

certain if the crab actually captured and killed the lizard or was just scavenging it.

**JULIANA L. SEGADILHA**, Museu Nacional/Universidade Federal do Rio de Janeiro, Laboratório de Carcinologia, Departamento de Invertebrados, Rio de Janeiro, Rio de Janeiro, Brazil (e-mail: julianasegadilha@gmail.com); **RODRIGO BARBOSA FERREIRA**, Department of Wildland and Ecology Center, Utah State University, Logan, Utah, USA (e-mail: rodrigoecologia@yahoo.com.br); **ROGÉRIO L. TEIXEIRA†**, Museu de Biologia Prof. Mello Leitão, Av. José Ruschi, 4, Centro, CEP 29650-000, Santa Teresa, Espírito Santo, Brazil; **THIAGO SILVA-SOARES**, Instituto Nacional da Mata Atlântica, Laboratório de Zoologia, Santa Teresa, Espírito Santo, Brazil (e-mail: thiagosilvasoares@hotmail.com). † Deceased

**ANOLIS JACARE (Little Andean Chameleon). REPRODUCTION.**

*Anolis jacare* is a small lizard inhabiting wet montane forests in the Andes of Venezuela and northeastern Colombia, at elevations between 1400 and 2200 m (La Marca 1985. Herpetol. Rev. 26:44; Ugueto et al. 2007. Zootaxa 1501:28). Its ecology is little known, and it is reported to be difficult to observe, inhabiting primarily the crown of trees and their branches, but also the trunks (Williams et al. 1970. Breviora 353:1–15). To our knowledge, mating has not been reported in the species. Here, we describe a mating event for *A. jacare* from Venezuela.

At 1140 h on 29 May 2013, a pair of *A. jacare* were found copulating on an introduced tree species (*Acer* sp.) 12 cm above the ground, within secondary forest at the Ecological Interpretation Trail of the Forestry Engineering Faculty of the University of the Andes, close to Milla River, N Merida City, Venezuela (8.624167°N, 71.155556°W; WGS84) (Fig 1). Mating behavior was observed until 1150 h. The mating pair was first observed from a distance of 5 m and then a distance of 30 cm. The animals never changed their position (i.e., male head up, female head down), and stayed motionless after the human encounter (Fig. 1). We assume that this was a natural position not induced by escape, given our distance at the initial sighting. The observation corresponded to the first rainy period of the year, within the bimodal (or “tetra-seasonal”) local climate regime (i.e., two rainy and two dry or less rainy yearly periods (Santiago-Paredes and La Marca 2007. Herpetotropicos 3:8).

To compare our observation with published information, we studied preserved specimens at the herpetological collection of the Laboratory of Biogeography of the University of Los Andes

at Merida (ULABG). Conspecific adult females ULABG 1560 and 3765, collected in the city of Merida in May and January, in the rainy and dry seasons respectively, each carried two eggs of different sizes (maximum lengths, in mm, 16.40, 9.50 and 14.33, 6.20, respectively); adult female ULABG 3795, collected during the rainy season of June in La Joya, near Merida, laid an egg in captivity (length 15.0 mm) and revealed no other egg upon dissection (suggesting it was already laid). Adult female ULABG 6819, captured during the rainy month of August from the same place as our observation, carried no eggs. Egg production in some *Anolis* species, for example in *Anolis nebulosus* and *A. aeneus*, occurs primarily during the wet season (Ramírez-Bautista and Vitt 1997. Herpetologica 53:423–431; Stamps and Crews 1976. Copeia 1976:467–476). Our observations are not conclusive on the reproductive season for *Anolis jacare*, but re-open the question as to whether *A. jacare* is capable of maintaining continuous reproduction even when annual precipitation amounts are relatively low, as has been proposed by Rubio-Rocha et al. (2011. Calsasia 33:100) for *Anolis* living under bimodal precipitation regimes.

**JUAN PERDOMO**, Escuela de Ingeniería Forestal, Facultad de Ciencias Forestales y Ambientales, Universidad de Los Andes, Mérida 5101, Venezuela (e-mail: juan\_perdomo88@hotmail.com); **ENRIQUE LA MARCA**, Escuela Geografía, Facultad de Ciencias Forestales y Ambientales, Universidad de Los Andes, Mérida 5101, Venezuela (e-mail: enrique.lamarca@gmail.com).

**ARISTELLIGER LAR (Spotted Caribbean Gecko). COMMUNAL**

**RETREAT BEHAVIOR.** *Aristelliger lar* is a large, nocturnal, and semi-arboreal sphaerodactylid gecko endemic to Hispaniola (Schwartz and Henderson 1991. Amphibians and Reptiles of the West Indies. University of Florida Press, Gainesville, Florida. 363 pp.) and is considered near threatened (www.iucnredlist.org; accessed 29 May 2015). Communal nesting has been reported in *A. lar*, and in its congeners, *A. barbouri* and *A. praesignis* (Hecht 1952. Evolution 6:112–124; Graves and Duvall 1995. Herpetol. Monogr. 9:102–119; Schwartz and Henderson 1991, *op. cit.*); however, little is known about behavior associated with communal nests or communal retreat sites. Here we report communal daytime retreat behavior in *A. lar*.

Observations took place at 1143 h on 15 March 2015 in transitional, semi-deciduous forest near Juan Esteban, Barahona, Dominican Republic (18.154986°N, 71.069662°W; WGS 84). At least five individuals occupied a long and narrow space formed between two conjoined, parallel branches of a *Ficus* sp. (Fig.



FIG. 1. Mating *Anolis jacare* on a tree (*Acer* sp.) from Venezuela.



FIG. 1. An aggregation of both adult and juvenile *Aristelliger lar* in a tree cavity.

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1). Based on coloration, pattern, and size, the individuals were identified as two adults, one subadult (exposing the right black scapular ocellus), and two juveniles (with more marked dorsal patterning). Larger and medium-sized individuals occupied the central portion of the cavity while juveniles were at the narrower edges. All individuals were peering through the opening of the cavity with pupils contracted. The position of the subadult was inverted in relation to the rest of the individuals. The cavity was approximately 6 m above ground and in a shaded area. Similar behavior was observed on other trees in the area. As the tree cavity was high off the ground, inspection of the inside was impossible without significant human intrusion. For these reasons, we are unable to confirm whether this was only a retreat, or a communal oviposition site.

Communal retreats have been reported in a variety of gekkotans, including *Coleonyx variegatus* (Greenberg 1943. *Physiol. Zool.* 16:110–122), *Hoplodactylus duvaucelii* (Barry *et al.* 2014. *Herpetologica* 70:395–406), *Christinus marmoratus*, *Underwoodisaurus milii* (Kearney *et al.* 2001. *Herpetologica* 57:411–422), and *Lepidodactylus lugubris* (Hanley *et al.* 1994. *Evol. Ecol.* 8:438–454). There are several hypotheses attempting to explain the evolution of communal egg-laying in lizards, including female selection of males rather than oviposition site, sociality (e.g., natal homing), a reduced predator encounter probability and a predation dilution effect, low availability of high quality habitat for shelter or oviposition, reduced maternal energetic cost, and increased egg insulation (Rand 1967. *Herpetologica* 23:227–230; Graves and Duvall 1995. *Herpetol. Monogr.* 9:102–119; Radder and Shine 2007. *J. Anim. Ecol.* 76:881–887; Doody *et al.* 2009. *Q. Rev. Biol.* 84:229–252; Mouton 2011. *Afr. J. Herpetol.* 60:155–170). Most sphaerodactylid geckos, including *Aristelliger*, lay single egg clutches (Gamble *et al.* 2008. *J. Biogeogr.* 35:88–108). In addition, communal nesting sites have been reported in other sphaerodactylid geckos, including both arboreal and terrestrial species (e.g., Oda 2004. *Acta Amaz.* 34:331–332; Regalado 2006. *Herpetol. Rev.* 37:13–20; Bernstein *et al.* 2016. *IRCF Reptl. Amphib.* 23:40–43). Therefore, it is highly likely that *A. lar* exploits these microhabitats for communal egg-laying as well.

**AARON H. GRIFFING**, Department of Biology, Villanova University, Villanova, Pennsylvania 19085, USA (e-mail: agriffing66@gmail.com); **ALBERTO L. LÓPEZ-TORRES**, Proyecto Coquí, San Juan, PR 00931 (e-mail: al.lopeztorres@gmail.com); **MIGUEL A. LANDESTOY**, Sociedad Ornitológica de la Hispaniola, Residential Galleries, Av. Gustavo Mejía Ricart N119 / B, Apt. 401, Santo Domingo, Dominican Republic (e-mail: hispanioland@gmail.com); **JUAN D. DAZA**, Department of Biology, Sam Houston State University, Huntsville, Texas 77340, USA (e-mail: jdd054@shsu.edu); **AARON M. BAUER**, Department of Biology, Villanova University, Villanova, Pennsylvania 19085, USA (e-mail: aaron.bauer@villanova.edu).

**ASPIDOSCELIS EXSANGUIS (Chihuahuan Spotted Whiptail).** **MAXIMUM BODY SIZE.** *Aspidoscelis exsanguis* (Lowe, 1956) is a highly successful hybrid-derived triploid species (Good and Wright 1984. *Experientia* 40:10121014; Dessauer and Cole 1989. *In* Dawley and Bogart [eds.], *Evolution and Ecology of Unisexual Vertebrates*, pp. 4971. Bull. 466. New York State Museum, Albany, New York) based on its extensive distribution area and local abundance in Arizona, New Mexico, and Texas in the southwestern United States and Chihuahua and Sonora in northern México (Dessauer and Cole, *op. cit.*). Chihuahuan Spotted Whiptails normally reproduce by obligate parthenogenetic development of unreduced triploid eggs. However, rarely it mates with the gonochoristic species *A. inornata* (Neaves 1971. *Breviora*

381:1–25; Taylor *et al.* 1989. *J. Herpetol.* 23:202205) and *A. sex-lineata* (Walker *et al.* 2006. *Herpetol. Rev.* 37:344–345), resulting in tetraploid hybrids. Nevertheless, heterosis in large body size has not been realized in these hybrids (Neaves, *op. cit.*, Taylor *et al.*, *op. cit.*, Walker *et al.*, *op. cit.*). Examples of maximum body sizes published for cloned individuals of *A. exsanguis* for New Mexico include 93 mm SVL from Catron Co. (Taylor and Caraveo 2003. *Southwest. Nat.* 48:685692) and 98 mm SVL from Chaves Co. (Taylor *et al.* 2002. *Amer. Mus. Novitat.* 3345:164). The largest among a total of all 411 specimens of the species examined by H. L. Taylor (pers. comm.) were two individuals of 100 mm SVL, including Regis University 72030 from Cochise Co., Arizona, and American Museum of Natural History 126808 from Eddy Co., New Mexico. The largest among >100 specimens examined by JMW from northwestern Chihuahua State, México, was a gravid female of 94 mm SVL from a site at WGS84 31.160417°N, 103.576472°W (Laboratorio de Ecología de la Unidad de Biotecnología y Prototipos, LEUBIPRO 12538).

On 17 June 2010, JEC collected a specimen of *A. exsanguis* from Santa Rosa Lake State Park, near the boat ramp in the day use area (35.031111°N, 104.6825°W, WGS84; elev. 1453 m), Guadalupe Co., north-central New Mexico, with the largest body size for the species based on a voucher among >250 specimens we have personally examined from the USA. The specimen bears the catalog number UADZ 8646 (Fig. 1) in the herpetological collection of the University of Arkansas Department of Zoology. Prior to preservation, the specimen measured 107 mm in SVL and had a body mass of 29.4 g. Part of the total mass of the lizard had been lost near the body owing to tail autotomy (Fig. 1). Additional observations pertaining to the external anatomy of the specimen include the following: length of head = 35 mm; length of unregenerated basal part of the tail = 36 mm; and regenerated part of the tail distal to the 16<sup>th</sup> caudal scale whorl = 19 mm (Fig. 1). Thus, survival of the lizard long enough for the record body size to be documented could be attributed in part to autotomy of the tail during a recent incident. Based on the exceptionally large size of the specimen and stage of ontogeny of the dorsal color pattern (i.e., including altered remnants of the lateral, dorsolateral, and paravertebral pairs of primary stripes, a partial secondary vertebral stripe, and a profusion of spots covering the body, hind limbs, and base of tail (Fig. 1), we hypothesize that the lizard was in its 5<sup>th</sup> or 6<sup>th</sup> activity cycle when collected in 2010, based on a study of ontogeny in the species by Walker and Lemos-Espinal 2015 (*Herpetol. Rev.* 46:251–252). If so, the lizard would be exceptional, perspective for which is provided by the study by Bateman *et al.* (*op. cit.*) who reported third year recapture of only four of 995 hatchlings of *A. exsanguis* in New Mexico. Unusual internal structures possibly relating to advanced age and indicating possible senescence of this lizard of record size included postcoelomic fat bodies of maximum size in June well after they would be expected to have regressed as energy was diverted to clutch development. Although structures discernible as ovaries were present in UADZ 8646, there was no evidence of clutch development, lack of which likely accounted for persistence of the large fat bodies well into the activity cycle. In comparison to the specimen in question, two “normal” individuals of *A. exsanguis* (UADZ 8641, 85 mm SVL; 8642, 91 mm SVL) also collected 17 June 2010 at a second site in Santa Rosa Lake State Park (WGS84 35.02528°N, 104.67889°W, elev. WAAS 1484 ± 8 m) had small fat bodies together with oviductal eggs.

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