2006, *op. cit.*). The area where these observations were made is a historical oviposition site for *R. pretiosa* at Conboy Lake NWR; calling males and egg masses have been observed annually over the last 10 years.

At 1315 h on 12 March 2007, CJR encountered two pairs of amplectic *R. pretiosa* (Pair 1: female ~88 mm SVL, male ~68 mm SVL; Pair 2: female 86.3 mm SVL, male ~67 mm SVL). Both pairs were on the bottom of 20-cm deep water among clumps of *Carex* in a seasonally flooded meadow, and were sitting next to a freshly laid (< 2 h old) egg mass. The two pairs were facing away from each other, < 8 cm apart. When first encountered, Pair 1 immediately swam beneath the sedges, presumably because of the appearance of CJR, and were not seen again. At the same time, the female of Pair 2 had just begun laying eggs, which were visible as they issued from her body as a mixed black-and-white mass. Based on subsequent observation, the female had extruded about 20% of her eggs when first encountered. Over the next ~2 min, this female laid her remaining eggs in one fluid motion except for the final 10%, which were expelled via a series of short pulses. Based on the rate of oviposition, the entire time required for egg deposition was likely < 3 min. Several seconds after the female had finished laying, the male frog released his hold and floated to the surface, at which point he spotted CJR and swam away. The female, which now had a distinctly baggy appearance, was captured, measured, weighed (37.0 g), and released at the capture site.

As first laid, the egg mass measured ca. 45 × 15 × 15 mm. The embryos were randomly oriented, with the light (vegetal) pole of some eggs positioned upwards. After ca. 30 min, the mass had nearly doubled in volume, to ca. 75 × 30 × 30 mm, and most embryos were re-oriented so that the dark (animal) pole faced upward. After 75 min, the mass measured ca. 95 × 70 × 70 mm, and all of the embryos were now oriented with the animal pole up. By 90 min post-oviposition, the mass was roughly spherical, ca. 100 mm in diameter, and similar in size to the older (now ~3.5 h old) egg mass next to it.

Observations were made within a group of calling male *R. pretiosa*; 12 males were visible within a relatively small (ca. 3 m^2) area. These male frogs were either floating quietly at the water's surface or were calling from either floating or submerged positions. Audible calls consisted of a series of 3–7 (usually 5) note, "knocking" sounds, consistent with that described for the species (Nafis 2006. Sounds of *Rana pretiosa*. online: http://www.californiaherps.com/noncal/northwest/nwfrogs/pages/r.pretiosa.html). At least two other unpaired females, both apparently gravid and measuring ca. 87 and 89 mm SVL, were also present. Unlike the males, which could be approached rather closely (within 1 m and hand captured), these females were wary and dove seconds after seeing CJR.

Few descriptions of oviposition among ranid frogs in a field setting exist. The process we describe here is similar to that seen in *Rana boylii* in that most eggs were extruded at a constant speed over a short time (ca. 1.5 min. for *R. boylii*; Rombough and Hayes 2005. Northwest Nat. 87:157–160) and overall oviposition duration was < 10 min (Wheeler et al. 2003. Herpetol. Rev. 34:234). A brief oviposition interval might be related to deposition of all eggs in one mass (the method of all western North American ranids), as ranid frogs with smaller clutch sizes (than western North American species) which partition their eggs into several packets have longer oviposition intervals (Tsuji and Lue 1998. Copeia 1998:769–773). Further, though the process of egg deposition in the laboratory is well known (Fankhauser 1948. Ann. New York Acad. Sci. 49:684–708; Sype 1975. Breeding Habits, Embryonic Thermal Requirements and Embryonic and Larval Development of the Cascade Frog. Ph.D. Diss., Oregon State Univ., Corvallis. 113 pp.), the post-fertilization reorientation of embryos is almost never reported. Detailed observations are needed to understand variation in the timing of this phenomenon.

Work, conducted under a programmatic permit from the WDFW, adhered to the guidelines for the care and handling of amphibians in the field as detailed in Beaupre et al. (2004. Guidelines for Use of Live Amphibians and Reptiles in Field and Laboratory Research, 2nd ed. HACC, American Society of Ichthyologists and Herpetologists). This is a contribution from the Habitat Program of the WDFW.

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SCINAX EURYDICE (Maracas Snouted Treefrog). **PREDATION**. Aquatic invertebrates, especially belostomatids, are often cited as predators of tadpoles (Eterovick and Barata 2006. Herpetologica 62:363–377; Eterovick and Sazima 2000. Amphibia-Reptilia 21:439–461) and adult frogs (Bastos et al. 1994. Herpetol. Rev. 25:118; Brasileiro et al. 2003. Herpetol. Rev. 34:137; Haddad and Bastos 1997. Amphibia-Reptilia 18:295–298; Toledo 2003. Phyllomedusa 2[2]:105–108). *Scinax eurydice* occurs in Brazil from the northern state of Bahia to São Paulo (Ribeiro et al. 2005. Biota Neotropica 5[2]:1–15). This species occurs in open, wet areas, being common in the Atlantic Forest fragments in the municipality of Mariana, Minas Gerais State, southeastern Brazil (43.50025°W, 20.24916°S; WGS 84; ca. 900 m elev). On 24 Jan 2007 at ca. 2200 h we found a female *S. eurydice* (49.6 mm SVL), with eggs inside its oviducts, being preyed upon by the belostomatid, *Lethocerus annulipes* (62.4 mm body length, 25 mm body width). The adult male belostomatid was on the water surface of a temporary pond holding the frog with its raptorial forelimbs. We captured and preserved both animals. *Scinax eurydice* calls and lays it eggs on water bodies that usually have high densities of belostomatids and thus is vulnerable to these aquatic invertebrate predators. The *S. eurydice* (LZV 877) is deposited in the Laboratório de Zoologia dos Vertebrados of Universidade Federal de Ouro Preto, MG, Brazil; the belastomatid (IC 5052) is deposited in the Invertebrate Collection of Universidade Federal de Minas Gerais, MG, Brazil.

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Gerais, 30123-970, Belo Horizonte, MG, Brazil; and **FELIPE SÁ FORTES LEITE**,Classe Construções e Meio Ambiente, Rua Almirante Tamandaré, 438, CEP 30430-120, Belo Horizonte, MG, Brazil.

SCINAX GRANULATUS (NCN). **REPRODUCTION**. The reproductive strategy described for the species of the genus *Scinax* agrees with the strategy of most species of Hylinae, which consists of laying egg masses adhered to submerged vegetation (Cei 1980. Amphibians of Argentina. Monitore Zool. Ital., N. S., Monogr. 2. 609 pp.; Gallardo 1987. Anfibios Argentinos. Guía para su Identificación. Biblioteca Mosaico, Bs. As., Agropecuaria 1. 98 pp.; Lavilla and Cei 2001. Amphibians of Argentina A Second Update, 1987–1997. Mus. Reg. Scien. Natur. Torino 28. 177 pp.; Lavilla and Rouges 1992. Reproducción y Desarrollo de Anuros Argentinos. Asociación Herpetológica Argentina 5:1–61; Duellman and Trueb 1986. Biology of Amphibians. McGraw-Hill Book Co., New York. 670 pp.). This note describes egg deposition for *Scinax granulatus* in its natural environment.

The observations were made in the vicinity of La Plata city, Buenos Aires province, Argentina (36.0182°S, 57.8591°W; WGS 84) between September 2003 and February 2006 as part of a more comprehensive study of the reproductive behavior of this species. The following description is based on four clutches observed in the field. After oviposition we noted the spatial arrangement of eggs, and counted between 300–700 eggs in each clutch, with pigmented animal pole, 1.3 mm ± 0.04 diameter embryos and 1.7 mm ± 0.05 capsules with jelly coat (mean ± 95% confidence limits, N = 35).

Scinax granulatus disperses its eggs on the bottom of water bodies, and the eggs adhere to submerged objects and/or the bottom individually or in small clusters of 2–3 eggs. The clutches observed were scattered over an average surface area of 3616 cm^2, which represented a small portion of the water body. To our knowledge, this is the first report of this egg deposition mode for a species of Hylinae.

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GASTROPHRYNE PICTIVENTRIS (Nicaragua Narrowmouth Toad), ***HYPOPACHUS VARIOLOSUS*** (Sheep Frog). **ENDOPARASITES.** Herein we report endoparasites of two microhylid frog species from Costa Rica. *Gastrophryne pictiventris* is known from southeastern Nicaragua and the Atlantic slope of Costa Rica; *Hypopachus variolosus* occurs from southern Texas to Costa Rica (Savage 2002. The Amphibians and Reptiles of Costa Rica. A Herpetofauna Between Two Continents, Between Two Seas. Univ. Chicago Press, Chicago, Illinois. 934 pp.). We know of no reports on the helminths of these species.

Two *G. pictiventris* adult males (mean SVL = 27 mm ± 1.4 SD, range: 26–28 mm) collected in 1966 from Heredia Province (LACM 155965, 155967) and four *H. variolosus* adult males (mean SVL = 36 mm ± 1.4 SD, range: 35–38 mm) collected in 1963 from Guanacaste Province (LACM 156792–156795) were examined for endoparasites. The frogs were opened by a mid-ventral incision and the lungs, stomach, small and large intestines, urinary bladder, liver, and body cavity were searched for endoparasites using a dissecting microscope. Each nematode was cleared in a drop of glycerol, coverslipped, and studied as a temporary wetmount. The pentastome was cleared in cedarwood oil and studied under a dissecting microscope.

Found in *G. pictiventris* were two species of Nematoda: four *Cosmocerca podicipinus* (mean: 2.0 ± 1.4 SD, range: 1–3) small and large intestines; one *Oswaldocruzia costaricensis* in the small intestine. One Pentastomida nymph was found in the body cavity. Found in *H. variolosus* were two species of Nematoda: 17 *Cosmocerca podicipinus* (mean 5.7 ± 3.2, range: 2–8) in the small and large intestines; three *Oswaldocruzia costaricensis* (mean: 1.5 ± 0.7, range 1–2) in the small intestines. Voucher helminths were deposited in the United States National Parasite Collection, USNPC, Beltsville, Maryland, USA as: *G. pictiventris, Cosmocerca podcipinus* (USNPC 98743), *Oswaldocruzia costaricensis* (USNPC 98744), Pentastomida (USNPC 98745); *H. variolosus, Cosmocerca podicipinus* (USNPC 98758), *Oswaldocruzia costaricensis* (USNPC 98759).

Oswaldocruzia costaricensis was described from *Rana* cf. *forreri* from Costa Rica by Bursey and Goldberg (2005. J. Parasitol. 91:600–605). It has also been found in *Lithobates warszewitschii* and *Lithobates taylori* from Costa Rica (Goldberg and Bursey 2007. Carib. J. Sci. 43:1–10; Goldberg and Bursey 2007. Carib. J. Sci. 43:65–72). *Cosmocerca podicipinus* is a generalist nematode with a wide distribution in Central and South America and has been reported in bufonid, dendrobatid, hylid, leptodactylid, and ranid frogs as well as one bony fish (Goldberg et al. 2007. Comp. Parasitol. 74:327–342). Infection by *Oswaldocruzia* and *Cosmocerca* are direct with no intermediate host involved (Anderson 2000. Nematode Parasites of Vertebrates. Their Development and Transmission, CABI Publishing, Oxon, U.K. 650 pp.). With few exceptions, pentastomids mature in reptiles; various vertebrates serve as intermediate hosts and when eggs ingested by an intermediate host hatch the larvae penetrate the intestine to migrate randomly in the body, finally becoming quiescent and metamorphosing into a nymph (Roberts and Janovy 2005. Gerald D. Schmidt and Larry S. Roberts' Foundations of Parasitology, McGraw Hill, Boston.702 pp.) We consider *G. pictiventris* to be an intermediate host for the pentastome; *Cosmocerca podicipinus* and *O. costaricensis* represent new host records for *G. pictiventris* and *H. variolosus*.

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