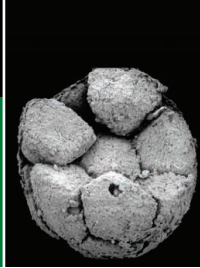




Cooperative behavior

1648



Eukaryotic evolution

1655

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Response

ROBINSON AND BAUMGARTNER REFERENCE recent studies showing that when individuals living in poverty receive new products such as bednets or water purifiers at no cost, their use patterns are similar to those who have purchased the same products (1, 2). Robinson and Baumgartner suggest that the same may be true for cookstoves. We agree that, especially for the poorest of the poor who are not currently paying for cooking fuels or fully engaged in a market economy, this may well be true. We eagerly await similar studies to confirm or deny this hypothesis for cooking solutions that offer improvement in indoor air quality, with the understanding that the effectiveness of the approaches will be specific to regional and cultural contexts.

However, cookstoves and fuels are different from bednets and water purifiers in a variety of ways. Cookstoves, unlike bednets and water purifiers, are an essential household technology that virtually all potential consumers already possess in some form. In addition, the associations between cookstoves and illness may not be as readily apparent as those between mosquitoes and malaria or impure water and diarrheal diseases. The health impacts from indoor smoke may be too far in the future to influence choice. On the other hand, more efficient stoves can offer an immediate benefit to users by reducing fuel costs, a savings to households that bednets

Letters to the Editor

Letters (~300 words) discuss material published in *Science* in the past 3 months or matters of general interest. Letters are not acknowledged upon receipt. Whether published in full or in part, Letters are subject to editing for clarity and space. Letters submitted, published, or posted elsewhere, in print or online, will be disqualified. To submit a letter, go to www.submit2science.org.

and water purifiers cannot make as readily.

We agree that randomized controlled trials (RCTs) provide an excellent opportunity to answer questions about the relative effectiveness of different finance and dissemination approaches. RCTs, in combination with other research approaches, will be critical to understanding the interrelated social, behavioral, and economic determinants of successful implementation programs.

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Turkey's Rich Natural Heritage Under Assault

WE READ WITH SAD AGREEMENT THE EDITORIAL "Turkey and science academies" (30 September, p. 1801), in which B. Alberts discusses the restructuring of Turkey's Academy of Sciences (TÜBA) in order to give the government direct control over it. In addition to destroying TÜBA's identity as an independent science academy, this remarkable decision was made without explanation or any public debate. As ecologists and conservation biologists working in Turkey, we have witnessed a similar level of increasing arbitrariness in environmental policy, where economic development has trumped all other concerns (1–4).

Turkey hosts more than 3000 endemic plant species, has high diversity of other taxa, and is almost entirely covered by three of the world's 34 biodiversity hotspots (1). Yet, Turkey's environmental laws and conservation efforts are eroding, not improving (1–4). This has precipitated a conservation crisis that has accelerated over the past decade (1). This crisis has been exacerbated by legislative developments that may leave Turkey with a nature conservation legal framework that is weakened and severely out of line with globally accepted principles (1–8). This situation

is further worsened by increasing bureaucratic complexity, fragmentation, overlap, and conflict among government departments responsible for nature conservation, combined with limited communication, cooperation, and coordination among them (2).

Protected Area jurisprudence, long the cornerstone of effective resource conservation, has declined especially rapidly over the past two years as a result of legal decisions that have enabled:

(i) Mining in wildlife refuges (June 2010) (5).

(ii) Exclusion of riparian and coastal areas from wetland conservation zoning, which removed a major environmental control mechanism to dam construction and tourism development (August 2010) (6).

(iii) Construction of dams and other energy projects in Protected Areas (December 2010) (7), with the ultimate goal of doubling Turkey's dams and hydroelectric power plants to 4000 by 2023 (1, 7).

(iv) Redefining of terms such as "balance between use and conservation," common good," and "sustainable use" in the misleadingly named *Nature and Biodiversity Conservation Law*, while minimizing civil society involvement in its drafting (March 2011) (2, 7, 8), in order to enable development in Protected Areas.

(v) Zoning 473,419 hectares of 2/B lands deforested before 1981 to convert them to other uses and/or sell them to developers, instead of protecting and restoring these areas, which often include biodiverse and important habitats such as *maquis*, *phrygana*, and successional forests (July 2011) (1, 9).

(vi) Termination of the independent and local Natural and Cultural Assets Conservation Committees, formerly the sole determinants of officially protected "Natural Sites." Instead, this decision-making process has been centralized under the new Ministry of Environment and Urbanization, and the civil society has been excluded (2, 7). Recent legislation (August 2011) (1, 2) puts the 1261 strictly protected Natural Sites created since 1923 under review. We anticipate that many of these Protected Areas, some of which now impede dam construction and other development projects, will not survive what will likely be a biased review process (3, 7, 8).

The 2010 Yale Environmental Performance Index (10) ranked Turkey 140th out of 163 countries in biodiversity and habitat conservation. Even the meager 1.2% of Turkish lands that are "strictly" protected [IUCN categories I and II (11)] have come under threat (1). Analogous to the midnight overhauling of TÜBA without consultation or debate, it has

become routine to pass legislation rapidly and secretly, and to circumvent or corrupt the Environmental Impact Assessment process, in order to remove any debate or legal obstacles to dams, roads, and other developments. Increasingly, such projects are planned in formerly Protected Areas to the detriment of local peoples as well as biodiversity (4, 7). July 2011 division of the Ministry of Environment and Forestry into the Ministry of Environment and Urbanization and the Ministry of Forestry and Water Affairs (led by the former heads of public housing and water affairs agencies, respectively) has institutionalized the emphasis placed on urban development and dam construction at the expense of the environment (12) and of the rights of the affected people (4, 7). Combined with the rise in Turkey's greenhouse gas emissions from 170 to 370 million tons between 1990 and 2009, this growing destruction of natural areas will further increase Turkey's contribution to global climate change (13). These issues have rarely been discussed in international forums, although this is changing (1, 4, 7, 12). Nevertheless, the international scientific community remains largely unaware of both Turkey's unique biodiversity and its impending peril. As the international scientific community reacts to the arbitrary government takeover of Turkey's scientific institutions, we hope that it will realize that the government is disregarding not only the country's scientists, but also Turkey's rich natural heritage and the people who depend on it.

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CORRECTIONS AND CLARIFICATIONS

Perspectives: "Priming cancer cells for death" by J. C. Reed (25 November, p. 1075). On page 1076, column 2, paragraph 2, line 4, "The" should have been "Most." The corrected sentence reads, "Most malignancies tested by Ni Chonghaile *et al.* were nonadherent cancer cells tested in suspension."

Perspectives: "Antioxidant strategies to tolerate antibiotics" by P. Belenky and J. J. Collins (18 November, p. 915). On page 915, column 2, paragraph 2, the fourth and fifth sentences should read: "By studying mutant bacteria deficient in the stringent response, Nguyen *et al.* found that the stringent response induces tolerance to a wide range of antibiotics (including ofloxacin, meropenem, colistin, and gentamicin) by increasing antioxidant enzyme production and blocking the production of pro-oxidant molecules, thus reducing toxic OH•." These mutant bacteria also were more susceptible to ofloxacin in mouse infection models.

Editors' Choice: "Building bigger brains" by L. M. Zahn (4 November, p. 571). In the accompanying illustration, acquired from a stock photo site, the brain was oriented backwards.

News Focus: "A very big bang" by R. Stone (4 November, p. 586). The bottom photo of Hans-Ulrich Schmincke in the sidebar on page 586 should have been credited to Katinka Schuett. The credit has been corrected in the HTML version online.

News Focus: "Sharp insights and a sharp tongue" by K. Kupferschmidt (4 November, p. 589). The credit for the photograph on page 590 should have noted that the copyright is owned by Jay Friedheim. The credit has been corrected in the HTML version online.

Reports: "Detection of the water reservoir in a forming planetary system" by M. R. Hogerheijde *et al.* (21 October, p. 338). On page 339, the mass of the detected water vapor is incorrectly stated to be 7.3×10^{24} g. The correct value is 7.3×10^{21} g. The HTML version online has been corrected.