

Table S1

List of the experimental stimuli. The pattern of AM is listed separately for each frequency component of each stimulus (LF=low-frequency peak; HF=high-frequency peak). If the call had a unimodal frequency spectrum (i.e., contained only one of the two frequency peaks), the missing frequency peak is depicted by a dash. Full description of the AM patterns is given in the methods and Figs. 1-2, 4-7. ‘Conspecific’: a component with the normal *H. versicolor* AM pattern, ‘Heterospecific’: a component with the *H. chrysoscelis* AM pattern, ‘Heterospecific shape’: a component with *H. versicolor* pulse rate but *H. chrysoscelis* pulse shape and pulse duration, ‘Gappy conspecific’: a component with missing pulses; for every 3 pulses broadcast, 3 pulses were silent, ‘Tone’: a pure tone. Single-speaker tests are denoted by italics. The asterisk refers to single-speaker stimuli that were tested at three different SPLs (85, 65, 56 dB).

Experiment	Speaker 1		Speaker 2	
	LF	HF	LF	HF
1	<i>conspecific</i>	-	-	-
	-	<i>conspecific</i>	-	-
	<i>conspecific</i>	-	-	conspecific
	conspecific	heterospecific	heterospecific	conspecific
	conspecific	heterospecific shape	heterospecific shape	conspecific
	conspecific	tone	tone	conspecific
	conspecific	gappy	gappy	conspecific
2	<i>conspecific*</i>	<i>conspecific*</i>	-	-
	<i>conspecific*</i>	<i>heterospecific*</i>	-	-
	<i>heterospecific*</i>	<i>conspecific*</i>	-	-
	conspecific	conspecific	heterospecific	conspecific
	conspecific	conspecific	conspecific	heterospecific
	conspecific	conspecific	heterospecific shape	conspecific
	conspecific	conspecific	conspecific	heterospecific shape
	conspecific	-	conspecific	heterospecific
	conspecific	-	heterospecific	conspecific
	-	conspecific	conspecific	heterospecific
	-	conspecific	heterospecific	conspecific
3	<i>conspecific*</i>	<i>tone*</i>	-	-
	<i>tone*</i>	<i>conspecific*</i>	-	-
	conspecific	conspecific	tone	conspecific
	conspecific	conspecific	conspecific	tone
4	conspecific	conspecific	gappy conspecific	gappy conspecific
	conspecific	conspecific	gappy conspecific	conspecific
	conspecific	conspecific	conspecific	gappy conspecific
	conspecific	gappy conspecific	gappy conspecific	gappy conspecific
	gappy conspecific	conspecific	gappy conspecific	gappy conspecific