

## FIELD STUDY

# Sillem's Mountain Finch *Leucosticte sillemi* revisited

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## Introduction

In June 2012 during a visit to western Qinghai, China, I photographed birds which were subsequently identified as Sillem's Mountain Finch *Leucosticte sillemi* (Kazmierczak & Muzika 2012). In May 2013 I returned to the area with two principal objectives: to revisit the location where the bird had been seen in 2012 to observe and photograph the species further; and to survey another area near the Kunlun pass, accessible from the Golmud–Lhasa road, where it might occur and which would also be an opportunity to acclimatise ourselves prior to the trek to the original site. I was accompanied by the Xining-based guide, Dorje.

## Itinerary

### *Around the Kunlun pass, 22–24 May 2013*

We left Golmud on 22 May and drove 160 km on the Lhasa road to the Kunlun pass. An unsealed road marked 'Yuzhu Peak Glacier' bears left 4 km after the pass and leads to the Yuzhu base camp, 8 km further on. At 6,178 m, Yuzhu is the highest peak in the area. The base camp is located at the foot of the peak, about 5 km to the north-east, beneath the edge of a glacier. I explored the area on foot during the afternoon of 22 May and on 23 May, covering about 15 km at 5,000–5,300 m. We spent the nights at the Budongquan guest house, 18 km from the pass on the road to Lhasa. I failed to see

any Sillem's Mountain Finches during this time, nor, more surprisingly, did I find any Tibetan Rosefinches *Kozlowia (Carpodacus) roborowskii* in the area. On 24 May, blizzards and snow prevented a return to the base camp and we surveyed a section of the road toward Lhasa instead, but again found no Sillem's Mountain Finches.

### *Yeniugou Valley, 25 May–2 June 2013*

The next morning we left Budongquan and drove back towards Golmud as far as the entrance to the Yeniugou Valley—accessed by an unsealed road, from where it takes 3 hours to drive the 110 km to 'Sillem Valley'. Over the following two days we walked 22 km, reaching 'Sillem base camp' on the afternoon of 27 May. Here we stayed for the next five nights. I surveyed the area around the base camp on the afternoon of 27 May and on 28–31 May, covering roughly 50 km at 4,900–5,200 m (Plate 1). Weather conditions were extremely variable, with periodic blizzards and snow forcing us to return to the camp on occasions; early morning temperatures ranged from -3°C to -12°C. On 1 and 2 June we made our way back along Sillem Valley and returned to Golmud.

## Sightings of Sillem's Mountain Finch

At 10h02 on 28 May, slightly above the camp, I found two female Sillem's Mountain Finches

**Plate 1.** Location of Sillem's Mountain Finch *Leucosticte sillemi* sightings, Yeniugou Valley, Qinghai, China, May 2013.



**Table 1.** GPS coordinates and altitudes

Kunlun pass	35.64023°N 94.06872°E	4,780 m
Turn toward Yuzhu peak	35.61646°N 94.05417°E	4,760 m
Budongquan guest house	35.51972°N 93.91211°E	4,608 m
Yuzhu base camp	35.62824°N 94.20239°E	5,015 m
Entrance to Yeniugou Valley	35.88577°N 94.36699°E	3,727 m
Entrance to Sillem Valley	35.88153°N 93.28020°E	4,575 m
Sillem base camp	35.85317°N 93.10400°E	4,911 m
1st SMF sighting (28/05/14)	35.85844°N 93.10604°E	5,007 m
2nd SMF sighting (29/05/14)	35.86346°N 93.08350°E	4,970 m
Tibetan Sandgrouse pass	35.87234°N 93.04699°E	5,088 m

feeding on the ground with a flock of six Tibetan Rosefinches (five females and one male). A minute or so later, a further single male and female Sillem's Mountain Finch joined the group. The male then flew and landed only 12–15 m away, allowing me to obtain several photographs (Plate 2). It fed on the ground for half a minute or so, then flew towards a female and chased her, in apparent courtship behaviour. During the chase I heard high-pitched calls, although it was not clear whether one or both birds were calling. Both appeared to land behind a small ridge several hundred metres away. I took further pictures of the remaining females but could not relocate the pair.

At 15h48 on 29 May, less than 1 km west of the first sighting, I saw a single female feeding on the ground and observed her for about 15 minutes and approached to within 20 m to take several pictures (Plate 3). I found no other finches in the vicinity.

### Description

These sightings and the images obtained—of much better quality than those from 2012 (Oriental Bird Images)—confirm the identification features of the male Sillem's Mountain Finch, as described in Roselaar (1992). The images also show the long, dense bristles that cover the nostrils at the base of the bill of both male and female birds, a feature very similar to Tibetan Rosefinch but absent in Brandt's Mountain Finch *Leucosticte brandti*.

The female Sillem's Mountain Finch had not been described before images were obtained in 2012 and 2013. Roselaar (1992) suggested that 'the fact that the juvenile of this species is far more heavily streaked than the adult male... may indicate that the female is streaked too'. This astute deduction was unfortunately neglected by several subsequent authors; neither MacKinnon & Phillipps (2000) nor Rasmussen & Anderton (2012) make any mention of possible differences between the sexes.

The 2013 images confirm the assumption made by Kazmierczak & Muzika (2012) that the female

Sillem's Mountain Finch superficially resembles the female Tibetan Rosefinch, but with paler and less streaked underparts, and has the same structural differences (bill shape, primary projection) that differentiate the males of these species.

Given the timing of our visit, it is not surprising that I did not see any juvenile birds. One of the two specimens collected by Sillem in September 1929 was a juvenile (Sillem 1934), and it is likely that the moult into adult plumage takes place during the winter.

### Other notable sightings

Tibetan Rosefinch appears relatively common around Sillem base camp, with a total of 39 bird-days (25 females and 14 males) while we were there. The majority of them (36 bird-days) were on the south-facing slope just beneath the camp, an area of about 1.5 x 0.5 km at 4,950–5,020 m, the same area as both sightings of Sillem's Mountain Finch. Tibetan Snowcock *Tetraogallus tibetanus* was heard regularly and seen twice around Sillem base camp. Tibetan Sandgrouse *Syrhaptes tibetanus* was seen once at the entrance to the Sillem Valley (a pair of birds overhead), then at a pass 6 km west of Sillem base camp (one, then two birds overhead).

### Discussion

#### Altitude

The sightings in Yeniugou in 2012 and 2013 were all made at 4,950–5,007 m, whilst the type specimen was collected at 5,125 m (Sillem 1934). The absence of any other sightings, especially in Yeniugou, which has been visited by several naturalists over the past two decades, suggests that the bird does not occur at lower elevations. The assumption that Sillem's Mountain Finch is a high-altitude specialist is consistent with its wing length, greater than that of both Brandt's Mountain Finch and Tibetan Rosefinch. It could challenge Red-fronted Rosefinch *Carpodacus puniceus* for the title of the bird which breeds at the highest altitude in the Palearctic region.



**Plate 2.** Male Sillem's Mountain Finch, Yeniugou, Qinghai, China, 28 May 2013.

**Plate 3.** Female Sillem's Mountain Finch, Yeniugou, Qinghai, China, 29 May 2013.





**Plate 4.** The low-gradient, south-facing slope providing feeding habitat for Sillem's Mountain Finch, Yeniugou, Qinghai, China, May 2013.

Although several peaks in the area exceed 5,500 m, elevations in excess of 4,800 m are generally hard to reach and require several days' trekking. As for the maximum altitude at which the bird occurs, it can only be said that in this part of the Kunlun range, land above about 5,800 m is permanently snow- or ice-covered, even on south-facing slopes, meaning the species is unlikely to occur above that altitude.

#### **Habitat**

All the sightings of Sillem's Mountain Finch (and most sightings of Tibetan Rosefinch) in 2012 and 2013 occurred within a small rectangle of low-gradient, south-facing slope (dubbed the 'Sillem rectangle'), dampened by melting snow from the overlooking ridge, which appeared to have richer ground vegetation than any other part of the area (Plate 4). I took pictures of two of the most common plants, one of which was identified as a cushion plant *Androsace tapete* (Plate 5) by Dr Wang Wenying, a botanist at Qinghai Normal University in Xining. He could not identify the second plant.

When observing the feeding behaviour of Tibetan Rosefinch, it appeared to be looking for tiny fresh 'leaves' of these ground plants, which it would pluck after repeatedly pecking the surface of the plant with its bill. My observations of Sillem's Mountain Finch's feeding behaviour were briefer, less than a minute for the male, a few minutes for one of the females and about 15 minutes for another female. All the birds were feeding on fresh leaves and stems of the same plants as the Tibetan Rosefinch, but they simply plucked them directly. I did not see them pecking at the surface of the plants like Tibetan Rosefinches.

These observations suggest that the specific feeding requirements of Sillem's Mountain Finch and Tibetan Rosefinch can only be satisfied in areas where these plants are found in sufficient density, which depends on a combination of topological factors: elevation, position, slope gradient and the presence of a water source (melting snow) above the location. These factors are likely to vary seasonally and it seems certain that fresh leaves and stems could not be obtained in winter.

The 'Sillem rectangle' supported other feeding birds, most commonly Horned Lark *Eremophila alpestris* and Brandt's Mountain Finch, but both were equally common in other adjacent habitats, regardless of vegetation cover, and fed on bare ground, perhaps looking for buried seeds or roots, rather than the fresh parts of cushion plants.

#### **Distribution**

The type locality (35.433°N 78.216°E) is about 1,350 km from Yeniugou. Both sites are part of the

**Plate 5.** Cushion plant *Androsace tapete* on which Sillem's Mountain Finch feeds, Yeniugou, Qinghai, China, May 2013.



Kunlun range and are linked by a continuous stretch of land 5,000 m or more in altitude. Further to the east, the Kunlun range continues at similar elevations as far as the Yuzhu Feng peak and a further 80 km beyond, but then drops below 5,000 m and only isolated peaks thereafter exceed that height. Based on the '5,000 m and above' hypothesis, suitable habitat in the Yuzhu Feng (and Kunlun pass) area is likely to support Sillem's Mountain Finch. The Yuzhu Feng base camp is only 100 km from the Yeniugou sighting. However, 400 km further east from Yuzhu Feng, at the Er La pass area (a location on the Xining–Yushu road frequently visited by birdwatchers as it supports Tibetan Rosefinch and Tibetan Sandgrouse, with summits at around 4,800 m), Sillem's Mountain Finch appears to be absent. The same hypothesis also rules out any location north of the Kunlun as the land drops quickly to less than 3,000 m, but isolated ranges to the south, such as the Tanggula range, 300 km or so away, should also be considered as possible for Sillem's Mountain Finch.

On the west side of its distribution, about 100 km or so east of the type locality, the Lhasa–Kashgar road crosses the Kunlun range at a pass above 5,000 m, a location which would certainly merit exploration (although there is no road that crosses the Kunlun range to the Kunlun pass). Further west and south from the type locality, suitable elevation for Sillem's Mountain Finch can be found in the extreme north of Ladakh in India, and further west in Pakistan where the Kunlun range meets the Karakoram range.

In terms of density, Sillem's Mountain Finch appears to be at best uncommon in Yeniugou, occurring at a lower density than both Tibetan Rosefinch and Brandt's Mountain Finch. In winter, it seems likely that Sillem's Mountain Finch does not undertake any significant migration away from its breeding grounds, but may make nomadic movements linked to weather patterns and the availability of snow- and ice-free ground.

### Taxonomy

It is worth revisiting what Roselaar (1992) had to say on the taxonomy of Sillem's Mountain Finch. Following his comments on the possible description of the female, he said: 'If this assumption is valid, then *L. sillemi* perhaps is better included in *Kozlowia*, showing the same adaptations to high-mountain life, with very long wings and short tail and leg...As the position of *Kozlowia* is not definitively established and the female of *L. sillemi* is not known, *sillemi* is here kept in *Leucosticte*'.

Subsequent authors and taxonomists seem to have neglected Roselaar's remarks, maybe

because the existence of *sillemi* itself was still in doubt. Tibetan Rosefinch, which at the time of Roselaar's paper was placed in its own genus *Kozlowia*, has been reintegrated within *Carpodacus* in most modern lists. Recent taxonomic and phylogenetic studies focusing on Fringillidae (Zuccon *et al.* 2011, Tietze *et al.* 2013) confirm this trend but unfortunately omitted *sillemi* from the scope of their studies, perhaps because of the lack of available genetic material. DNA analysis, perhaps using samples from the type specimens kept at the Naturalis Biodiversity Center, Leiden, may help clarify the taxonomic uncertainty surrounding *sillemi*, and more data and sightings are required to confirm its distribution and biology.

Now that the continuing existence of Sillem's Mountain Finch has been proven, and as the female appears to resemble a *Carpodacus* rosefinch, the taxonomic status of *sillemi* should be reconsidered, with inclusion within *Carpodacus* a distinct possibility.

### Conclusion

Although I was successful in seeing and photographing both male and female Sillem's Mountain Finch, one significant thing I learned during the 2013 trip is how difficult it is to find this bird, even at the appropriate altitude, and how specific its feeding requirements appear to be. I walked over 60 km at 4,950–5,300 m, plus the 45 km return trek at 4,600–4,950 m, and found the bird only at exactly the same spot as in 2012, on a small stretch of well vegetated slope, a habitat I could not find elsewhere.

For now, the surest way to observe Sillem's Mountain Finch is to go to the Yeniugou Valley, an arduous but enticing task which will surely be attempted by other birdwatchers in the near future. The fact that I failed to locate Sillem's Mountain Finch on the slopes of Yuzhou peak near the Kunlun pass does not rule out its presence there, and all birdwatchers visiting this part of the Tibetan plateau are encouraged to try this location, as well as the Tanggula pass area further south on the Tibetan border.

At the western end of its assumed distribution, the high elevation areas of Ladakh, close to the Chinese border, are certainly worth exploring. For example, the high Shyok Valley is less than 100 km away from the type locality. Breeding is likely to occur between mid-June and August, as in other high-elevation passerines of the Tibetan plateau, with young birds fledging by the end of August. Trips during the summer months could therefore yield data on the bird's breeding biology, which is completely unknown at present.

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## Appendix

### Bird list

**Tibetan Snowcock** *Tetraogallus tibetanus przewalskii* Seen 28 and 31 May around Sillem camp and frequently heard in the area.

**Ruddy Shelduck** *Tadorna ferruginea* Pairs 24 May near Budongquan and 25 May in Yeniugou main valley.

**Saker Falcon** *Falco cherrug* One in flight 26 May while trekking toward Sillem base camp at about 4,700 m.

**Lammergeier** *Gypaetus barbatus aureus* Singles in various locations above 4,500 m.

**Himalayan Vulture** *Gyps himalayensis* One around Yuzhu base camp, 22 May, and a group feeding on dead sheep, 25 May at about 4,000 m while driving up Yeniugou Valley.

**Cinereous Vulture** *Aegypius monachus* One with Himalayan Vultures, 25 May.

**Upland Buzzard** *Buteo hemilasius* Regular in all locations/elevations.

**Steppe Eagle** *Aquila nipalensis* Two immature birds, 25 May at about 4,400 m in higher Yeniugou Valley.

**Golden Eagle** *Aquila chrysaetos daphanea* One adult, 26 May while trekking toward Sillem base camp.

**Tibetan Sandgrouse** *Syrrhaptes tibetanus* Birds in flight, 25 May at about 4,575 m and 29 May at about 5,075 m. Sound-recording made and uploaded to Xeno-canto (<http://www.xeno-canto.org/species/Syrrhaptes-tibetanus>)

**Hill Pigeon** *Columba rupestris* Small flock, 25 May at the entrance to Yeniugou Valley about 3,700 m.

**Large-billed Crow** *Corvus macrorhynchos tibetosinensis* Five along the road to Kunlun pass, 22 May.

**Common Raven** *Corvus corax tibetanus* Seen twice at the same location, on the trek 6 km before Sillem base camp at about 4,800 m.

**Tibetan Ground Tit** *Pseudopodoces humilis* Seen and heard around the entrance to Sillem Valley and slightly above, but not around Sillem base camp.

**Hume's Lark** *Calandrella acutirostris tibetana* Three, 25 May in Yeniugou main valley.

**Asian Short-toed Lark** *Calandrella cheleensis seebohmi* Two, 24 May in Budongquan.

**Horned Lark** *Eremophila alpestris przewalskii* Common above 4,000 m, mostly in loose flocks.

**Black Redstart** *Phoenicurus ochruros rufiventris* One, 22 May on the way to Kunlun pass.

**White-winged Redstart** *Phoenicurus erythrogasterus grandis* Around Yuzhu and Sillem base camps, often in pairs, not lower than 4,800 m.

**Desert Wheatear** *Oenanthe deserti oreophila* One in Yeniugou main valley, 25 May.

**Pied Wheatear** *Oenanthe pleschanka* One in Yeniugou main valley, 25 May.

**White-rumped Snowfinch** *Montifringilla taczanowskii* Seen around Sillem base camp and slightly below during the trek.

**Rufous-necked Snowfinch** *Montifringilla ruficollis isabellina* Seen around Yuzhu and Sillem base camps.

**Plain-backed Snowfinch** *Montifringilla blanfordi blanfordi* Seen at all locations above 4,200 m.

**Brandt's Mountain Finch** *Leucosticte brandti pallidior* Commonest species, mostly in flocks of up to 25 birds, all above 4,500 m.

**Sillem's Mountain Finch** *Leucosticte sillemi* See text.

**Tibetan Rosefinch** *Kozlowia (Carpodacus) roborowskii* See text.

**Little Bunting** *Emberiza pusilla* One near Yuzhu base camp, 22 May, most likely a late migrant.