letic *Bolitoglossa* and seven clades that are consistent with previously recognized groups within the genus. Taxonomic implications of the results are discussed in detail. The authors suggest members of one clade (*Eladinea*) invaded South America before the establishment of the Isthmian link.

PARRA-OLEA, G., M. GARCÍA-PARÍS, AND D. B. WAKE. 2004. Molecular diversification of salamanders of the tropical American genus *Bolitoglossa* (Caudata: Plethodontidae) and its evolutionary and biogeographical implications. Biological Journal of the Linnean Society 81:325–346.

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Intraspecific Communication with Chemical Cues in *Leiopelma*

Although bioacoustic communication is widespread among frogs, the earliest anurans probably never evolved this ability. *Leiopelma hamiltoni* belongs to an ancient lineage of frogs dating back to the Jurassic. This species has many morphological and behavioral similarities to salamanders, including well-developed vomeronasal and olfactory senses. The authors tested the ability of *L. hamiltoni* to communicate with chemosignals in captivity. Sixty wild-caught frogs were placed in plastic boxes with two paper towels (one on each side) containing either no scent or conspecific integumentary scents. Movements of test subjects toward either side of boxes were recorded. Results indicated strong preference for a given test subject's own scent to an unscented paper towel or a conspecific's scent if the conspecific was collected more than 5 meters away from the test subject (i.e., unfamiliar individual) in the wild. When limited to a choice between an unscented paper towel and one marked by an unfamiliar conspecific, test subjects spent more time near the unscented paper towel. This is the first study to demonstrate that adult anurans use chemical cues for intraspecific communication.

WALDMAN, B., AND P. J. BISHOP. 2004. Chemical communication in an archaic anuran amphibian. Behavioral Ecology 15:88–93.

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A Molecular Phylogeny of *Iberolacerta*

To identify "meaningful conservation units" and explore the history of the genus *Iberolacerta,* the authors sequenced a 460 bp segment of the control region and right domain region, and a 1033 bp segment of cytochrome *b.* Distances between haplotypes were computed in MEGA, and trees were constructed using maximum parsimony (MP) and maximum likelihood (ML) in PAUP*. Divergence-time estimates were obtained from previous substitution rates for reptilian cytochrome *b.* Both methods of tree construction produced four well-supported clades within the monophyletic genus, but the MP and ML trees differed in the position of some taxa. The authors suggest isolation of the four main clades occurred in the northwestern Iberian mountains, the Central Ibe-

rian mountains, the Pyrenees, and the eastern Alps. *Iberolacerta martinezricai* is considered to be a valid taxon in need of urgent conservation action—the total population size is estimated to be less than 50 individuals.

Crochet, P. -A., O. Chaline, Y. Surget-Groba, C. Debain, and M. Cheylan. 2004. Speciation in mountains: phylogeography and phylogeny of the rock lizards genus *Iberolacerta* (Reptilia: Lacertidae). Molecular Phylogenetics and Evolution 30:860–866.

Correspondence to: P. -A. Crochet, Laboratoire de Biogéographie et Ecologie des Vertébrés, EPHE, box 94, Université Montpellier cedex, France; e-mail: crochet@cefe.cnrs-mop.fr.

Translocation of Gila Monsters in Arizona

Previous studies of translocation in snakes have reported low success rates. Several agencies currently translocate Gila Monsters (*Heloderma suspectum*) from large cities in Arizona, but the effects of this process are unknown. The authors responded to calls for nuisance animals, implanted passive integrated transponders and radio transmitters into the animals, and either translocated them (N = 15) or released them 200 m from the site of capture (N = 9). Test subjects were located every 2–5 days, and their location and behavior were recorded. All lizards released less than 1000 m from the site of capture returned within 30 days. However, all translocated lizards that failed to return were lost (presumably dead) or died, suggesting that translocation may have detrimental effects on some individuals. Moreover, translocated individuals had nearly five times higher mean daily movements compared to non-translocated individuals, which may have contributed to higher predation rates in translocated lizards. The authors conclude that translocation is not a satisfactory solution to the problem of "nuisance" animals.

Sullivan, B. K., M. A. Kwiatkowski, and G. W. Schuett. 2004. Translocation of urban Gila Monsters: a problematic conservation tool. Biological Conservation 117:235–242.

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Multiple Paternity in *Lacerta vivipara*

Several studies have suggested multiple paternity in lizard mating systems based on behavioral observations, but few researchers have demonstrated this phenomenon with molecular evidence. The authors used six polymorphic microsatellite markers to examine paternity in six populations (four captive, one highland, one lowland) of *Lacerta vivipara.* Considering all loci, none of the six populations differed from Hardy-Weinberg equilibrium. The number of multiply sired clutches was 50% or greater in all populations, and the mating system was not affected by environmental or population factors. The authors suggest multiple paternity is related to conflicting male-mate strategies in territorial species, but because *L. vivipara* males are not territorial, additional hypotheses should be explored in future studies.

Laloi, D., M. Richard, J. Lecomte, M. Massot, and J. Clobert. 2004. Multiple paternity in clutches of common lizard *Lacerta vivipara*: data