snapper was performed in the Department of Chemistry at Boston College (not Boston University).

In the report "Structural insights into the evolution of an antibody combining site" by G. J. Wedemayer *et al.* (13 June, p. 1665), a dagger should have been inserted next to Raymond C. Stevens' name to indicate that he is a corresponding author. Also, the "Lawrence Livermore National Laboratory" affiliation given for all the authors should have been "Lawrence Berkeley National Laboratory."

In the article "Liver regeneration" by G. K. Michalopoulos and M. C. DeFrances (4 Apr., p. 60), in column 3 on line 3 of page 65, the word "mitogen" should have been "motogen."

Letters to the Editor

Letters may be submitted by e-mail (at science_letters@aaas.org), fax (202-789-4669), or regular mail (*Science*, 1200 New York Avenue, NW, Washington, DC 20005, USA). Letters are not routinely acknowledged. Full addresses, signatures, and daytime phone numbers should be included. Letters should be brief (300 words or less) and may be edited for reasons of clarity or space. They may appear in print and/or on the World Wide Web. Letter writers are not consulted before publication.