

**Table 4.** Differences in vocalizations between taxa.

	<i>soror</i> China (Shaanxi [ <i>n</i> = 1], Sichuan [ <i>n</i> = 7], Guizhou [ <i>n</i> = 1], Fujian [ <i>n</i> = 1])	<i>tephrocephalus</i> Sichuan, China	<i>tephrocephalus</i> Vietnam
Numbers	10 ind.; 5–24 (mean 13.9) strophes per ind.; 81 unique strophes; 45 unique phrases	9 ind.; 6–19 (mean 13.1) strophes per ind.; 120 unique strophes (73 without tremolos/trills); 44 unique phrases <sup>1</sup>	8 ind.; 8–28 (mean 16.6) strophes per ind.; 133 unique strophes (12 without tremolos/trills); 14 unique phrases <sup>1</sup>
Presence of introductory note in strophe	Present <sup>2</sup> (97.5% of unique strophes)	Occasionally present <sup>3</sup>	Present <sup>2</sup> (93.2% of unique strophes)
Characteristics of introductory note (Fig. 10)	Consistent structure, both intra- and inter-individually; 1 el.; top freq. 5.3–5.8 kHz (mean 5.6 kHz); bottom freq. 3.2–3.4 kHz (mean 3.3 kHz); freq. range 1.9–2.4 kHz (mean 2.2 kHz); mean freq. 4.3–3.6 kHz (mean 4.5 kHz); duration 46–53 ms (mean 49 ms)	Somewhat variable structure <sup>3</sup> ; 2 el.; top freq. 5.9–7.2 kHz (mean 6.5 kHz); bottom freq. 2.2–2.7 kHz (mean 2.4 kHz); freq. range 3.3–5.0 kHz (mean 4.1 kHz); mean freq. 4.2–4.7 kHz (mean 4.5 kHz); duration 37–69 ms (mean 52 ms)	Variable structure, both intra- and inter-individually (narrower frequency span; generally simpler structure; and more widely separated temporally compared to other el. in strophe); 1 or 2 el., sometimes given 2 (or 3) times
Tremolo in strophe	Not present <sup>5</sup>	Present (14–58% [mean 33.0%] of unique strophes; 3–11 [mean 4.8] el./tremolo)	Present (9–62.5% [mean 31.1%] of unique strophes; 3–13 [mean 7.3] el./tremolo)
Trills in strophe	Not present <sup>7</sup>	Present (0–27% [mean 6.2%] of unique strophes; 6–18 [mean 12.2] el./trill)	Present (37.5–91% [mean 61.9%] of unique strophes; 6–24 [mean 10.4] el./trill)
Frequency range of strophes <sup>10</sup>	Top freq. 5.9–7.7 kHz (mean 6.8 kHz); bottom freq. 2.3–3.5 kHz (mean 2.7 kHz); freq. range 3.1–5.0 kHz (mean 4.1 kHz); mean freq. 4.3–5.3 kHz (mean 4.8 kHz)	Top freq. 4.8–7.7 kHz (mean 6.8 kHz); bottom freq. 2.0–2.9 kHz (mean 2.4 kHz); freq. range 2.4–5.5 kHz (mean 4.4 kHz); mean freq. 3.6–5.1 kHz (mean 4.6 kHz)	Top freq. 4.6–7.1 kHz (mean 6.3 kHz); bottom freq. 1.6–3.2 kHz (mean 2.6 kHz); freq. range 2.1–4.8 kHz (mean 3.7 kHz); mean freq. 3.6–4.9 kHz (mean 4.5 kHz)
Duration of strophes	0.7–1.5 s (mean 1.1 s)	0.6–1.3 s (mean 0.9 s)	0.8–1.7 s (mean 1.2 s)
Number of elements per strophe <sup>1,11</sup>	3–11 (mean 6.6)	4–12 (mean 6.9)	6–12 (mean 8.6)
Phrases <sup>1,12</sup>	Present in 80–100% (mean 96.5%) of unique strophes; 2–5 (mean 3.2) el./phrase, phrase given 2–4 (mean 2.1) times	Present in 25–89% (mean 60.3%) of unique strophes; 2–4 (mean 2.6) el./phrase, phrase given 2–3 (mean 2.1) times	Present in 80–100% (mean 95.0%) of unique strophes; 2–3 (mean 2.3) el./phrase, phrase given 2.0 times
Proportion of unique elements in strophe <sup>1,11</sup>	25–100% (mean 54.6%)	33–100% (mean 63.4%)	50–75% (mean 58.4%)
Proportion of unique strophes in song	35–100% (mean 60.3%)	69–100% (mean 94.1%)	77–100% (mean 87.3%)
Calls between strophes	Not present <sup>2</sup>	Not present	Not present <sup>2</sup>

ind., Individuals; el., element; freq., frequency. <sup>1</sup>Strophes with tremolos/trills excluded. <sup>2</sup>Introductory note occasionally replaced by call note. <sup>3</sup>Eight out of nine individuals have a rather consistent introductory note in 5–33% (mean 13.1%) of the strophes per individual. <sup>4</sup>However, in one individual the call is used as an introductory note in 50% of the strophes (*n* = 14 unique strophes). <sup>5</sup>However, one individual has one strophe with four identical elements in sequence. <sup>6</sup>However, one individual has one strophe with three identical elements in sequence. <sup>7</sup>However, in one individual two unique strophes had two different elements given three and four, respectively, times each; another individual had one strophe with two elements given three times. <sup>8</sup>However, four

**Table 4** continued.

<i>valentini, latouchei</i>	<i>burkii</i>	<i>whistleri, nemoralis</i>
China (Gansu [ <i>n</i> = 5], Sichuan [ <i>n</i> = 3], Guangxi [ <i>n</i> = 1], Fujian [ <i>n</i> = 1]), Vietnam ( <i>n</i> = 2)	India (Uttar Pradesh [ <i>n</i> = 2], West Bengal [ <i>n</i> = 5]), Nepal ( <i>n</i> = 1), Bhutan ( <i>n</i> = 2)	India (Uttar Pradesh [ <i>n</i> = 1], West Bengal [ <i>n</i> = 6]), Nepal ( <i>n</i> = 3), Bhutan ( <i>n</i> = 1), W Burma ( <i>n</i> = 1)
12 ind.; 4–23 (mean 15.2) strophes/ind.; 98 unique strophes; 57 unique phrases	10 ind.; 9–21 (mean 15.1) strophes per ind.; 130 unique strophes (63 without tremolos/trills); 79 unique phrases <sup>1</sup>	12 ind.; 5–24 (mean 15.0) strophes per ind.; 106 unique strophes; 77 unique phrases
Present <sup>2</sup> (98.0% of unique strophes)	Not present <sup>4</sup>	Present (99.0% of unique strophes)
Consistent structure, both intra- and inter-individually; 1 el.; top freq. 3.2–3.8 kHz (mean 3.5 kHz); bottom freq. 2.5–2.9 kHz (mean 2.7 kHz); freq. range 0.6–1.1 kHz (mean 0.8 kHz); mean freq. 2.9–3.3 kHz (mean 3.1 kHz); duration 40–57 ms (mean 46 ms)	–	Consistent structure, both intra- and inter-individually; 1 el.; top freq. 3.6–3.9 kHz (mean 3.7 kHz); bottom freq. 3.1–3.3 kHz (mean 3.2 kHz); freq. range 0.4–0.7 kHz (mean 0.6 kHz); mean freq. 3.3–3.6 kHz (mean 3.5 kHz); duration 27–42 ms (mean 35 ms)
Not present <sup>6</sup>	Present (0–62% [mean 27.5%] of unique strophes; 3–10 [mean 4.2] el./tremolo)	Not present
Not present <sup>6</sup>	Present (6–44% [mean 25.0%] of unique strophes; 6–12 [mean 7.1] el./trill)	Not present <sup>9</sup>
Top freq. 4.0–5.5 kHz (mean 4.8 kHz); bottom freq. 1.9–2.8 kHz (mean 2.3 kHz); freq. range 1.6–3.3 kHz (mean 2.5 kHz); mean freq. 3.0–4.0 kHz (mean 3.5 kHz)	Top freq. 5.4–7.9 kHz (mean 6.8 kHz); bottom freq. 1.9–3.6 kHz (mean 2.8 kHz); freq. range 2.6–5.2 kHz (mean 4.0 kHz); mean freq. 4.0–5.4 kHz (mean 4.8 kHz)	Top freq. 4.1–5.9 kHz (mean 5.1 kHz); bottom freq. 1.7–3.3 kHz (mean 2.6 kHz); freq. range 1.4–3.7 kHz (mean 2.5 kHz); mean freq. 3.1–4.4 kHz (mean 3.9 kHz)
0.7–1.2 s (mean 0.9 s)	0.6–1.0 s (mean 0.8 s)	0.6–1.2 s (mean 0.8 s)
3–8 (mean 5.2)	4–12 (mean 6.1)	3–8 (mean 4.9)
Present in 89–100% (mean 99.0%) of unique strophes; 2–4 (mean 2.4) el./phrase, phrase given 2–3 (mean 2.1) times	Present in 67–100% (mean 90.1%) of unique strophes; 2–4 (mean 2.3) el./phrase, phrase given 2–4 (mean 2.4) times	Present in 90–100% (mean 99.2%) of unique strophes; 2–3 (mean 2.3) el./phrase, phrase given 2–3 (mean 2.0) times
25–100% (mean 54.0%)	25–100% (mean 47.7%)	33–100% (mean 51.4%)
25–100% (mean 55.5%)	43–100% (mean 82.8%)	18–100% (mean 64.2%)
Present in 50% of ind.	Not present <sup>4</sup>	Not present

individuals have one strophe each with two different elements given three times. <sup>9</sup>However, three individuals have one strophe each with two different elements given three times. <sup>10</sup>Mean frequency of strophes calculated on complete strophe (elements not measured separately). <sup>11</sup>Introductory elements not counted. <sup>12</sup>When counting number of elements per phrase and number of times phrase repeated, only two or more consecutive identical sequences of notes were considered to be phrases, but when estimating presence of phrases, sequences with one or two elements missing at the end the second (or successive) time given were treated as phrases.