LETTERS

Edited by **Jennifer Sills**

Editorial Expression of Concern

On 24 February 2006, *Science* published the Report "Molecular linkage between the kinase ATM and NF-κB signaling in response to genotoxic stimuli" by Z.-H. Wu *et al.* (*1*). Concerns about Figs. 4E and 4F and fig. S2A were posted to PubPeer in 2020 (*2*). Because of the age of the paper, we no longer had original files to examine. We have now learned that relevant institutions have completed investigations and have concluded that there was figure manipulation. We are contacting the institutions to obtain further clarification but in the meantime are notifying readers of our concern about the paper's data integrity.

H. Holden Thorp
Editor-in-Chief

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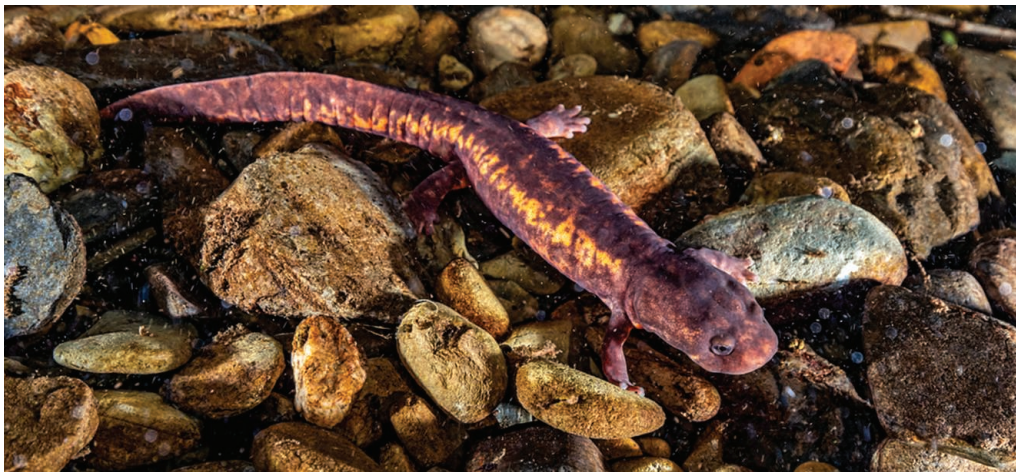
China's new laws overlook native herpetofauna

After revising the China Wildlife Protection Law in 2018 (*1*), China released an updated version of the accompanying List of Wild Animals under Special State Protection in China (*2*) on 5 February. Although these long-awaited changes are progress, they continue to inadequately protect the country's diverse herpetofauna (*3*), which represents more than 4% of global reptile species [511 (*3*) out of 11,341 (*4*) global species] and more than 6% of global amphibian diversity [515 species (*3*) out of 8294 globally (*5*)].

The revised List remains biased toward megafauna. The percentage of threatened species compared with the percentage of protected species in each group shows that herpetofauna are less represented than birds and mammals (*2*, *3*, *6*–*8*). For example, about 30% and 43% of China's reptile and amphibian species, respectively, are threatened, according to China's Red List (*6*), but only about 18% and 20% of each group's respective total diversity is protected by the revised List (*2*, *3*). Meanwhile, 11% of China's bird species are threatened (*6*), but about 27% of China's bird species are given protected status (*2*, *8*).



China's new wildlife legislation protects *Paramesotriton labiatus* but overlooks the similarly vulnerable *Pachytriton inexpectatus* (shown here).

PHOTO: ZHIYONG YUAN

Furthermore, decisions about whether to include a given species on the List do not follow the set criteria (*9*). For example, 77 reptile species that are designated as Vulnerable or higher in China's Red List Assessment (*6*)—representing about 56% of China's total threatened reptile diversity—are excluded from the List (*2*), with no justifications to explain why. Likewise, 110 threatened amphibians—63% of China's total threatened amphibian diversity—were omitted without specific explanations (*2*, *6*). Species with similar ecology and conservation threats seem to have been selected or excluded randomly (e.g., inclusion of *Paramesotriton* spp. but omission of *Pachytriton* spp.) (*10*).

The protection classifications in the List also fail to distinguish between Critically Endangered species and those with a less urgent conservation status. Critically Endangered species, based on China's Red List (*6*) (such as *Cuora* spp. and *Platysternon megacephalum*), are prescribed the same protection level as species that are classified as Least Concern (such as *Laticauda colubrina* and *Salamandrella keyserlingii*) (*2*, *6*). If the protection level is not prescribed properly, these Critically Endangered species may soon be extinct from the wild.

Finally, the List's species-specific approach to listing is vulnerable to unstable taxonomy. All species that are newly discovered or recorded or have experienced recent changes in species-level taxonomy are excluded from protection until the next revisionary cycle. However, there has been a continuous influx of new species and new national records in China, and the current taxonomy is far from stable (*3*). Given that many new species are already threatened at the time of discovery (*11*, *12*), the time lag in extending protective coverage has substantial conservation implications.

The next revision of this legislation should include unbiased coverage of all vertebrate groups in China, particularly herpetofauna. It should be based on set criteria that best reflect the true conservation needs of species, and any adjustment to the List should be accompanied by publicly available justifications. We also recommend that the current legislation be amended to grant temporary protection to all new species, newly recorded species, and species with recent changes at species-level taxonomy until the next revisionary cycle.

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Protecting China's finless porpoise

The Yangtze finless porpoise (*Neophocaena asiaeorientalis*), one of the 13 flagship global species recognized by the World Wildlife Fund (*1*), has been officially upgraded to first-class status under the framework of the National Wildlife Protection Act in China (*2*). This action, coupled with a series of initiatives to protect the environment of the Yangtze River (*3*), will hopefully help double the current wild population within a decade (*4*). However, the funding and penalties provided by protected status are not enough. China must take further action to make protection a reality.

The 1000 finless porpoises alive today are the last of a species that has existed in the middle and lower reaches of the Yangtze River for over 2.5 million years (*4*). The only *Neophocaena* species living in fresh water and endemic to that river, the Yangtze finless porpoise—whose close kin, the baiji (*Lipotes vexillifer*), has been extinct since 2007 (*5*)—is Critically Endangered as a result of changes to their natural habitat and foraging areas by industrialization and human activities along the Yangtze River (*6*, *7*). Finless porpoises have suffered lasting damages to their immune and reproduction systems by eating fish that have eaten plankton polluted by industrial chemicals and sewage (*8*). Because the habitat and foraging areas of the finless porpoises are close to riverbanks and estuary regions, the porpoises often compete directly with shipping, industrial, and agricultural activities, complicating efforts to preserve their habitat (*9*, *10*). In riverside metropolises like Wuhan, the Yangtze finless porpoises share urban waters with the city's residents.

The promotion of this scientifically, ecologically, and culturally valuable species to first-class endangered status is a step forward, but additional action must follow. The porpoise's water quality and sound environment should be improved (*11*). Comprehensive deterrents and penalties should be put in place for polluting or degrading their habitat. Conservation of the Yangtze finless porpoise should include policies similar to China's recently implemented 10-year fishing ban on the Yangtze River: Preservation areas should be established, and fishermen should be directed to avoid fishing in the porpoise's habitat (*12*). Given the traditional proximity of the Yangtze finless porpoise's habitat to human activities, innovative programs should incentivize local residents to observe and protect the species, especially in the urban watersheds of the Yangtze River.

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TECHNICAL COMMENT ABSTRACTS

Comment on "Increased growing-season productivity drives earlier autumn leaf senescence in temperate trees"

Richard J. Norby

Zani *et al*. (Research Articles, 27 November 2020, p. 1066) propose that enhancement of deciduous tree photosynthesis in a CO_2-enriched atmosphere will advance autumn leaf senescence. This premise is not supported by consistent observations from free-air CO_2 enrichment (FACE) experiments. In most FACE experiments, leaf senescence or abscission was not altered or was delayed in trees exposed to elevated CO_2.

Full text: dx.doi.org/10.1126/science.abg1438

Response to Comment on "Increased growing-season productivity drives earlier autumn leaf senescence in temperate trees"

Deborah Zani, Thomas W. Crowther, Lidong Mo, Susanne S. Renner, Constantin M. Zohner

Our study showed that increases in seasonal productivity drive earlier autumn senescence of temperate trees. Norby argues that this finding is contradicted by observations from free-air CO_2 enrichment (FACE) experiments, where elevated CO_2 has been found to delay senescence in some cases. We provide a detailed answer showing that the results from FACE studies are in agreement with our conclusions.

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China's new laws overlook native herpetofauna

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