

PRO CERATOPHYRYS BOIEI (Smooth Horned Frog). **DEFENSIVE BEHAVIOR.** The leptodactylid *Proceratophrys boiei* has a large geographic range from northeast to southeast Brazil (Haddad and Sazima 1991. *In* Morelato [ed.], *História Natural da Serra do Japi: Ecologia e Preservação de uma Área Florestal no Sudeste do Brasil*, pp. 188–210). On 23 Oct 2003 an adult male (51.1 mm SVL) was captured in a semidescidual forest (Mata São José), at the municipality of Rio Claro, São Paulo State, Brazil (22°21'278"S; 47°28'722"W, 659 m). When manipulated for photographs the frog flattened its body, stretched its rear legs backwards and its front legs forwards. It remained motionless for about 5 minutes even when carefully touched on its back. This behavior was repeated whenever the animal was touched. Sazima (1978, *Biotropica* 10[2]:158) described a similar behavior in *P. appendiculata*, and suggested this behavior could enhance its appearance as fallen leaves, confusing visually oriented predators. It is also possible this posture could make the individual difficult for a predator to swallow or create a "hard-to-ingest-prey" image (Azevedo-Ramos 1995, *Rev. Bras. Biol.* 55[1]:45–47). This defensive strategy has been described in two species (*P. appendiculata* and *P. boiei*), suggesting that it could be a common behavior within the genus. Furthermore, this observation reinforces the suggestion that there is a behavioral convergence among anurans that inhabit leaf litter and are subject to similar predation pressures (Sazima 1978, *op. cit.*; Garcia 1999, *Herpetol. Rev.* 30:224).

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RANA AURORA (Northern Red-legged Frog) **HABITAT AND MOVEMENT.** Live trees retained in harvested areas may provide critical habitat for forest vertebrates that might otherwise disappear after timber removal (Franklin et al. 1997. *In* Kohn and Franklin [eds.], *Creating a Forest for the 21st Century*, pp. 111–140. Island Press, Washington, D.C.; Mitchell and Beese 2002, *Forest. Chron.* 78:397–403). Although the benefits of residual trees to birds (Titler et al. 2001, *Ecol. Appl.* 11:1656–1666; Schieck et al. 2000, *Forest. Ecol. Manag.* 126:239–254) and mammals (Moses and Boutin 2001, *Can. J. For. Res.* 31:483–495; Sullivan and Sullivan 2001, *J. Appl. Ecol.* 38:1234–1252) have been well documented, the effects of residual trees on amphibians have received scant attention. Chan-McLeod and Moy (ms. submitted) recently quantified the 3-day use of residual trees by transplanted *R. aurora*, but longer-term use of residual trees by native amphibian inhabitants have not been documented.

Herein we report seven observations of resident, adult *R. aurora* in residual tree patches. The tree patches were located in three, 1-year old variable-retention cut blocks that had been harvested to leave 10–20% of the live trees standing as residual tree patches

and as single residual trees. All frogs were observed in tree patches > 0.7 ha; none were observed in the cut matrix or in abundant, smaller tree patches. Most of the observed frogs were in tree patches that were close to or right at the cut block boundary. At cut block R799, two frogs were observed in a residual tree patch that was 50 m from a block boundary bordering a highway. The patch was 7424 m² in size and had an ephemeral stream that was dry when the frogs were observed. At cut block R818, four frogs were observed in two different tree patches. Two frogs were sighted at the edge of a 26,700 m² tree patch that was bordered by a running stream and a 13-year old regenerating stand defining the block boundary. Another two frogs were observed in an 8000 m² tree patch that was also at the block boundary and contiguous with an old-growth forest. One of these frogs was not actually a native inhabitant but had lived in or near the patch for the past year. This frog was transplanted to the residual patch the previous year in a failed attempt to radio-track its movements in the variable-retention cut block. The radio-transmitter failed soon after the frog was released, and it was not recovered until 12 months later when the frog was serendipitously observed, still wearing its failed transmitter, in the same residual tree patch < 3 m from where it was last observed a year earlier. At R800, a frog was observed in a 9670 m² tree patch located in the middle of the cut block and > 170 m from the nearest cut block boundary. The tree patch did not contain a wet stream but had two dry streambeds ending at its edge.

We were able to capture and radio-track four of the seven resident frogs. Three of the four radio-tracked frogs did not leave the tree patch where they were first observed; one frog was radio-tracked in the 7424 m² tree patch in R799 between 5–8 Aug; a second frog was radio-tracked from the 8000 m² tree patch in R818 between 1 July and 5 August; a third frog was radio-tracked from the same patch between 1–28 July. These three frogs were highly stationary and moved only a few meters between relocations, which were done at 1–3 day intervals. The frog that moved out of the patch from which it was first observed (7424-m² tree patch in R799) did so shortly after being radio-harnessed. The frog had crossed the 50-m matrix between the patch and the cut block boundary, then crossed the highway and was ca. 100 m up a forested slope on the other side of the highway when it was relocated two days after.

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RANA AURORA (Northern Red-legged Frog). **PREDATION.** Anurans have been at least occasionally recorded in Mallard (*Anas platyrhynchos*) diet, but historically, the species taken were not identified (McAtee 1918, U.S. Dept. Agric. Bull. [720]:1–36; Bent 1923, U.S. Nat. Mus. Bull. [126]:1–244; Martin and Uhler 1939, U.S. Dept. Agric. Tech Bull. [634]:1–156). Observations of wild Mallards consuming specific anurans, all relatively recent, remain infrequent. Mjelstad and Saetersdal (1989, *Fauna norvegica Series C* 12:47–48) recorded adult Mallards eating juvenile Com-