



Expansion of the Breeding Range of Common Poorwill (*Phalaenoptilus nuttallii*) in British Columbia

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Abstract

New breeding records of Common Poorwill (*Phalaenoptilus nuttallii*) in British Columbia outside the previously known breeding range in the Okanagan valley (Cannings et al. 1987, Campbell et al. 1990b) were recently uncovered in historical field diaries and nest cards submitted to the British Columbia Nest Record Scheme, since publication of *The Birds*

of British Columbia (Campbell et al. 1990b). These records have expanded knowledge of the species' breeding range 280 km northwestward and 265 km eastward in British Columbia. The breeding distribution of the Common Poorwill coincides with the rocky, open, hilly dry forests or sagebrush-steppe habitats that occur across the southern quarter of the interior of the Province.



Figure 1. Basic biology and ecology of Common Poorwill, the smallest member of the nightjar family, has been studied in British Columbia by Dr. Mark Brigham and his students (e.g., Brigham, 1992, Brigham and Barclay 1992, Csada et al. 1992). It is a challenging species to research because of the bird's nocturnal behaviour and cryptic colouration. The most northern limit of the poorwill's breeding range in North America is found in the dry, low elevation bunchgrass and Douglas-fir hills in the Chilcotin-Cariboo region of British Columbia. *Photo by Mark Nyhof, near Burnell-Sawmill Lake, BC, 22 May 1998.*

Introduction

The breeding range of Common Poorwill (*Phalaenoptilus nuttallii*; Figure 1) in North America reaches its northern limits in Canada in south-central British Columbia, southeastern Alberta, and southwestern Saskatchewan (Csada and Brigham 1992). In British Columbia, the centre of abundance is the Okanagan valley where it breeds in open, dry ponderosa pine (*Pinus ponderosa*) and Douglas-fir (*Pseudotsuga menziesii*) forests and sagebrush-steppe habitats from Osoyoos north 250 km to Coldstream (Campbell et al. 1990b) (Figure 2). There are many widely scattered records for the spring, summer, and autumn seasons elsewhere across the southern third of the province. These non-breeding occurrences range from Victoria on southern Vancouver Island east to Skookumchuck in the East Kootenay and north to Golden and west through the Thompson-Nicola region to the vicinity of Riske Creek and Alkali Lake in the Cariboo-Chilcotin area (Campbell et al. 1990b).

Since at least the late 1960s, Common Poorwills have been reported calling during the spring and summer months outside the known breeding locations in the Okanagan valley but evidence of breeding, such as nests with eggs (Figure 3) or chicks and/or flightless young, was lacking. These vocalizations were distributed locally in the Cariboo-Chilcotin region between Williams Lake and Riske Creek south to Alkali Lake, near Princeton, in the Thompson-Nicola region, in the vicinity of Shuswap Lake, near Trail, and at scattered locations in the southern Rocky Mountain Trench in the East Kootenay. While researching material for a biography on the late Glenn R. Ryder (Campbell and Henderson 2013) RWC discovered two nests of Common Poorwill in his field notes at Tamarack Lake, near Skookumchuck, in the East Kootenay. This prompted a search of current nest cards in the British Columbia Nest Record Scheme for other localities outside the known breeding distribution in the Okanagan valley. Nine new nest records were discovered at seven locations that changes the known breeding distribution in British Columbia since Campbell et al (1990b).

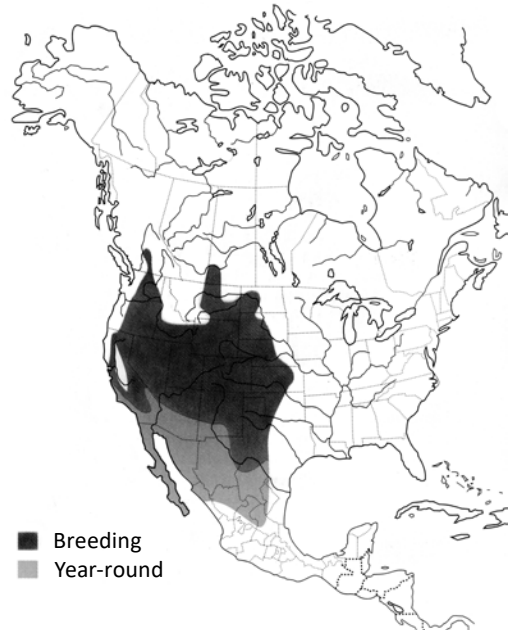


Figure 2. Common Poorwill breeds in western North America. Tongues of suitable nesting habitat for this caprimulgid extend into south-central British Columbia, southeastern Alberta, and southwestern Saskatchewan from the northern United States (Csada and Brigham 1992). Permission to reproduce this map was obtained from *Birds of North America Online* <http://bna.birds.cornell.edu/bna>, maintained by the Cornell Lab of Ornithology.



Figure 3. The eggs of Common Poorwill are pure white and easily discovered in appropriate nesting habitat. Photo by R. Wayne Campbell, near Burnell-Sawmill Lake, BC, 29 May 1998.

Nesting Locations

Campbell and Sealy (2014) mentioned an ambitious volunteer program to transfer historical breeding records post-*The Birds of British Columbia* (Campbell et al. 1990a,b, 1997, 2001) to the BC Nest Record Scheme (BCNRS; see Myres et al. 1957). The main source of information for that task was extracted from the field notes of early naturalists and collectors dating back to 1891. For example, during a 5-year period between 2008 and 2012, a total of 58,922 historical breeding records was transferred to the BCNRS. In addition, another 59,733 nest cards were received from current participants in the Scheme for the same period (Campbell et al. 2013). The sources for all breeding records for Common Poorwill in this article were derived from that program.

Complete details for the new locations are listed below from west to east across the province. Global Positioning System co-ordinates are actual locations for nest sites.

Sheep Creek Hill (Highway 20) (10U 548907E 5756899N)

Sheep Creek Hill (at the switchback) is located about 2.8 km southwest of Sheep Creek bridge over the Fraser River on Highway 20. It is located 23 km due southwest of Williams Lake. Access to the Common Poorwill nest site is off a dirt road on the left at the base of Sheep Creek Hill 2.3 km south southwest of the bridge (Figure 4). Suitable Common Poorwill habitat, about 330 m long and 78 m wide, parallels the west side of the road. It consists of a dry, open grassy and shrubby (e.g., saskatoon [*Amelanchier alnifolia*]) hillside scattered with Douglas-firs. A few large boulders and branches and trunks of fallen trees litter the ground. The site lies at 605 m elevation.

Common Poorwill was first recorded at this location by Anna Roberts (pers. comm.) in the early 1980s, and later she and RWC visited the site. Since then three nests have been reported.

July 25, 1985 – An adult was flushed from the ground, about 1 m away, by RWC while traversing the hillside following a family of Dusky Grouse (*Dendragapus obscurus*). A nest with 2 white eggs was discovered next to a short flat stump about half

way up the hillside. The eggs were laid on the bare ground with a few conifer needles and bark chips in the slight hollow. The stage of incubation determined by a water test (Van Paasen et al. 1984, Ackerman and Eagles-Smith 2010) suggested the eggs were about two-thirds incubated. No nearby roosting adults were found.

July 20, 2008 – Two broods, about 30 m apart, were found by photographer Jim Reid both on the ground amid short grass beside a fallen dead tree limb. *Brood # 1* – a roosting adult was flushed about 1 m from two chicks about one-half grown. One chick appeared slightly larger than the other. The asymmetric chick sizes are due to differences in time of hatching (Csada and Brigham 1992). *Brood # 2* – a brooding adult was flushed from a single chick that was about one-third grown. A short hissing sound by the disturbed adult suggested that another chick was hiding nearby.

Lytton (10U 601315E 5566621N)

Lytton is located in the Fraser Canyon at the confluence of the Thompson River and Fraser River. The community lies on the east side of the Fraser River, south of the mouth of the Thompson River. During a return trip to Scotch Creek in the North Shuswap via the Fraser River Canyon, Glenn Ryder and his brother Donald stopped at Lytton to eat and spend some time observing wildlife. Details from Glenn's diary for a Common Poorwill nest, extracted verbatim, follows:

July 19, 1962 – *I flushed up a female from a nest in some short grass plants and shrubs at this site of the Sand Blows [sand dunes]. The (2) young are not yet flying But are nicely feathered out with flight feathers. I also flushed up the male not far off in area.*

The nest site was located on an east side road off Highway 12 about 490 m north of the bridge over the Thompson River. The elevation is 209 m.

Barnes Lake (Ashcroft)
(10U 623313E 5617533N)

Barnes Lake is located about 4 km southeast of Ashcroft on Highway 97C in the Thompson-Nicola Regional District. It is a popular fishing and camping site. The area is surrounded by sagebrush-steppe rolling hills typical of semi-arid grasslands where daytime temperatures over 38°C (100°F) are common in summer.

June 30 and July 1, 1990 – About 23:30 hrs at least two different Common Poorwills were heard calling in hills across the lake by Mike and Amanda Reilly. The following morning the location (el. 734 m) was searched for nests. Grasses and small shrubs covered the hillside with scattered conifers and a few small rocky outcrops. An incubating Common Poorwill was flushed from a nest containing two eggs and settled about 50 m away on top of a ridge. No nest materials were visible. The eggs were laid on bare ground next to a fallen dead branch under a large conifer.

Lac du Bois Grasslands Park (Tranquille)
(10U 674670E 5625395N)

This site is located off a branch of a gravel forest service road about 3.4 km north northwest of Tranquille on the northeast side of Kamloops Lake. It is parkland habitat on a hillside with scattered Douglas-fir and ponderosa pine, shrubs such as common rabbit-brush (*Chrysothamnus nauseosus*) and saskatoon, and ground cover of bluebunch wheatgrass (*Pseudoroegneria spicata*). Patches of bare soil are sprinkled with crustose lichens and small rocks.

July 6, 1985 – While stopping to count and age a small group of California Bighorn Sheep (*Ovis canadensis californiana*), RWC heard a Common Poorwill calling from the nearby hillside. The immediate area was searched for a nest and about 20 minutes later an adult was flushed from the ground and flopped away without calling or hissing. A nest scrape with a single egg was found among ponderosa pine needles and a fallen dead branch under a lone ponderosa pine tree. The egg was tested in water, which indicated that incubation had just started. The

nest was at 800 m elevation.

Scotch Creek (Shuswap Lake)
(11U 328895E 5643307N)

Scotch Creek is a small community located on the northern shore of Shuswap Lake about 28 km east of Chase. In summer 1962, Glenn Ryder was helping his brother Donald build a house in Scotch Creek and frequently took time off to explore the immediate area for wildlife. During his rambles Glenn found a Common Poorwill nest. Details from his diary, extracted verbatim, follow:

August 14, 1962 – *I flushed Both Adults upon the rock ledges of the South face of Scotch Creek Mtn. The Adults were some ways apart on the Mtn. But when I flushed up the female a Nest was hidden in short weeds and Plants on a ledge of rock about (2) feet wide at Best. Nest is just a Bare spot with no Materials But hidden in weeds (2) Young that are Big. They stayed in Nest. Big enough to leave anytime.*

The nest site was about 2.1 km northeast of Scotch Creek at 420 m elevation.

Columbia Gardens (Trail)
(11U 457116E 5434387N)

Columbia Gardens is a ghost town located in southeastern British Columbia in the West Kootenay region. It is located 9.7 km southeast of Trail and 4.8 km southwest of Fruitvale along Highway 22A. The nest site was at elevation 655 m on a hillside about 0.8 km south in a straight-line from Columbia Gardens. The nesting habitat was described as a hilly landscape covered with grasses and a few bushes with scattered ponderosa pines with a few copses trembling aspen (*Populus tremuloides*) copses at lower elevations. Rocky areas and bare patches of soil were also characteristic of the area. Jim Patterson visited the nest site twice.

July 20 and 30, 1996 – An adult was flushed from two eggs laid on bare ground on a hillside among a rocky area with a nearby bush or two. No nest material was evident. Ten days later the nest was empty.

Tamarack Lake (Skookumchuck)
(11U 585727E 5531153N)

Tamarack Lake is located 5 km west northwest of Skookumchuck in the East Kootenay area in southeastern British Columbia. The lake is 980 m long and 360 m wide and lies at 856 m elevation.

Keith Smith, an artist friend of Glenn Ryder's, lived on a 121-hectare (300 ac) ranch at the north end of Tamarack Lake from the late 1970s through the 1980s. He was interested in having Glenn inventory plants and animals on the property and invited him to spend whatever time he could document the wildlife. Glenn spent 87 days there in 1976 and 42 days in 1979. During the first visit Glenn identified 288 species of plants and animals. Birds comprised 123 species (43%) of which 51 were found nesting (Campbell and Henderson 2013). Soon after Glenn arrived at Tamarack Lake Ranch, he sketched a working map of the layout of the area so he could record notable wildlife sightings, such as herds of Rocky Mountain elk (*Cervus elaphus nelson*), foraging White-tailed Deer (*Odocoileus virginianus*), and unusual nesting birds (Figure 4).

Highlights from Glenn's notes that pertained to Common Poorwill, extracted verbatim, follow:

1976: June 9 to September 3

June 29 – [earliest record]. ♂ was heard Calling on the Rocky hills north of my Camp By the long Meadows this evening about 11.30 p.m.

July 7 – 1 heard Calling over the east Bluffs and Northeast of Ryder Ridge (Figure 5).

July 22 – 2 Callings up on the Northwest Ridge west side of the Long Meadow area and Back of my Camp 10.30 P.M.

July 23 – 1 heard Calling from the same Bluffs North of my Camp time 10 to 11.00 P.M. The Poorwill kept up the Calls for at least 5 minutes.

July 25 – 1 Calling at 10.00 P.M. Back of my Camp.

August 10 – [latest record] 2 heard Calling to each other up on the Rocky Ridge Northwest of my Camp at 11.30 P.M.

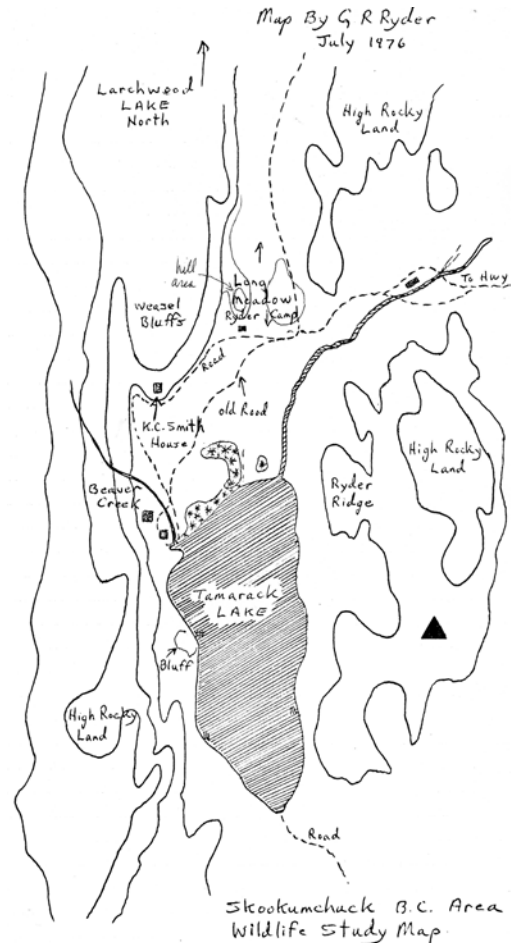


Figure 4. During his study of plants and animals in the Tamarack Lake area, Glenn Ryder produced a base map to keep track of where herds of Rocky Mountain Elk foraged and loafed during the summer. The field map was also used to record specific locations for noteworthy records, including the precise nest site (triangle) of the Common Poorwill. Sketch by Glenn R. Ryder, June 1976.

1979: June 3 to July 24

June 16 to 18 – [earliest records]. 2 ♂s Calling this evening; 1 on open rock slopes southwest of the Cabin, the second due East of Cabin on south tip of

Ryder Ridge area. No doubt nesting up there.

June 21 – [first nest]. *Adult flushed from 2 eggs on ground on hillside with little vegetation.*

June 23 – 1 ♂ on Ryder Ridge calling at 11.00 P.M.

June 24 & 26 – a pair on the top of the highest point on Ryder Ridge. *The two birds were on the ground in the grasses and stunted Saskatoon Shrubs and both flushed together and left area quickly. A check showed no real nest and no eggs yet. I will check area again.*

June 27 – 1 ♂ Calling on East Ridge east of the Marsh on the south end of Ryder Ridge at 11.00 P.M.

July 3 – [second nest]. *2 Adults were flushed from the ground in a dry grassy area on the top of this Rocky ridge, the highest point in Area above the Marsh. Eggs (2) whitish, laid on open ground among Broken Fir Bark chips. By a old D. Fir Stump. 2 ♂s Calling in Area on Ryder Ridge plus (6) on a ridge southwest of the Cabin along the Lake.*

July 4 – 2 heard Calling tonight at 11.00 P.M. *from their nest site on Ryder ridge east across the Sedge Marsh from the Cabin. The male appeared to be flying over the Marsh feeding.*

July 5 & 6 – 1 or 2 calling from Ryder Ridge.

July 7 – nest check...*Due to me flushing her on July 3rd her nest with the whitish eggs had been taken to a new site [nearby]. Photos taken (Figure 6). I did not spend much time in area as I did not want to disturb her again. 1 ♂ Calling in evening south of Cabin half way down west side of lake [Tamarack].*

July 10 – 2 Calling about 11.00 P.M.; one on Ryder Ridge plus one south of Ryder Ridge.

July 12 – 4♂s heard Calling; two near the Camp plus 2 in distance. *Possibly some (4) Nests in Area?*

July 19 – 2 heard Calling in area of Ryder Ridge.

July 23 – [last date before leaving ranch]. 1 ♂ Calling from Ryder Ridge area.

At least four pairs of Common Poorwill may have nested in the vicinity of the north end of Tamarack Lake in 1979 (G.R. Ryder pers. comm.). It is known that nesting adults disturbed by humans may move eggs to a new site, as recorded by Glenn on 7 July (Csada and Brigham 1992).

Discussion and Summary

The new locations from Common Poorwill nest cards filed in the BC Nest Record Scheme since 1990,

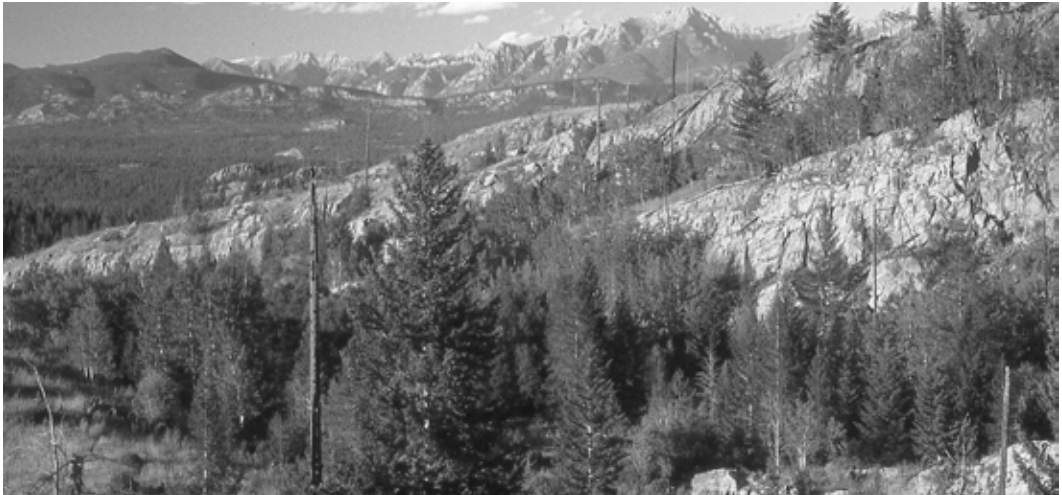


Figure 5. The “East Bluffs” and “Ryder Ridge” referred to in Glenn’s field notes. The Common Poorwill nest was located in the open, rocky hillside in the centre of the photograph. *Photo by Glenn R. Ryder, Tamarack Lake, BC, July 1976.*



Figure 6. The first nest of the Common Poorwill for the East Kootenay was well documented by Glenn Ryder in 1979. The two eggs were laid on the ground on a substrate of dry wood chips and small twigs partially protected by short grasses. *Photo by Glenn R. Ryder, Tamarack Lake, BC, 7 July 1979. BC Photo 4134 (see Campbell and Stirling 1971).*

both historical and recent, have significantly expanded the known breeding range for the species in British Columbia outside the Okanagan valley (see Campbell et al. 1990b; Figure 7). This includes a northwest expansion from the Okanagan valley of 280 km and an eastward expansion of about 265 km.

The breeding distribution of Common Poorwill in British Columbia is closely associated with rocky, open and hilly dry forests or sagebrush-steppe habitats (Figure 8) across the southern quarter of the interior of the Province. There are no breeding records from more closed, level (without topographic relief) dry ponderosa pine (Figure 9) or Douglas-fir forests across this area.

Within these general habitats Common Poorwill has a localized distribution and most new breeding locations are of single pairs. The exceptions are Sheep Creek Hill in the Cariboo region (2 nesting pairs) and Tamarack Lake in the East Kootenay (est. 2-4 nesting pairs around lake).

Three nests with eggs (this paper) were found, two in June (21st and 30th) and one in July (20th). Calculated dates for eggs are within the range of 16 May to 25 August reported by Cannings et al. (1987) and Campbell et al. (1990b). The latter date, however, may have been a nest with addled eggs. The latest date reported with eggs in the BC Nest Record Scheme is 17 August (Osoyoos) although the stage of incubation or condition of the egg was unknown.

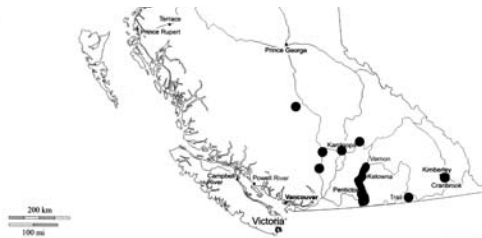


Figure 7. New breeding locations (circles) for Common Poorwill in British Columbia outside the previously known breeding range in the Okanagan valley (solid black). Nest locations, from west to east, are Sheep Creek Hill (Cariboo), Lytton, Baynes Lake (Ashcroft), Lac du Bois Grassland Park (Tranquille), Scotch Creek (Shuswap Lake), Columbia Gardens (Trail), and Tamarack Lake (Skookumchuck).

Six nests (this paper) with flightless chicks were found between 3 and 25 July. Calculated dates, using fledging times of 20-23 days (Csada and Brigham 1992) suggest that flightless young could be found as late as 3 August. The latest date reported with flightless young in the BC Nest Record Scheme (calculated) is 1 September (Oliver).

The extent of the breeding period in British Columbia, from egg laying to first flight, is possibly 111 days and extends from at least 14 May to 1 September. Common Poorwill is double-brooded in the Province with the first nesting beginning in late May or early June and the second nesting in late July or early August (Csada and Brigham 1992). Kalcounis et al. (1992) suggested that females may begin the second laying while the mate continues to feed the young at the first nest. †

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Figure 8. The Okanagan valley is the centre of breeding abundance for Common Poorwill in British Columbia and includes a variety of habitats from open grasslands to dense coniferous forests. Within this area, Common Poorwill prefers to nest in the upland shrub-grassland community with patches of saskatoon, bluebunch wheatgrass (*Pseudoroegneria spicata*), and areas of bare soil with woody debris (Demarchi et al. 1990). Note the nest with two white eggs in the lower right-hand corner of the photo below the tree stubs. *Photo by R. Wayne Campbell, near Burnell-Sawmill Lake, BC, 29 May 1998. BC Photo 4133.*



Figure 9. Nesting Common Poorwills prefer hilly parkland-type or sage-brush steppe habitats in British Columbia rather than a more closed level dry forest dominated by ponderosa pine and/or Douglas-fir. *Photo by R. Wayne Campbell, near Fernie, BC, 16 September 1994.*

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