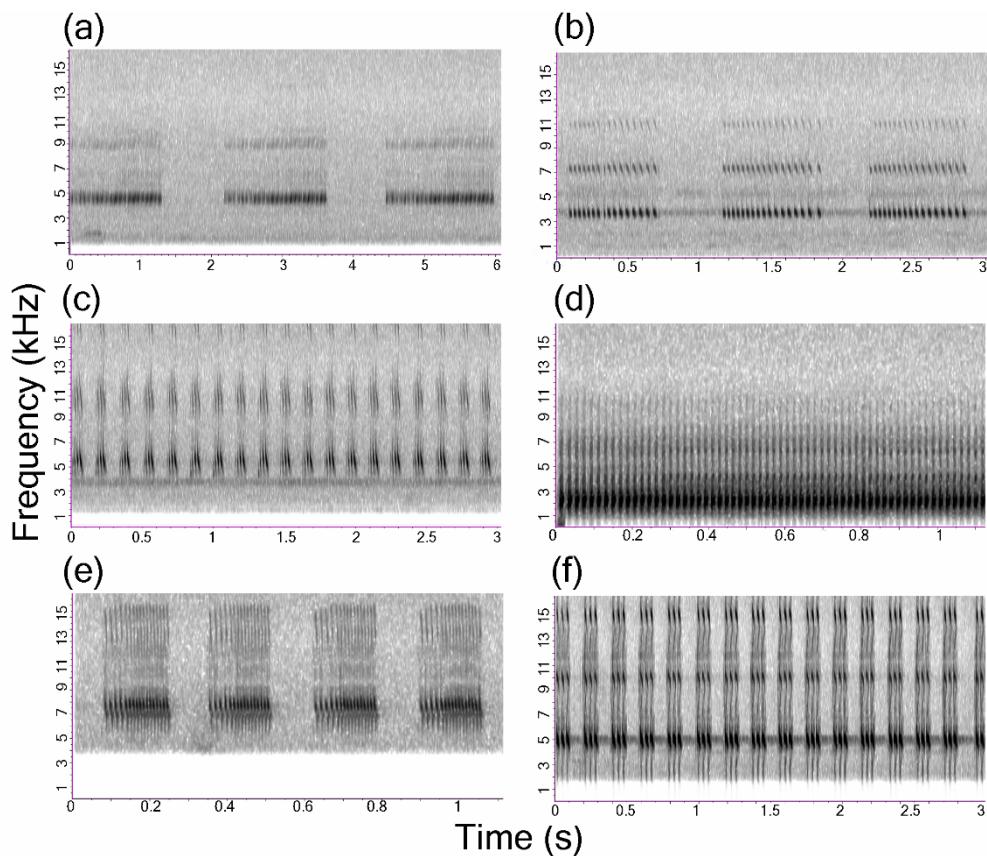


## Supplementary Information

**Table S1.** Mean call characteristics of six ensiferan species recorded using bioacoustics method. Numbers in parenthesis indicate SD values

Species	Syllables/ Chirp	Syllable duration (ms)	Syllable period (ms)	Chirp duration (s)	Chirp period (s)	Dominant frequency (Hz)	Temperature range (°C)
<i>Dianemobius</i> ( $N = 5$ )	60–144	8.96 (2.65)	24.23 (6.34)	1.69 (0.62)	2.70 (0.98)	5045.82 (802.76)	15.6–24.1
<i>Gryllus</i> species X ( $N = 6$ )	14–17	20.10 (0.25)	69.70 (8.56)	0.59 (0.05)	1.10 (0.06)	3712.16 (94.31)	16.5–21.4
<i>Gryllodes</i> ( $N = 8$ )	3	9.92 (0.99)	52.38 (5.51)	0.10 (0.05)	0.15 (0.02)	5469.93 (143.02)	17.6–21.4
<i>Gryllotalpa</i> ( $N = 5$ )	Trill	7.74 (0.78)	17.66 (3.04)	0.00	0.00	2103.66 (307.52)	20.6–29
<i>Gryllus</i> species Y ( $N = 1$ )	16	5.31 (0.013) (0.009)	—	0.16	0.27	7418.69	30.8
<i>Gryllus</i> ( $N = 1$ )	4	21.40	60.45	0.13	0.25	5062.50	29.9



**Figure S1.** The spectrogram of calls of Grylloid species (a) *Dianemobius* sp., (b) *Gryllus* sp. X, (c) *Gryllodes* sp., (d) *Gryllotalpa* sp., (e) *Gryllus* sp. Y and (f) *Gryllus bimaculatus*.



**Figure S2.** Images of the ensiferan species recorded using bioacoustic sampling (a) *Dianemobius* sp., (b) *Gryllus* sp. X, (c) *Grylloblades* sp., (d) *Gryllotalpa* sp., (e) *Gryllus* sp. Y and (f) *Gryllus bimaculatus*.

Site 1



Site 2



Site 3



Site 4



**Figure S3.** Images of the sampling sites with pitfall traps.