“Golden-spectacled Warblers”

Himalayas

Seicercus burkii

Seicercus whistleri

China

Seicercus omeiensis

Seicercus valentini

Seicercus tephrocephalus

Seicercus soror

**Golden-spectacled Warblers**

**Himalayas**

(S. *whistleri* also in W Myanmar)

- little grey on crown; lateral crown-stripes distinct on forehead; eye-ring broken at rear; wing-bar lacking/faint in >50%; 2 white outer tail-feathers (see next p.)

---

**Seicercus burkii**

---

**Seicercus whistleri**

from S. *burkii* by lateral crown-stripes less distinct, esp. anteriorly; eye-ring complete; wing-bar distinct; 3 white outer tail-feathers (see next p.)

**China**

(S. *tephrocephalus* also in Myanmar)

---

**Seicercus omeiensis**

- extremely similar to S. *valentini*; crown pattern on average more contrasting

---

**Seicercus tephrocephalus**

- most extensively and purest grey on crown; lateral crown-stripes distinct on forehead; eye-ring broken at rear; wing-bar lacking/faint in c. 90%

---

**Seicercus valentini**

- least distinct crown pattern of Chinese species; wing-bar lacking/faint in c. 90%; least white on outer tail-feathers (see next p.)

---

**Seicercus soror**

- grey on crown; complete eye-ring; wing-bar distinct/fairly distinct in c. 65% (lacking <10%); 2 white outer tail-feathers (see next p.)

---

Outer tail-feathers.

S. burkii          S. whistleri

S. tephrocephalus  S. omeiensis  S. soror  S. valentini

# Usually no white. * Sometimes white in population in W Myanmar/E India. (Drawing: Per Alström)
The different species of “Golden-spectacled Warblers” are more easily separable by voice than by appearance. They are also easily distinguishable from the closely related White-spectacled (S. affinis) and Grey-chinned (S. poliogenys) Warblers.

Himalayas
Seicercus burkii – S. whistleri
Songs are easily separable. That of S. burkii is faster (due to more elements per strophe), more varied, with on average higher frequency, wider frequency range, and, most importantly, some strophes end in rattling trills of varying length. The song of S. whistleri never includes any trills, and practically all strophes begin with a short stereotyped introductory note (“chu”). The song of S. burkii closely resembles the song of the allopatric S. omeiensis, but has a higher proportion of phrases and complex (multi-element) trills. The song of S. whistleri is very similar to the allopatric sister species S. valentini, but is on average higher-pitched.

Calls are also easily distinguishable. S. burkii calls with a soft, “whipping” “huit”, less commonly doubled. Call of S. whistleri is apparently geographically somewhat variable, and the variation is not fully understood, e.g. soft, whistled “chip” (throughout Himalayas); “tiu(-)du” (West Bengal, India); and ”chi-di” (Arunachal Pradesh, India).

Seicercus affinis, S. poliogenys
Songs of S. affinis and S. poliogenys are readily distinguishable from each other and from S. burkii and S. whistleri. Both include rattling trills, unlike S. whistleri. The song of S. affinis is noticeably lower-pitched and covers a comparatively narrow frequency band, and typically begins somewhat falteringly. The song of S. poliogenys is distinctly higher-pitched and covers a broader frequency band than in S. affinis and has a less stuttering start; it resembles that of S. burkii, but is generally higher-pitched, with longer, more complex and more trilling strophes.

Calls of S. affinis and S. poliogenys are easily separable from each other and from S. burkii and S. whistleri: quick rising “questioning” “u-di-si”, whistled “ty-tyy-sit”, “ty-tyu” and “ty-tyee” in S. affinis; and a high-pitched, rising “ueest” in S. poliogenys.

W Myanmar/E India
Seicercus whistleri – S. tephrocephalus
Songs are easily distinguishable, e.g. by the high proportion of trills in the song of S. tephrocephalus, which are completely lacking in S. whistleri.

Calls are also easily separable; that of S. tephrocephalus is a short, rather subdued, soft “trrup” or “turup”, whereas that of S. whistleri is a soft “tiu”.

China
Seicercus valentini – S. soror – S. omeiensis – S. tephrocephalus
Songs of S. valentini and S. soror are rather simple, and are easily separable from the songs of S. omeiensis and S. tephrocephalus by the complete lack of trills. The song of S. soror is noticeably higher-pitched, with a broader frequency range and on average faster speed than that of S. valentini. The songs of S. tephrocephalus and S. omeiensis resemble each other, and it takes some practice to distinguish between them. The former has a higher proportion of trills, especially complex ones, and more phrases in the non-trilled strophes than the latter. Most importantly, the strophes of S. tephrocephalus usually begin with an introductory note (“chup”, “trup”, or similar) that is clearly separable from the rest of the strophe, whereas introductory notes are very rare in S. omeiensis.

Calls are characteristic in all species: in S. valentini a short, soft, deflected whistled “tiu”, occasionally doubled; in S. soror a short, rather high-pitched, thin “tsi(-)dit”, occasionally a single “tsrit”; in S. omeiensis a short, rather faint “chup” and doubled “chu(-)du”, sometimes also a sharp “tsip”; and in S. tephrocephalus a short, rather subdued, soft “trrup” or “turup”, which resembles double call of S. omeiensis but is softer, more slurred and less clearly disyllabic.

Seicercus affinis, S. poliogenys
Songs are distinct, see Himalayas. Both differ from S. valentini and S. soror by presence of trills. Song of S. affinis resembles songs of S. tephrocephalus and S. omeiensis, but is lower-pitched and covers a narrower frequency band, and begins more stutteringly. The song of S. poliogenys is distinctly higher-pitched than in S. tephrocephalus and S. omeiensis, and and less rattleing than in the former.

N Vietnam
Seicercus valentini – S. tephrocephalus – S. poliogenys
See China.
Mitochondrial DNA: six 'Golden-spectacled Warbler' species confirmed; non-monophyletic

The Golden-spectacled Warbler complex

This was previously classified as a single species with several subspecies, but was shown to be a complex of “cryptic species” that differ subtly from each other in plumage and structure. Importantly, studies of vocalizations and DNA showed all of them to be clearly differentiated, and up to four species have been found to breed on the same mountain, apparently without interbreeding.

Urban Olsson and I studied this complex throughout its breeding range in the Himalayas and mountains of Myanmar, China and northern Vietnam for 12 years, as well as in many museum collections in Europe, North America and Asia. We identified nine distinct groups, and suggested that five of these were separate species (Alström & Olsson 1999). One of them was previously unnamed, and we described it as Seicercus soror (soror meaning “sister”, alluding to its close similarity with the others). Another one (“tephrocephalus group 6”) was noted to be distinctive in morphology and vocalizations, and we remarked that it did not have a name. The latter was described in an independent study by Martens et al. (1999) as a new species, Seicercus omeiensis.

These six species (cf. Alström & Olsson 2000) are extremely similar in appearance, although there are slight differences in plumage and structure. For example, the two Himalayan species (Seicercus burkii and Seicercus whistleri) differ from all the others in having little or no grey on the crown (slightly more in the subspecies Seicercus whistleri nemoralis from western Myanmar and adjacent parts of India), and these two differ from each other in e.g. crown pattern (black stripes on side of crown more distinct on forehead, and yellow eye-ring thinly broken at rear in former species), tail pattern (two white feathers in former species, rarely with a little white on a third feather, as opposed to three white feathers in latter species), and structure (former species proportionately larger-billed and shorter-tailed than latter).

The songs and calls differ much more, and with practice all of the species can be separated by ear. For example, one of the Himalayan (Seicercus burkii) and two of the Chinese species (Seicercus tephrocephalus, Seicercus omeiensis) include rattling “trills” in their songs, unlike the three other species.

Where two or more species breed on the same mountain, they are largely or entirely altitudinally segregated (though in the non-breeding season they occur together). In China, where up to four species breed in the same area, Seicercus soror breeds at the lowest elevation, Seicercus omeiensis in the middle and Seicercus valentini at the highest elevation; when present, Seicercus tephrocephalus might overlap with the two former.

The paper by Martens et al. (1999) included mitochondrial DNA sequences from five species, which were found to be clearly different from each other. In a later study of mitochondrial DNA, we confirmed that the six species of “Golden-spectacled Warblers” were highly divergent (Olsson et al. 2004). We also found that, to our surprise, Seicercus burkii and Seicercus tephrocephalus were more closely related to Seicercus affinis and Seicercus poliogenys than to the other species of “Golden-spectacled Warblers”.