

LETTERS

edited by Jennifer Sills

Toxicologists Welcome
Assessment Assistance

THE LETTER "ASSESSING CHEMICAL RISK: SOCIETIES OFFER EXPERTISE" by eight scientific societies (4 March, p. 1136) was the subject of lively discussion among the attendees at the annual meeting of the Society of Toxicology. Whereas some took this letter to indicate that its signatory societies regarded toxicologists as part of the problem concerning the limitations of the science involved in regulatory decision-making, a more generous view allowed that the signatory societies were expressing their interest in helping to assess the risks of chemicals and drugs by evaluating data and developing new testing guidelines and protocols.

As a scientifically integrated discipline, toxicology uses the tools of molecular and cellular biology, cancer biology, neuroscience, bioinformatics, reproductive and developmental biology, and other fields to determine how drugs and chemicals can be used safely. Toxicologists address the challenges of translating data from the molecular and cellular level into a better understanding of health

risks from contaminants in air, water, and food, and we urge all scientists to work collectively to meet that goal. In 2010, the Scientific Liaison Coalition (SLC), comprising 15 national scientific societies (including ours), was formed in order to increase the impact of the science of toxicology to improve public health. Toward this end, the SLC is already working on initiatives that address such issues as high-throughput testing in regulatory decision-making, the interactions between metabolic syndrome and environmental exposure risks, and the relationship between environmentally induced diseases and epigenetics.

Toxicologists and toxicology are already deeply involved in advancing regulatory science, improving toxicity testing, and protecting human health and the environment. We welcome the signatory societies of the 4 March Letter to join us in this effort.

**SOCIETY OF TOXICOLOGY, ENVIRONMENTAL MUTAGEN SOCIETY,
TERATOLOGY SOCIETY**

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Peaceful Collaborations
Deserve Support

THE FORMER RAND AFRIKAANS UNIVERSITY, now University of Johannesburg, has acted against its own and the South African national interest by terminating the 25-year-old collaboration with the Ben Gurion University of the Negev (Around the World item "End to partnership with Israeli university," News of the Week, 1 April, p. 19). Boycotts of Israeli scientists, science institutions, and worse,

research cooperation between Palestinians and Israelis [e.g., (7)] are counterproductive—they deprive those less fortunate of a chance for improvement in education, and they promote confrontation and tension between Arab and Israeli societies. Because of the political pressure they face, collaborative programs are dwindling. We should show strong support for the excellent examples of peaceful collaboration between Israeli and Palestinian scientists [e.g., (2–4)] as well as with scientists of other nations [e.g., (5, 6)].

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4. J. Kestler-D'Amours, "Al-Quds University flouts own academic boycott," *The Electronic Intifada* (6 August 2010); <http://electronicintifada.net/v2/article11447.shtml>.

5. Al-Quds University, Research, International Opportunities, Cooperation Agreements (www.alquds.edu/en/research/international-opportunities.html).
6. H. Skinner *et al.*, *Lancet* **365**, 1274 (2005).

Prioritizing Taxonomists

ALARMING RATES OF SPECIES LOSS (1) COUPLED with a decline in the number of taxonomists (2) suggest that the estimates of species richness are far from complete. The problem lies less with the ability to collect specimens and more with the lack of resources available to identify them. Some recently published new species from India were collected 30 to 40 years ago (3). To expedite this process, we need to train more taxonomists by prioritizing taxonomy capacity-building programs (4).

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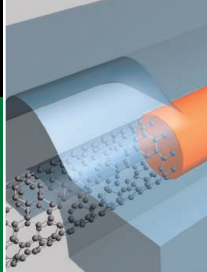
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Letters to the Editor

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.



Storing and restoring memory

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TECHNICAL COMMENT ABSTRACTS

Comment on “Erosion of Lizard Diversity by Climate Change and Altered Thermal Niches”

Susana Clusella-Trullas and Steven L. Chown

Using a regionally calibrated model, Sinervo *et al.* (Reports, 14 May 2010, p. 894) predicted potential climate change impacts on lizard populations and estimated

that many extinctions are under way. We argue that this model is not sufficient for predicting global losses in lizard species in response to anthropogenic climate change. Full text at www.sciencemag.org/cgi/content/full/332/6029/537-a

Response to Comment on “Erosion of Lizard Diversity by Climate Change and Altered Thermal Niches”

B. Sinervo, D. B. Miles, N. Martínez-Méndez, R. Lara-Resendiz, F. R. Méndez-De la Cruz

We derived physiological models that accurately predicted extinctions of Mexican and other lizards. Clusella-Trullas and Chown argue that global forecasts are unreliable without incorporating variance in microenvironmental temperatures, T_e . Here, we show that T_e variance is small relative to T_e , increases from climate warming. Thus,

extinction forecasts are reliable ($\bar{R}^2 = 0.72$) even without T_e variance data.

Full text at www.sciencemag.org/cgi/content/full/332/6029/537-b

CORRECTIONS AND CLARIFICATIONS

Reports: “The perception of rational, goal-directed action in nonhuman primates” by J. N. Wood *et al.* (7 September 2007, p. 1402). Wood *et al.* reported experiments on action perception with cotton-top tamarins, rhesus macaques, and chimpanzees. All of the research materials are available to support the findings from the tamarin and chimpanzee experiments. However, there are only summary data, as opposed to raw data, for the rhesus monkey experiments because the researcher who performed the experiments inadvertently failed to archive the original field notes. Upon realizing that the notes were unavailable, Wood and Hauser reran all of the rhesus experiments, using the same design and test population. Each trial was videotaped and coded blind to the experimental condition. They found the same pattern of results: Rhesus showed statistically significant choice responses after observing the intentional hand grasp and hand-occupied elbow touch actions, and responded at chance levels after observing the accidental hand flop and hand-empty elbow touch actions. A direct replication of the originally reported results on rhesus monkeys in Wood *et al.*, including the raw data, is available at www.sciencemag.org/cgi/content/full/317/5843/1402/DC2. Published online 25 April 2011.

LIFE IN SCIENCE

Ichthyologists Hooked on Facebook

The Cuyuni River, which runs from Venezuela through Guyana and into the Atlantic via the Essequibo River, harbors hundreds of fish species. Although much of the river flows far from civilization, pollution from gold mining and other environmental hazards threaten its rich community of wildlife. Earlier this year, a small group of us from the United States and Guyana set out to perform the first comprehensive survey of the river’s fishes with support from the Biological Diversity of the Guiana Shield program at the Smithsonian’s National Museum of Natural History. We aimed to determine which species still thrived in the river, which might have disappeared, and whether any of the remote river’s denizens were entirely new to science.

We arrived in January, during the dry season, and embarked for two weeks of collecting and camping along 200 km of rainforest-lined river. Local boatmen helped us navigate the often perilous river, and each day, we stood neck-deep in the muddy waters and pulled wide nets to catch samples of the life teeming beneath the surface. One student, Whit Bronaugh, photographed each species as the collection grew to hundreds, and then thousands, of fishes large and small.

Upon returning to Georgetown (Guyana’s capital), a major challenge confronted us. As a condition to securing an export permit, we had just one week to complete a detailed report with each of our 5000 specimens identified to genus and species. Given the limited library resources at our disposal and the time constraint, the task seemed impossible.

Then one of the students, Devin Bloom, suggested posting



our many photographs on Facebook and inviting the ichthyologists among our circle of friends to help us identify them. Would that far-flung community take the time to help us? We decided to find out.

We posted the photographs (1), and within minutes comments began to pour in. “They look like fish to me” one commenter cheerfully acknowledged. On an anchovy, another noted, “Pizza topping.” But before long, more insightful messages began to appear. On a catfish: “would say *Megalechis personata*,” followed by another suggestion, “my guess would be *Megalechis thoracatum*.” Amazed, we collected identifications from our friends, and then from friends of friends, contributing

their expertise from around the world. Less than 24 hours later, 90% of our specimens were identified. Armed with our export permit, we packed our specimens for shipment and returned home, grateful beyond words for the generosity of our colleagues, and for the social network that allowed us to harness their vast collective expertise and provide faster and more accurate identifications than we ever would have dreamed possible.

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Note

1. See the photographs at www.facebook.com/album.php?aid=243121&id=1049262482&l=e485413c15.