hatchlings were produced from this nest. A total of 12 observations were made at the first green salamander nest and 11 were made at the second.

The slimy salamander nest was first located on 15 Sept 2002 in a sandstone rock wall ca. 25 m north of the second green salamander nest. The crevice was ca. 1.5 m from the ground, horizontal, and ca. 1.0 m long. This crevice was about 45.7 cm deep. The eggs were laid at a depth of ca. 30 cm. The egg cluster was elongate, in the shape of an "L" lying on its "back." Ten eggs could be seen. The larvae had hatched by 6 Oct 2002, however due to the morphology of the crevice interior only one hatchling could be seen. The female had dispersed by 7 Nov, and the hatchling(s) were present until 22 Nov. No more that one hatchling was visible. A total of 12 observations were made at this nest.

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ANURA

COCHRANELLA ALBOMACULATA (NCN). **REPRODUCTION**. Centrolenids are neotropical riparian frogs that breed primarily throughout the wet season (Ibañez et al. 1999. The Amphibians of Barro Colorado Nature Monument, Soberanía National Park and adjacent areas, Editorial Mizrachi and Pujol, Panamá. 187 pp.). *Cochranella albomaculata* is found from Honduras to Colombia (Savage 2002. The Amphibians and Reptiles of Costa Rica; Univ. Chicago Press, Chicago 934 pp.). Here we report a shift in the reproductive behavior and oviposition site of *C. albomaculta* coinciding with the onset of the dry season. *Cochranella albomaculata* is very abundant in most of the smaller creeks that feed into the upper Río Jaris basin at the Reserve of the Universidad de la Paz (Costa Rica) in the rainy season. During the wet season males and egg clutches are distributed throughout the stream channel. Females deposit eggs on the upper surface of the vegetation over streams. At the beginning of the dry season of December 2001 and December 2002, we observed a shift at this site. A large aggregation of males and egg clutches (N = 53; Dec 2002) on rocks were seen in the splash area of two waterfalls. Calling males and two egg clutches were present on a big boulder in Río Jaris. These observations suggest that *C. albomaculata* utilizes these wet splash zones to prolong breeding during part of the dry season.

We thank Jeanne Robertson, Andrew Crawford, and Jay Savage for comments on the manuscript.

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RANA AURORA AURORA (Northern Red-legged Frog). **VOCALIZATION**. Leonard et al. (1997 Northwest. Nat. 78:73–74) described one instance of non-breeding season vocalization involving 2 male *Rana a. aurora* from a terrestrial location on the NW side of Fiander Lake, Pierce County Washington, USA on Nov 1996. Confirmation of sex or terrestrial position was not possible as the frogs were not visually located (Leonard et al., *op. cit.*). Such confirmation is important because *Rana a. aurora* call can be highly ventriloquial (Licht 1969. Can. J. Zool. 47:1287–1299), and *Rana a. aurora* have been described as typically vocalizing from submerged positions during reproduction (Licht, *op. cit.*), a pattern that has even been used to support the systematic differentiation between red-legged frog taxa (Hayes and Miyamoto 1984. Copeia 1984:1018–1022). Further, the lone episode of non-breeding vocalizations that Leonard et al. (*op. cit.*) described for *Rana a. aurora* could be perceived as atypical. Here, we confirm male northern red-legged frog vocalization from terrestrial locations outside the reproduction season, and show that the pattern may be commonplace. All observations were made in the vicinity of Olympia, Washington.

At 0640 h on 20 Aug 2002, one of us (MPH) heard distinctive weak, clucking vocalizations matching those of male *R. a. aurora* advertisement calls (*fide* Davidson 1995. Frog and Toad Calls of the Pacific Coast. [audio compact disc]. Library of Natural Sounds Cornell Laboratory of Ornithology, Ithaca, New York) coming from near a small rural pond in NW Olympia described elsewhere (Hayes and Hayes 2003. Herpetol. Rev. 34:45–46). Vocalizations, involving 4–8 note series made at irregular intervals during a 10-min observation period, were traced to a male *R. a. aurora* concealed under a sword fern (*Polystichum munitum*) 0.5 m from the pond. The male was identified from a unique toe clip as an individual that had been released in this pond on 5 May 2002 (Hayes and Hayes, *op. cit.*). At 1400 h on 24 Aug 2002, two of us (CBH MPH) found this same male vocalizing over a roughly 12-min interval from a concealed position beneath another sword fern ca 1.4 m from the pond. We heard this same male and a second marked *R. a. aurora* male, also described elsewhere (Hayes and Hayes *op. cit.*), call on no fewer than 13 other occasions over the interval 31 Aug–23 Sept 2002 during daylight hours. On 11 of these occasions, calling males were traced to concealed positions in terrestrial locations under sword ferns 0.5–3 m from the pond.

A second set of observations was made between 1340–1510 h on 21 Sept 2002, along the margin of a 4-ha patch of red alder (*Alnus rubra*) with an understory of mostly dense sword ferns in west Olympia (47°04'06"N, 122°58'12"W; elev. 49 m). Almost immediately upon entering this alder grove, which was largely sheltered from significant noise, MPH heard the weak calls of *R. a. aurora*. During the 1.5-h search of a ca. 80-m diameter circular area of this grove, over 24 calling episodes were heard. Four were tracked to calling males, all of which were in entirely concealed calling stations, three under sword ferns and the fourth in a small space under small woody debris. The four males found were 52–57 mm SVL and had small, poorly developed nuptial pads. Each male found was also located within 8 m of the position of at least one of the others.

On 19 Sept 2002 at 1900, JPS also heard calls matching those of male *R. a. aurora* advertisement calls from a concealed terrestrial site in the Steamboat Island area ca. 10 km E of Olympia (47°06'16"N, 122°59'19"W; elev. 5 m). This site has a mature western red cedar-big leaf maple (*Thuja plicata-Acer*