TRACHEMYS DORBIGNI (Brazilian Slider Turtle): BICEPHALY. *Trachemys dorbigni* is from the family Emydidae and is found in Uruguay, Argentina and the state of Rio Grande do Sul in Brazil. Although the conservation status of *T. dorbigni* is of least concern, human activities may be contributing to declining populations of this species (Molina & Gomes, 1998). The most significant impacts appear to be direct mortality from roadkill, habitat loss and egg exploitation associated with collection of wild specimens for the pet trade (Bager et al., 2007).

Neonate twinning in turtles is relatively well documented for both freshwater (Tucker & Janzen, 1997) and marine species (Eckert, 1990). In captive, artificial conditions, a single record of a polycephalic *T. dorbigni* hatchling has previously been recorded (Molina et al., 1996). Herein, we report the first known occurrence of polycephaly in a specimen from a natural environment.

The individual was located in Pelotas, Rio Grande do Sul State, Brazil (31°46' S, 52°21' W). The animal was found alive and could feed independently through each of the two heads, which originated from two separate necks. The hatchling was kept alive for four months in captivity before accidentally drowning. The specimen's morphology presented a tail, two posterior limbs, three anterior limbs, two heads, a single plastron and two pseudo-carapaces. The third anterior limb, located between the two heads, presented a structure of two limbs. There was only a single insertion point of the yolk sac in the plastron. The only anomaly in the number of scutes on the plastron was the presence of four gular scutes. The number of scutes in the carapace was significantly larger than usual for this species. Each pseudo-carapace presented all the vertebral scutes (even if dislocated), one set of costal scutes and half the number of marginal scutes. The other scutes were fused forming a central crest. No internal postmortem was made.

Figure 1. Bicephalic *Trachemys dorbigni*.

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LITHOBATES CATESBEIANUS (American bullfrog): DIET. The American bullfrog is a large frog species with generalist feeding habits, including small vertebrates in its diet (Bury & Whelan, 1984). It was introduced in several countries associated with aquaculture, arriving in Brazil in the 1930s (Giovanelli et al., 2008). Farming escapes (due to poor management practices) and intentional introductions allowed this species to establish invasive populations in wild habitats of several regions on the next decades (Giovanelli et al., 2008; Silva et al., 2009). Here we summarize the stomach contents of 13 feral bullfrogs (seven females and six males) from a small farm located at the locality of Córrego dos Dutras (20°12'37.79"S, 42°08'14.86"W), municipality of Manhuaçu, Minas Gerais state, southeastern Brazil.

The frogs were collected at night, on 27 and 28 February 2009, from sunset until ca. 21:00. The sampling site consists of four small fishery ponds surrounded by grass. After collection, the specimens were double pithed (brain and spinal cord) and put on ice to retard digestion. The snout-vent length (SVL) was recorded to the nearest 0.01 mm, and prey items were identified to the lowest possible taxonomic level. Four specimens were housed as vouchers at the herpetological collection of Museu de Zoologia João Moojen (MZUFV), Universidade Federal de Viçosa, municipality of Viçosa, Minas Gerais state, Brazil, under the register numbers MZUFV 9608, 9609, 9610 and 9611.

The SVL of the frogs varied from 47.04 to 151.84 mm (mean ± SD: 109.07 ± 39.23 mm), and the number of prey items ingested by each frog varied from 1-15 (mean ± SD: 6.62 ± 4.39). Plant remains were found in nine stomachs (69.23%), and were considered accidently ingested. Among the 83 prey items recorded, the most common were Zygoptera (Odonata), larvae of Lepidoptera, Araneae and Ephemeroptera, which together represented 60.24% of the total prey items ingested (Table 1). However, regarding the number of frogs analysed, the most frequent preys were Zygoptera and Diplopoda followed by Araneae. Two fishes, one tadpole of *L. catesbeianus* and an unidentified post-metamorphic anuran were found among preyed vertebrates (Table 1). We thank Caio A. Figueiredo-de-Andrade for the English revision of the manuscript and IBAMA/ICMBio for collection permit (number 17152-1). ETS also thanks Programa de Apoio a Planos de Reestruturação e Expansão das Universidades Federais (REUNI) for scholarship.

Stomach contents	Np	%Np	Nf	% Nf
Arachnida (Araneae)	10	12.05	5	38.46
Diplopoda	6	7.23	6	46.15
Crustacea (Isopoda)	1	1.20	1	7.69
Coleoptera				
Scarabaeidae	2	2.41	2	15.38
Hydrophilidae	1	1.20	1	7.69
Unidentified	2	2.41	2	15.38
Diptera	1	1.20	1	7.69
Ephemeroptera	7	8.43	3	23.08
Hemiptera				
Auchenorrhyncha (Cicadellidae)	1	1.20	1	7.69
Auchenorrhyncha (unidentified)	5	6.02	2	15.38
Heteroptera (Belostomatidae)	1	1.20	1	7.69
Heteroptera (Hydrometridae)	1	1.20	1	7.69
Hymenoptera				
Formicidae	2	2.41	2	15.38
Vespidae	1	1.20	1	7.69
Lepidoptera (larvae)	12	14.46	2	15.38
Odonata				
Anisoptera	4	4.82	3	23.08
Zygoptera	21	25.30	6	46.15
Orthoptera (Gryllidae)	1	1.20	1	7.69
Chordata (Actinopterygii)				
Poecilidae	1	1.20	1	7.69
Cichlidae (*Geophagus brasiliensis*)	1	1.20	1	7.69
Chordata (Anura)				
Lithobates catesbeianus (tadpole)	1	1.20	1	7.69
Unidentified (post-metamorphic)	1	1.20	1	7.69
Plant remains and sediments	---	---	9	69.23

Table 1. Summary of stomach contents of 13 specimens of *Lithobates catesbeianus* from Córrego dos Dutras, municipality of Manhuaçu, Minas Gerais state, Brazil, collected in 27 and 28 February 2009. Np: number of prey items; Nf: number of frogs.

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BOKERMANNOHYLA CARAMASACHII (Caramaschi's treefrog): DEFENSIVE BEHAVIOUR. Amphibians are subject to predation by a vast array of invertebrates and vertebrates, being known to display a wide variety of defensive behaviours, including tonic immobility (Duellman & Trueb, 1994; Wells, 2007). In this strategy the frog or toad usually flips itself on its back and remains immobile. Although this behaviour is widespread in frogs there are few descriptions of it for *Bokermannohyla* species. *Bokermannohyla caramaschii* is a moderate sized frog belonging to the *B. circumdata* group (Faivovich et al., 2005). This species is restricted to the northern part of the Serra da Mantiqueira mountain range, southeastern Brazil (Napoli, 2005).

On 7 December 2009 at 20:30, an adult male *B. caramaschii* was captured inside a bromeliad leaf next to a rivulet in the Serra do Brigadeiro State Park, an area of montane rainforest in municipality of Araponga, state of Minas Gerais, Brazil (20º43'19"S, 42º28'43"W, elev. 1320 m). While manipulated, the frog flipped all four limbs in close to the abdomen remaining motionless (Fig. 1). When it was turned belly up, it remained in the same position for about 20 seconds and then quickly became alert and active. The adult male *B. caramaschii* also released a strong odour. The frog was then handled again and repeated the behaviour twice. This is the first record of this behaviour for *B. caramaschii* although death feigning has been reported in the *Bokermannohyla circumdata* group previously (Toledo et al., 2010). Some functions have been suggested to explain

Figure 1. An adult male *Bokermannohyla caramaschii* in death feigning behaviour.

the adaptive value of the motionlessness behaviour. Sazima (1974) reported this behavior as a strategy to avoid the anuran predation by common water snakes *Liophis miliaris*. Marchisin & Anderson (1978) classified its behaviour as one of the most common anuran responses to the approach of snakes. It has been suggested that the use of this immobility tactic is in response to predator attack and happens after a frog falls from height in vegetation (Azevedo-Ramos, 1995). It has also been suggested to be in response to terrestrial anuran predators (Toledo et al., 2005, 2010). However, there are few data concerning the functional significance of this behaviour as well about the efficiency of tonic immobility in reducing risk of predations in frogs (Azevedo-Ramos, 1995; Toledo, 2004a, 2004b; Toledo et al., 2005; Wells, 2007).

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CNEMIDOPHORUS OCELLIFER (Spix's whiptail): PREDATION. *Cnemidophorus ocellifer* (Spix, 1825) is a heliothermic teiid lizard widely distributed in south America, occurring in Argentina, Bolivia, Paraguay, and throughout Brazil, excluding Amazonia (Vanzolini et al., 1980). To date, six cases of predation by lizards on Brazilian species of *Cnemidophorus* have been recorded, including *C. ocellifer* as prey of *Tropidurus itambere* (Faria & Araújo, 2004), *T. torquatus* (Kokubum & Lemos, 2004) and *T. hispidus* (Costa et al., 2010), and *C. littoralis* and *C. nativo* of *T. torquatus* (Kiefer et al., 2006; Peloso & Pavan, 2007). Additionally, a case of cannibalism by a female *C. ocellifer* was described in a Caatinga area in the state of Rio Grande do Norte (Sales et al., 2010a). Other predators of *Cnemidophorus* lizards include birds (Morais & Pinho, 2007; Carvalho-Filho, 2008), centipedes (Bocchiglieri & Mendonça, 2009) and snakes (Peloso & Pavan, 2007; Bocchiglieri & Mendonça, 2009). Herein we document the first recorded case of ingestion of *C. ocellifer* by the teiid lizard *Ameiva ameiva* and a fortuitous event of predation by the cuculid bird *Guira guira* in the Caatinga of northeast Brazil.

In the context of an ecological investigation in a lizard assemblage, an *A. ameiva* population was studied in a forest enclave (06°08'14"S, 36°44'81"W, 680 m above sea level) inside the Caatinga biome, in the municipality of Tenente Laurentino Cruz, Rio Grande do Norte, Brazil. The climate is classified as semi-arid, hot and dry, with rainfall of 705.9 mm/year, mean temperature of 26.6°C and relative air humidity of 65% (Beltrão et al., 2005). On 29 January 2010, we collected an adult female *A. ameiva* (142.7 mm SVL) with a headless specimen of *C. ocellifer* (length: 86.4 mm; width: 17.6 mm and 14,006.10 mm^3 in volume) in its stomach contents (Fig. 1). The bluish colour of the ventral row of scales and the greenish colour of the granular dorsal scales in *C. ocellifer*, typical of reproductively active individuals, leads us to conclude that it is an adult lizard.

The diet of *A. ameiva* is composed mainly of arthropods, but also includes fruits and gastropods (Zaluar & Rocha, 2000). Orthopterans, termites, beetles and insect larvae are the most numerically important items in the diet of the populations of this species in different Brazilian ecosystems (Vitt & Colli, 1994; Gainsbury & Colli, 2003). Volumetrically, beetles, insect larvae, cockroaches, spiders and orthopterans were the most important items (Vitt & Colli, 1994). In addition to invertebrates and plant matter, *A. ameiva* occasionally feeds on small vertebrates (Vitt, 1995), including lizards (Zaluar & Rocha, 2000). Published diets of *A. ameiva* report *Mabuya agilis* and *T. torquatus* as prey items in a restinga ecosystem in southeast Brazil (Zaluar & Rocha, 2000), *Kentropyx striata* in an Amazonian savanna in northern Brazil (Vitt,

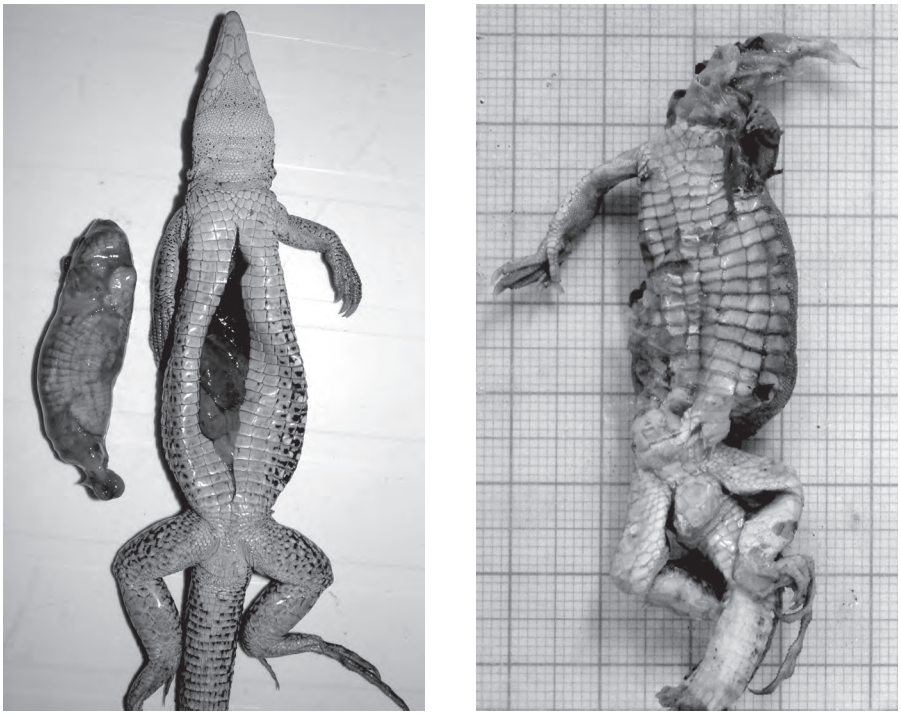

Figure 1. *Cnemidophorus ocellifer* predated by an adult female *Ameiva ameiva* (142.7 mm SVL): (left) stomach removed, (right) adult predated specimen (length: 86.4 mm); note absence of the head.

2000) and *Vanzosaura rubricauda* in the caatinga of northeast Brazil (Sales et al., 2010b). According to Siqueira & Rocha (2008), lizards from the family Teiidae do not usually appear as prey of other lizards and this is very likely owing to the fact that they are wide-foraging predators, moving actively in the habitat, and because they use flight as an anti-predation behavioural response. These characteristics make them potentially difficult to capture.

However, the high abundance of *C. ocellifer* in our study area, representing approximately 45% of the total of lizards captured (n = 707), might have facilitated the encounter between predator and prey, providing the predation by *A. ameiva*. Events such as these may be due to their generalist and opportunistic feeding habits, as observed in other studies (Vitt, 1995; Mesquita & Colli, 2003). Like cannibalism, saurophagy may provide nutritional benefits such as the access to an additional source of energy, increasing the availability of potential foods (Rocha & Siqueira, 2008). Nevertheless, Vitt (2000) reports that owing to the large body size of *A. ameiva* compared to many sympatric lizard species, saurophagy may be more frequent than is currently represented in the literature. The *A. ameiva* (CHBEZ 3330) was deposited in the herpetological collection of the Universidade Federal do Rio Grande do Norte, Natal, Brazil.

The second predation case occurred on 21 November 2010 ca. 14:10 in the same area as the aforementioned predation event, where we witnessed a Guira cuckoo *Guira guira* preying on *C. ocellifer*. On this occasion, the Guira cuckoo was sighted flying from the ground to a tree and subsequently jumping on the branches carrying the lizard in its bill. The lizard was limp and seemed dead. After one minute of observation, the bird flew out of view with its prey because one member of its flock tried to steal the lizard (kleptoparasitism). A similar record was observed for the teiid *C. lemniscatus* in the Amazon region, when the lizard was also captured by a *Guira guira* (Carvalho-Filho, 2008).

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