Weaver nests as a resting site for frogs

Hans-Dieter Oschadleus

Abstract. Reed frogs *Hyperolius* spp. and leaf-folding frogs *Afrixalus* spp. were recorded as resting in weaver bird nests in the daytime, from two sites in KwaZulu-Natal, South Africa. A Painted Reed Frog *Hyperolius marmoratus taeniatus* was found in a Southern Masked Weaver *Ploceus velatus* nest over a stream in 2004. Thirteen individuals of three frog species (*Afrixalus spinifrons*, *Hyperolius marmoratus marmoratus*, *Afrixalus fornasinii*) were found in the nests of a large mixed-species weaver colony in a wetland in 2009.

Key words. Amphibia; *Hyperolius marmoratus*; *Afrixalus spinifrons*; *Afrixalus fornasinii*; Aves; Ploceidae; *Ploceus velatus*; *Ploceus subaureus*; *Amblyospiza albifrons*; resting

Reed frogs *Hyperolius* spp. and leaf-folding frogs *Afrixalus* spp. are agile climbers that call and rest on vegetation some distance from the surface of water (Carruthers, 2001; Du Preez and Carruthers, 2009). Here several records of some of these frogs resting in weaver bird nests in the daytime are presented.

Over the last three decades I have checked a few thousand nests of weaver birds to document the eggs and chicks, mostly in KwaZulu-Natal and the Western Cape, two provinces of South Africa. Frogs were found resting diurnally in the nests of weavers in reeds on two occasions, both in KwaZulu-Natal, and these results are presented below. These records were submitted to FrogMAP for identification. FrogMAP is an online Virtual Museum (Navarro 2010), citizen science project of the Animal Demography Unit, and is a continuation of the Southern African Frog Atlas Project (SAFAP, Minter et al. 2004).

The first record is from a Southern Masked Weaver *Ploceus velatus* Vieillot, 1819 colony at a stream next to a tarred road between Dundee and Vryheid, on 12 January 2004 (Table 1). As I put my hand into one nest suspended on *Typha* reeds, a Painted Reed Frog *Hyperolius marmoratus taeniatus* (Peters, 1854) jumped out and I photographed it where it landed on nearby vegetation. The weaver nest contained 3 weaver eggs. It was not clear if the nest had been deserted, or if the frog had been in the nest for a short time (while the female weaver was foraging). The frog may be a recent arrival in this area, and it was first recorded in northern KwaZulu-Natal during the frog atlas of 1996-2002 (Minter et al. 2004).

The second set of records is from a mixed-species weaver colony in a wetland (Fig. 1) at Impisini Nature Reserve, KwaZulu-Natal, with many weaver nests in the *Typha* reeds, where some of the nests were used by frogs for resting.
Reserve outside Umkomaas, on 15 December 2009. The colony consisted of some 60 Eastern Golden Weaver *P. subaureus* Smith, 1839 nests and four Thick-billed Weaver *Amblyospiza albifrons* (Vigors, 1831) nests in reeds in a small pond. While checking the weaver nests, I was surprised at finding several frogs, often more than one frog in a nest (Table 1). One Thick-billed Weaver nest was an empty breeding nest, but contained one Natal Leaf-folding Frog *Afrixalus spinifrons* (Cope, 1862) (Fig. 2). Five Eastern Golden Weaver nests contained 1-3 frogs, usually of a single species, but twice a nest contained frogs of different species. The species encountered were Painted Reed Frog *Hyperolius m. marmoratus* (Rapp, 1842) and Greater Leaf Folding Frog *Afrixalus fornasinii* (Bianconi, 1849) (Fig. 3-4). In four cases the frogs were felt once my hand was inside the nest chamber, and were grasped and taken out to photograph before release. In one nest I noticed three frogs (two Painted Reed Frogs and a Greater Leaf Folding Frog) peering out from the entrance of an Eastern Golden Weaver nest. These were photographed and not disturbed further (Fig. 5).

Weaver nests are domed, strongly constructed, and provide shelter for a variety of birds and even bats and rodents (Oschadleus, 2008; del Hoyo et al. 2010). The frogs probably use the nests as darkened, safe havens to rest in during the day, and the nests are close to the water where the frogs would call from at night. Frogs using weaver nests close to their call sites may save on travel and search costs, and the nests may also provide protection from frog predators.

Little is recorded about daytime resting of these frog species. During the day, reed frogs *Hyperolius* spp. and leaf-folding frogs *Afrixalus* spp. rest in vegetation near

### Table 1. Frog species resting in weaver nests in KwaZulu-Natal, South Africa

<table>
<thead>
<tr>
<th>Site</th>
<th>Weaver species</th>
<th>Nest no.</th>
<th>Contents</th>
<th>Frog species</th>
<th>Number</th>
<th>FrogMAP no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dundee - Vryheid</td>
<td><em>Ploceus velatus</em></td>
<td>N1</td>
<td>3 eggs</td>
<td><em>Hyperolius marmoratus taeniatus</em></td>
<td>1 frog</td>
<td>1858</td>
</tr>
<tr>
<td>Impisini</td>
<td><em>Ploceus subaureus</em></td>
<td>N36</td>
<td>2 eggs</td>
<td><em>Afrixalus fornasinii</em></td>
<td>2 frogs</td>
<td>52</td>
</tr>
<tr>
<td>Impisini</td>
<td><em>Ploceus subaureus</em></td>
<td>N37</td>
<td>0</td>
<td><em>Hyperolius m. marmoratus</em></td>
<td>3 frogs</td>
<td>53</td>
</tr>
<tr>
<td>Impisini</td>
<td><em>Ploceus subaureus</em></td>
<td>N38</td>
<td>0</td>
<td><em>Hyperolius m. marmoratus</em></td>
<td>1 frog</td>
<td>54</td>
</tr>
<tr>
<td>Impisini</td>
<td><em>Ploceus subaureus</em></td>
<td>N39</td>
<td>0</td>
<td><em>Afrixalus fornasinii, Hyperolius m. marmoratus</em></td>
<td>2 frogs</td>
<td>56</td>
</tr>
<tr>
<td>Impisini</td>
<td><em>Ploceus subaureus</em></td>
<td>N40</td>
<td>?</td>
<td><em>Hyperolius m. marmoratus, Afrixalus fornasinii</em></td>
<td>3 frogs in entrance</td>
<td>n/a</td>
</tr>
<tr>
<td>Impisini</td>
<td><em>Amblyospiza albifrons</em></td>
<td>N3</td>
<td>0</td>
<td><em>Afrixalus spinifrons</em></td>
<td>1 frog</td>
<td>55</td>
</tr>
</tbody>
</table>

Figure 2. *Afrixalus spinifrons* from *Amblyospiza albifrons* nest.

Figure 3. *Afrixalus fornasinii* from *Ploceus subaureus* nest (2 frogs but 1 in this photo).
A. fornasinii rests in the leaf axils of plants (Wager, 1986). A. spinifrons never sits sun-bathing in exposed positions (Wager, 1986), while H. marmoratus can be seen sitting in exposed or hidden positions on plants (Wager, 1986; Du Preez and Carruthers, 2009). Weaver nests in reeds provide opportunistic shelters for these frogs, although it is unknown what interactions occur between the weavers and frogs.

Other frogs have been recorded in weaver nests. Wilson (1948) found a few unidentified tree frogs in the occupied nests of a Grey-headed Social-weaver Pseudonigrita arnaudi (Bonaparte, 1850) nesting colony, without providing further details. Kielgast and Lötters (2009) found the African foam-nest tree frog Chiromantis rufescens (Günther, 1869) using the empty nests of the Blue-billed Malimbe Malimbus nitens (Gray, 1831) to deposit foam-nests with eggs. The authors provide details and photographs, and their record seems to be the only one of frogs using weaver nests as a breeding site.

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References


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