

## Observations on breeding of two Furnariidae in Patagonia: White-throated Cacholote *Pseudoseisura gutturalis* and Patagonian Canastero *Pseudasthenes patagonica*

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Describimos aspectos básicos de la biología reproductiva de dos especies de Furnariidae endémicas de la Argentina: el Cacholote Pardo *Pseudoseisura gutturalis* y el Canastero Patagónico *Pseudasthenes patagonica*. Además, documentamos el desarrollo de los pichones mediante fotografías y mediciones de peso. Hicimos el seguimiento de un nido de Cacholote Pardo y tres nidos de Canastero Patagónico, todos ubicados sobre arbustos espinosos a baja altura, en cercanía de Puerto Madryn, Chubut, Argentina. Ambas especies nidifican en nidos cerrados construidos con palitos espinosos. La puesta de Cacholote Pardo fue de cuatro huevos que fueron incubados durante 18 días. Los pichones permanecieron en el nido por 21 días antes de abandonar el nido de manera exitosa. Un nido de Canastero Patagónico fue seguido desde el inicio de su construcción que llevó un mínimo de 20 días. La puesta fue de tres (dos nidos) o cuatro huevos de color blanco depositados en la cámara de incubación forrada con material vegetal blando. Los huevos eclosionaron luego de 15–16 días de incubación. Un nido fue depredado durante incubación, otro 4–5 días luego de la eclosión de los huevos y el tercero probablemente haya sido exitoso, abandonando los pichones el nido alrededor de 15 días luego de la eclosión. La duración de los períodos de incubación y permanencia en el nido de los pichones son similares a los de otras especies de los géneros *Pseudoseisura* y *Asthenes*.

The breeding biology of most species of Furnariidae is still little known and even basic data on nest building, incubation and nestling development are lacking<sup>11</sup>. Furnariidae in Patagonia are no exception and the few detailed studies concern mainly forest-based species<sup>3,6</sup>. Here we provide data on aspects of the breeding biology of two Argentine endemics that inhabit arid Patagonian steppe and shrubland: White-throated Cacholote *Pseudoseisura gutturalis* and Patagonian Canastero *Pseudasthenes patagonica*.

We searched for nests within an area of 1.4 km<sup>2</sup> on the outskirts of Puerto Madryn, Chubut (42°47'S 65°01'W). The study site is covered by shrubland (Monte steppe) and the dominant plant species are *Larrea nitida*, *L. divaricata*, *Condalia microphylla*, *Prosopis flexuosa*, *Prosopidastrum globosum*, *Schinus johnstonii*, *Chiquiraga avellanadae*, *C. hystrix* and *Senecio filaginoides*. Surveys were conducted on a weekly to daily basis (visits to nests being more frequent during the nestling period) in August–December 2007 and during each survey we examined the contents of known nests and searched for new nests. For those nests we suspected were active, we cut a hole into the wall of the nest chamber, which we plugged with an oversized piece of brown styrofoam<sup>1,4,8</sup>. The birds usually covered the foam with sticks outside. Nests were measured with tape to the nearest cm, and eggs with callipers to the nearest 0.1 mm. Due to logistical constraints Pesola spring scales were

only available to us on certain dates and some body mass data are therefore lacking.

**White-throated Cacholote *Pseudoseisura gutturalis***  
*Nest*.—On 28 August we found a nest under construction. It was a half cup (47 × 42 cm) of thick twigs on a *Prosopidastrum globosum* bush. On our next visit, on 15 September, the nest was completed; it was a more or less round chamber of non-thorny (c.6 mm diameter) sticks, with an entrance tube of narrower (c.2 mm) thorny sticks. The chamber was empty and the bottom lined with bark flakes from exotic poplar trees (*Populus* sp., from a nearby rubbish dump, Fig. 1a). Part of the nest material was 'recycled' from an adjacent (1.9 m) nest of the same species. Nest measurements are given in Table 1.

*Eggs*.—On 22 September we found one cold egg in the chamber. On 28 September the four-egg clutch was complete and the eggs were warm. Eggs white (Fig. 1a) with reddish streaks or blotches, perhaps from blood, as reported for Brown Cacholote *Pseudoseisura lophotes*<sup>8</sup>. Egg measurements (Table 1) slightly smaller than values previously reported<sup>7,9</sup>, perhaps because the latter correspond to *P. g. ochroleuca* while our data pertain to *P. g. gutturalis*. On 6 and 12 October an adult was incubating the eggs.

*Nestlings*.—On 16 October three eggs had hatched and the fourth was hatching. The three nestlings weighed 7.8, 7.8 and 7.4 g. Nestlings had



Figure 1 (facing page). White-throated Cacholote *Pseudoseisura gutturalis* eggs in brood chamber (a) as viewed through access hole (eggs numbered by us) and nestlings (b–h). Days refer to estimated nestling ages.

closed eyes, pink skin and were covered dorsally by long, dense, dark grey down, and had a yellow bill and gape (Fig. 1b). Dense and abundant down may permit nestlings to maintain their temperature in a nest with sparse lining (Fig. 1a). Next day the fourth egg had hatched and this nestling weighed 6.4 g. On 20 October three nestlings weighed 24 g while one was just 15 g (presumably the last to hatch). On 23 October they weighed 46, 46, 45 and 31 g, feather shafts had emerged on the wings and dorsal and ventral tracts; bill grey, eyes still closed (Fig. 1c). Adults were observed bringing a leg and tail of a lizard (*Leiosaurus belli*) to provision the nestlings<sup>10</sup>. On 27 October three nestlings were >50 g (max. of our available spring scales) while the smallest weighed 48 g; eyes open, and all feathers had emerged from their shafts and most of the body had definitive plumage (Fig. 1d). Adults brought a small lizard (*Liolaemus darwini*) and a 'chinchemolle' (*Agathemera crassa*, Phasmatodea) for the nestlings. On 30 October the four nestlings had covered the inside of the brood chamber with their faeces. On 3 November they were very

active and mobile, calling loudly (Fig. 1e) and one produced brown liquid faeces when handled. Two weighed 70 g and the other two 71 g. On 6 November they weighed 67, 69, 70 and 72 g. On 19 November the nest was empty and no birds were seen in the vicinity. On 8 December we observed a pair of cacholotes duetting and four fledglings 50 m from the nest. On our final visit to the territory, on 15 December, no birds were seen.

Based on these data we infer an incubation period of at least 18 days and nestling period of at least 21 days. These values are the first reported for *P. gutturalis* and are similar to those reported (18–20 days and 18–23 days respectively) for *P. lophotes* in Córdoba, Argentina<sup>8</sup>.

#### Patagonian Canastero *Pseudasthenes patagonica*

**Nests.**—We found three nests on low bushes (Table 1). On discovery Nest 1 (on 6 October) was almost complete (an adult was bringing soft material to line the brood chamber), Nest 2 (6 October) was under construction and Nest 3 (27 October) was complete and held one cold egg. We monitored the construction process of Nest 2, which lasted at least 20 days. The nest started as an open cup of twigs (Fig. 2a) which became the base of the egg chamber. Twigs were then added to the sides to produce the walls of the chamber (Fig. 2b–c) and subsequently the entrance tunnel was built (Fig. 2d). Finally, the

Table 1. Summary of nest and egg measurements and other data for one White-throated Cacholote *Pseudoseisura gutturalis* and three Patagonian Canastero *Pseudasthenes patagonica* nests, near Puerto Madryn, Chubut, Argentina (2007).

		<i>Pseudoseisura gutturalis</i>	<i>Pseudasthenes patagonica</i>			
			Nest 1	Nest 2	Nest 3	
Nest	length (cm)	80	50	58	50	
	height (cm)	48	30	25	30	
	diameter of entrance (cm)	9	5.5	4	5	
	distance to ground (cm)	70	115	94	80	
	supporting plant	<i>P. globosum</i>	<i>S. johnstonii</i>	<i>P. globosum</i>	<i>C. microphylla</i>	
Eggs	no. laid	4	3	4	3	
	laying date	22 Sep	11–13 Oct	10–15 Nov	26–27 Oct	
	length × width (mm)		26.9 × 20.6	20.5 × 15.1	19.9 × 14.7	20.4 × 15.6
			27.7 × 21.0	21.0 × 14.7	19.3 × 14.4	20.4 × 16.0
			27.9 × 20.8	21.1 × 15.4	19.7 × 14.3	20.1 × 15.9
			27.8 × 20.8		19.6 × 14.6	
	incubation start	28 Sep	17 Oct	20 Nov	30 Oct	
	hatching date	16 Oct	1–2 Nov	predated	c.15 Nov	
no. hatched	4	3	0	3		
Nestlings	fledging date	6–19 Nov	predated	-	29 Nov–1 Dec	
	number fledged	4	0	-	2 (?)	

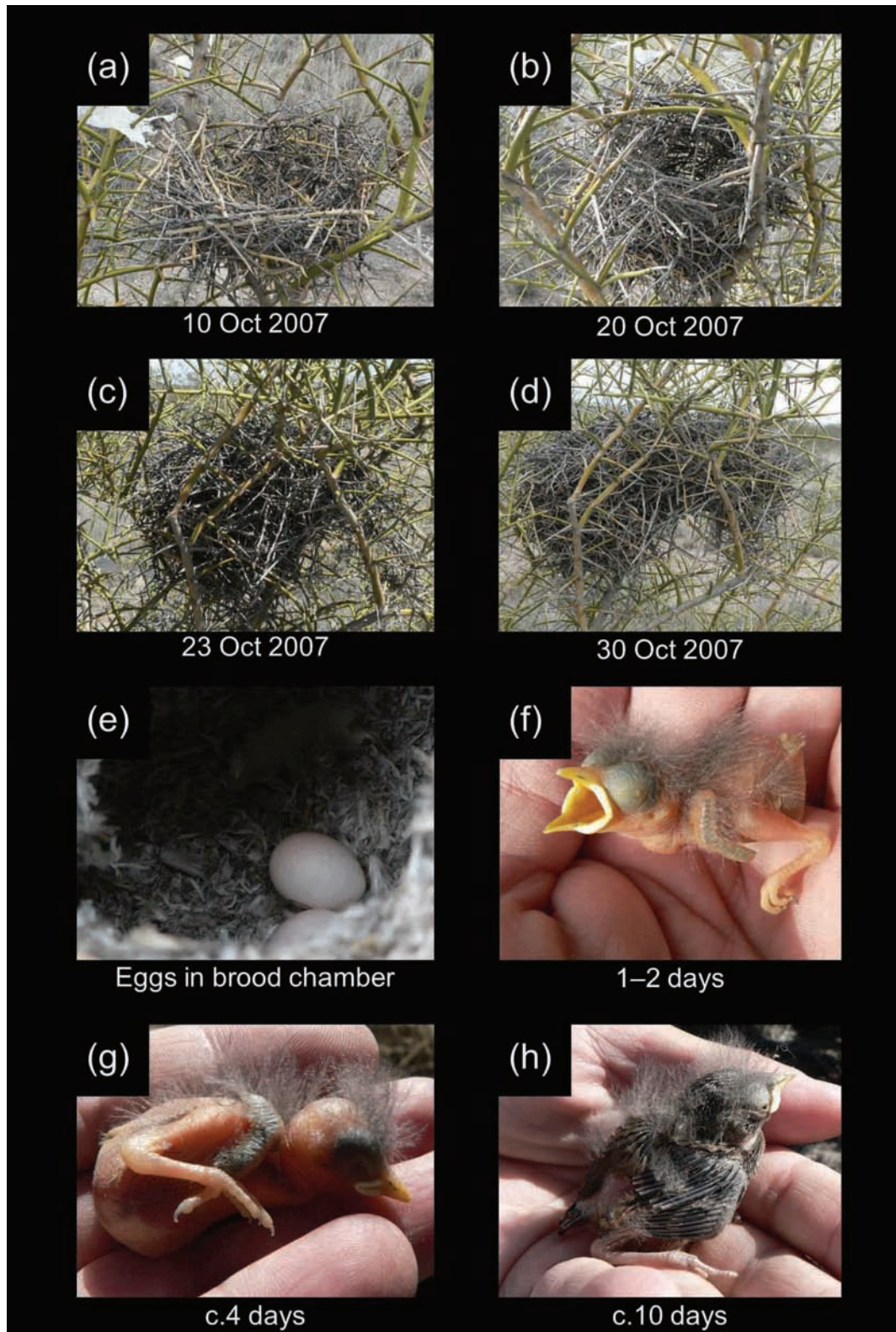


Figure 2 (facing page). Patagonian Canastero *Pseudasthenes patagonica* Nest 2 at different construction phases (a–d), eggs in brood chamber seen through the access hole cut by us (e) and nestlings (f–h). Days refer to estimated nestling ages.

brood chamber was lined with soft plant material. All were constructed of thorny twigs, gourd-shaped, with a lower brood chamber connected to an entrance tube (Fig. 2d). The brood chamber was lined mainly with leaves of *S. flaginoides* and pappi of *C. avellaneda* (Fig. 2e). Nest dimensions are in Table 1.

**Eggs.**—First eggs were laid on 11–13 October (Nest 1, three eggs), 10–15 November (Nest 2, four eggs) and 26–27 October (Nest 3, three eggs). Eggs white (Fig. 2e) although one had brown splotches which could have been blood or faeces. Egg measurements appear in Table 1 and agree with published data<sup>7</sup>. Incubation started on 17 October (Nest 1), 20 November (Nest 2) and 30 October (Nest 3). Nest 2 was predated during incubation (2–4 December).

**Nestlings.**—Eggs hatched sometime on 1–2 November (Nest 1) and c.15 November (Nest 3). Shortly after hatching, nestlings had sparse greyish dorsal down, closed eyes, yellow flanges, bill and mouth lining (Fig. 2f), and weighed 3.4, 3.6 and 3.8 g (Nest 2). These nestlings were predated sometime on 4–6 November through the styrofoam-covered hole. Older nestlings (c.4 days) in Nest 3 on 19 November had closed eyes and wing feather shafts were emerging from the skin (Fig. 2g). On 25 November nestlings (c.10 days) had started to open their eyes and feathers were emerging from the shafts on wing, tail, back and breast (Fig. 2h). On 28 November only two nestlings (13 days) were present. They were highly mobile, fully feathered and weighed 18 and 19 g. On 1 December, the nest was intact and empty. It is unclear if the nestlings fledged or were predated. Fledging is possible as the nestlings were c.15 days old and the nestling period of the similarly sized, but not especially closely related<sup>2</sup>, Short-billed Canastero *Asthenes baeri* is 14 days<sup>9</sup>. Our observations, suggest an incubation period of 15–16 days which also agrees with data for *A. baeri*<sup>5,9</sup>. These are the first data describing nest building, incubation and nestling development for the newly recognised genus *Pseudasthenes*.

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