González-Duran, G., Gutiérrez-Cárdenas, P.D.A., & Escobar-Lasso, S. 2011. *Leptodactylus fragilis* (Mexican white-lipped frog). Diet. Herpetological Review 42: 583-584

***LEPTODACTYLUS FRAGILIS* (Mexican White-lipped Frog). DIET.** *Leptodactylus fragilis* is a lowland species that occurs from southernmost Texas throughout Middle America to northern and west-central Colombia and northern Venezuela (Heyer et al. 2006. Cat. Amer. Amphib. Rept. 830:1–2). This species is reported to feed on arthropods (Rand and Myers 1990. *In* Gentry [ed.], Four Neotropical Rainforests, pp. 386–409. Yale Univ. Press, New Haven, Connecticut; Savage 2002. The Amphibians and Reptiles of Costa Rica. A Herpetofauna between Two Continents, between Two Seas. Univ. Chicago Press, Chicago, Illinois), but no information exists on food habits of this species. Herein we provided detailed informaton on the diet of *L. fragilis* from Reserva Rio Manso (5.666°N, 74.77417°W; ca 220 m elev.), municipality of Norcasia, Departament of Caldas, Colombia.

We examined the stomach contents extracted by stomach-flushing of 63 individuals of *L. fragilis* sampled by GGD and SEL from 12–20 May 2010, between 1900 and 2200 h, around ponds in pasture lands. We identified each prey item to order or family and measured the length and width of each item to the nearest 0.1 mm using a manual caliper. We estimated prey volume using the formula for a prolate spheroid.

Of the 63 individuals examined, 42 (66.7%) contained prey items. These individuals ranged from 24.4 to 58.4 mm SVL (mean 41.88 ± 7.92). Insects and spiders composed the overall diet. Spiders and beetles were numerically and volumetrically the prey most represented. Numerically, long-toed water beetles (Dryopidae) were the most important prey, followed by orb-web spiders (Araneidae) and wolf spiders (Lycosidae) (Table 1). Volumetrically, lycosids were the most important prey, followed by dryopids and crickets (Gryllidae) (Table 1). Dryopids, araneids, and lycosyds also were common prey in many individuals. The value of dietary niche breadth, measured with the Shannon-Wiener diversity index (H'), was 2.46.

We used the Spearman Rank Correlation for analysis of morphology and diet in the specimens with identifiable prey. A

TABLE 1. Types of prey in the diet of *Leptodactylus fragilis* from "Reserva Rio Manso," Norcasia, Caldas, Colombia. Volume in mm^3.

Prey	Number (%)	Volume (%)	Frequency of occurrence
Arachnida			
Acari	1 (<1.0)	0.004 (<0.01)	1
Araneae			
Araneidae	13 (12.6)	178.14 (5.49)	9
Ctenidae	1 (<1.0)	209.94 (6.47)	1
Lycosidae	12 (10.7)	1273.05 (39.25)	12
Insecta			
Blattodea			
Blatiidae	8 (7.8)	402.93 (12.42)	8
Coleoptera			
Dryopidae	27 (26.2)	343.23 (10.58)	13
Elateridae	5 (4.9)	31.55 (0.97)	4
Staphylinidae	1 (<1.0)	29.26 (0.90)	1
Trogossitidae	4 (3.9)	7.55 (0.23)	3
Diptera			
Culicidae	1 (1.0)	0.01 (<0.01)	1
Drosophilidae	4 (3.9)	2.90 (0.09)	4
Psychodidae	1 (<1.0)	0.02 (0.00)	1
Hemiptera			
Cicadellidae	6 (5.8)	20.12 (0.62)	4
Hymenoptera			
Formicidae	6 (5.8)	19.35 (0.60)	5
Evaniidae	1 (<1.0)	18.85 (0.58)	1
Orthoptera			
Acrididae	2 (1.9)		2
Gryllidae	1 (<1.0)	393.17 (12.12)	1
Larvae	8 (7.7)	208.90 (6.50)	3
Diplopoda	1 (<1.0)	99.57 (3.07)	1
Mollusca	1 (<1.0)	4.69 (0.14)	1
TOTAL	104	3243.19	

positive and significant correlation exists between SVL and mouth width (MW) ($r_s = 0.83$, $p < 0.001$). The number of prey ingested was negative and significantly correlated with predator SVL ($r_s = -0.37$, $p < 0.02$) but not with MW ($r_s = -0.30$, $p > 0.05$). The prey volume ingested was positive and significantly correlated with both SVL ($r_s = 0.36$, $p < 0.02$) and MW ($r_s = 0.36$, $p < 0.02$). These results indicate that each individual consumes fewer prey as the SVL increase, but these are voluminous as well (e.g. spiders, dryopids, cockroach, and crickets). In each individual, the average of consumed prey of great size varied between 1 and 2.1 (Table 1).

The consumption of arthropods, mainly insects, by *L. fragilis* is typical due to their insectivorous diet (Rand and Myers 1990, *op. cit.*; Savage 2002, *op. cit*), additionally insects are plentiful and easily found in most terrestrial habitats (Triplehorn and Johnson 2005. Borror and Delong's Introduction to the Study of Insects. Thomson/Brooks Cole, Belmont; Parmelee 1999. Sci. Pap. Nat. Hist. Mus. Univ. Kansas 11:1–59). The notable presence of aquatic insects like the dryopids is important because it associates *L. fragilis* with lentic bodies of water (Savage 2002, *op. cit.*). Unfortunately, we do not know if other *Leptodactylus* associated with lentic waters also prey upon dryopids as the reports only identify prey to order and not family as in our study.

The numeric and volumetric presence of beetles and spiders reported here is not different from the diet of other *Leptodactylus* (Cuevas and Martori 2007. Cuad. Herpetol. 21:7–19; Duré and Kehr 2004. Herpetologica 60:295–303; França et al. 2004. Stud. Neotrop. Faun. Envir. 39:243–248; Maneyro et al. 2004. Iheringia, Sér. Zool. 94:57–61; Rodrigues et al. 2004. Rev. Esp. Herp. 18:19–28; Sanabria et al. 2005. Rev. Peru. Biol. 12:472– 477; Solé et al. 2009. Herpetol. Notes 2:9–15. Teixeira and Vrcibradic 2003. Cuad. Herpetol. 17:111–118; Winter et al. 2007. Herpetol. Rev. 38:324). Ants and termites also have been reported as numerically important prey (n > 22) in *L. bufonis*, *L. latinasus*, *L. ocellatus*, and *L. podicipinus* (Duré and Kehr 2004, *op. cit.*; Maneyro et al. 2004, *op. cit.*; Rodrigues et al. 2004, *op. cit.*; Sanabria et al. 2005, *op. cit.*; Teixeira and Vrcibradic 2003, *op. cit.*), but here ants only were represented by six prey items and termites were not found. The low rates of consumption of other prey types might be as a result of limited availability or they may be patchy in the habitat (Rodrigues et al. 2004, *op. cit.*).

Parmelee (1999. Sci. Pap. Nat. Hist. Mus. Univ. Kansas 11:1–59) suggested that body size and the head width in frogs determine the maximum size of prey consumed. Thus, the ability of gaping in relation to the size of the frog is a limiting factor in the selection of prey (Toft 1981. J. Herpetol. 15:139–144). In this study, the SVL determined the number and volume of prey consumed by *L. fragilis* and the MW determined positively the volume of ingested prey. The above suggests that both the SVL and MW are influencing the type of prey ingested by *L. fragilis*. The wide range of prey types and sizes found in *L. fragilis* indicates the species is a generalist/opportunistic feeder with a "sit-and-wait" strategy for obtaining prey (Taigen et al. 1982. Oecologia 52:49–56), like other *Leptodactylus* species. The previous idea is also corroborated with the high value of dietary niche breadth.

We are grateful to A. M. Jaramillo for providing logistic help in the Reserva Privada Riomanso, and to F. Vallejo and M. Salgado for their help in identifying the prey contents.

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