

VOCALISATIONS OF SYMPATRIC SHRIKEBILLS (*Clytorhynchus*) ON VITI LEVU, FIJI

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INTRODUCTION

Of the four species of shrikebill in the genus *Clytorhynchus*, only in Fiji are two species sympatric (Mayr 1986). The monochromatic Fiji Shrikebill (*C. vitiensis*) ranges from Fiji and Rotuma to American Samoa and Tonga. The sexually dichromatic Black-faced Shrikebill (*C. nigrogularis*) inhabits the larger islands of Fiji plus Santa Cruz Island in the Santa Cruz archipelago.

The vocalisations of these species are poorly known in the literature. The three leading guides to the birds of Fiji include only very limited descriptions. Comparing the two species in each book reveals the need for more information, especially direct comparisons. Watling (1982) wrote that "The Fiji Shrikebill has a variety of whistled songs. It also harshly scolds human intruders or when involved in territorial disputes, often fanning its tail in the process." For the Black-faced Shrikebill, Watling wrote "The male has been recorded as delivering a harsh chuckling sound, but the song is a descending, wavering whistle, strongly delivered and drawn out." Clunie's (1984) versions were [Fiji (Lesser) Shrikebill] "Scolds with a rasping 'Rathch-chat-chat', fanning its tail. Throws back head, droops and shivers wings, fans quivering tail, and gives an infinitely melancholy, bubbly, musical whistle: 'Whee-eee-eee-ooo, whee-eee-eee-ooo.'" and [Black-faced Shrikebill] "...its call, which is similar to, but stronger than that of the Lesser Shrikebill, and even sadder – a mournful, quavering whistle: 'Whee-eee-eee-oooo'." Pratt *et al.* (1987) summarised [Fiji Shrikebill] "Call a harsh *chick-chick-chick*. Song a descending, whinnying whistle, or a humanlike upslurred whistle" and [Black-faced Shrikebill] "Apparently similar to that of Fiji Shrikebill, a descending mournful whistle." From these descriptions one can glean few if any unequivocal specific differences. This paper reports direct comparisons in the field that may help define the range of variation for each species and proposes possibly consistent interspecific differences.

METHODS

I observed shrikebills on 3 and 4 January 1990 on Viti Levu, Fiji. On the first day Fiji Shrikebills were heard in forest along the "waterfall track" about 1 km down Princes Road from Colo-i-Suva Forest Station near Suva. On the second day both species were heard in forest remnants left by recent logging on the lower slopes of Mt Victoria just above Navai. After listening to each bird near Navai, I attracted it to me by whistling imitations of its song(s). Thereafter I used such imitations as yielded additional information about that species' vocalisations, until I decided to leave the aroused bird in peace.

I described and diagrammed each call while the bird was giving it, or shortly thereafter. The duration of each phrase and the approximate pacing were estimated by stopwatch from my vivid memories of these sounds, while I wrote more complete notes later the same day.

One or more Fiji Shrikebills were heard near Suva (two were seen). Two probably different individuals of this species were heard and attracted into view near Navai. One adult male Black-faced Shrikebill was heard and attracted near Navai; the only female seen was silent.

Suva and Navai are about 73 km apart, with Suva on the southeastern coast and Navai in the northern part of the mountains. Near Navai the two species were possibly within hearing of each other and I saw no obvious habitat difference; thus they were apparently truly syntopic. All observations were in the morning, but well after dawn.

RESULTS

As expected from the literature cited above, a variety of vocalisations was heard from each species. Several songs were quite similar, and the species showed parallel patterns of variation. With one exception, all vocalisations were regularly spaced whistles. Both species gave whistles either on a single pitch or on a sliding pitch. Many whistle songs sounded mournful, and they varied in vibrato from none to strong. In general, any vocalisation for which I could whistle an imitation would quickly attract the bird that was singing, or had been singing, that song. For clarity I will introduce the vocalisations for each species separately.

Fiji Shrikebill

At least one bird near Suva plus the first bird near Navai sang Song 1. It was a descending whistle song consisting of two short clear introductory notes followed by a descending vibrato (Figure 1a). The second introductory note and the beginning of the descending vibrato were each about one full musical tone lower than the preceding note. I estimated the duration of each phrase to be about one second. I did not detect any differences between the songs from Suva and those from Navai.

The first bird near Navai subsequently switched to Song 2. It was essentially the same as Song 1, but all on only one pitch (Figure 1b). Both songs had a somewhat mournful or wistful quality. Later I heard the second bird near Navai sing Song 2, but usually with only one introductory note, sometimes two. I may have heard the first bird use only one introductory note in a few songs.

The only non-whistled vocalisation I heard from either species I named the "snappy call". Just *before* I started to imitate Song 2 to attract this last Fiji Shrikebill, it switched to the snappy call. It was a fairly fast, snappy-sounding, *jik-jik--kijuk--kujak*, with the two syllables written with the "u" vowels being lower than the other four (Figure 1c). Again, the phrase lasted perhaps one second.

When I started imitating this latter bird's Song 2, it intensified its calling with the snappy call, in clear response to my imitation, but it did not respond with whistle songs. Most of the time the bird delivered the snappy call *directly*

at the end of each of my Song 2 imitations, such that we were in effect duetting antiphonally! I whistled the first part of the duet and the bird snapped back with the response with no time interval. This was repeated identically for perhaps eight to ten consecutive performances until either I or the bird broke the pattern. After I had seen this bird well enough to confirm the identification, and it became clear that it was not going to switch back to whistle songs, I ceased whistling.

Black-faced Shrikebill

All Black-faced Shrikebill vocalisations were given by a single adult male (Figure 1d-h). I first heard this bird whistling Song 3, which was a fairly strong mournful ascending whistle with a "scooped" beginning, and sometimes with a slight vibrato on the ascent (Figure 1d & 1e). Each whistle in the series seemed to be about one second in duration. The bird came quickly to my imitation of Song 3.

Next this male performed Song 4. It was a crescendo vibrato whistle on one pitch, and it was rather strong (Figure 1f). The duration was somewhat more than one second. When I imitated Song 4, the bird circled me agitatedly at a distance of about 10 m or more and answered with the same song.

After I stopped whistling for a while this bird moved farther into the forest and subsequently began giving Song 5. This was a quicker series of shorter whistle notes than the longer whistle notes above, but this song did not sound fast. These notes were relatively weak and were not mournful. Each note was a short clear "scooped" ascending whistle that I wrote as *towhit* (Figure 1g). My estimate of the duration of each note was 0.3 second. I imitated Song 5 only enough to keep the bird interested and confirm that it was the same individual.

Finally, this male switched to Song 6, which was a relatively weak mournful descending vibrato whistle similar to Song 1 of the Fiji Shrikebill but without any introductory notes (Figure 1h). As in the Fiji Shrikebill, the duration of each phrase seemed to be about one second.

DISCUSSION

All six whistle songs, regardless of the species giving them, tended to be given in a very regularly timed series. Songs 1, 2, 3, and 6 were all series of whistles of about one second duration, with Song 4 only somewhat longer. I estimated that these songs averaged one note per three seconds, with a range of two to four seconds per note in usual delivery. The Black-faced Shrikebill's quicker Song 5 was of notes only about one-third as long, but they were not given three times as often as the longer notes, so this song seemed only slightly faster with respect to the interval between notes. I estimated that Song 5 had one song each 1.5 seconds. Tempo and intensity of these vocalisations sometimes increased slightly in response to my imitations.

The Fiji Shrikebill's "snappy call" seemed somewhat less regularly spaced. This is probably the "harsh scolding" call of previous authors, including the *chick-chick-chick* of Pratt *et al.* (1987) and the *rathch-chat-chat* of Clunie (1984).

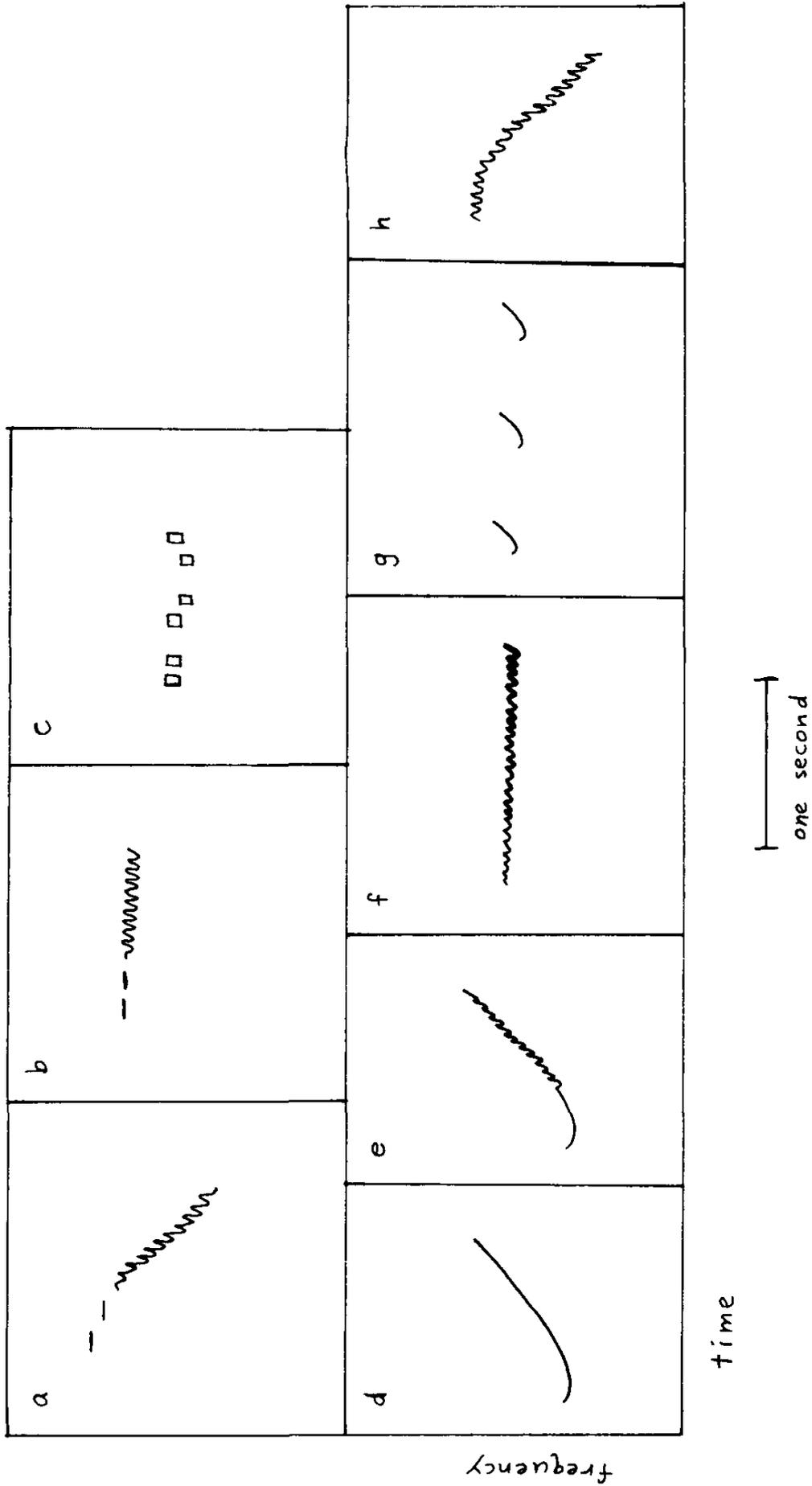


FIGURE 1 — Diagrammatic sonograms of vocalisations: upper row, Fiji Shrikebill; lower row, Black-faced Shrikebill

As the Fiji Shrikebill's Song 1 sounded identical from sites 73 km apart and represented both coastal foothills and mountains across the island, I infer that it is a typical song of this species throughout Viti Levu, without pronounced intra-island variation.

My observations confirm that both species give whistles that can sound very mournful. Further, both species gave vibrato whistles both descending and on one pitch. I did not hear the Fiji Shrikebill give ascending whistles, but Pratt *et al.* (1987) stated that it does. I also did not hear it sing clear notes lacking vibrato, except as short introductory notes. However, in the light of the multiplicity of vocalisations heard within a short time from a small sample of birds, I think it likely that Fiji Shrikebill may be found to sing clear notes lacking vibrato. Further observations would probably reveal several interspecific differences in these songs, some of which may hold true across these species' repertoires. From my observations, the key distinguishing feature seems to be the presence of one or two short introductory whistle notes preceding the long whistle of the Fiji Shrikebill, versus the lack of introductory notes in the Black-faced Shrikebill. It remains to be seen whether the Fiji Shrikebill has songs analogous to the crescendo or "towhit" songs of the Black-faced Shrikebill. Watling's (1982) statement that "the male [Black-faced Shrikebill] has been recorded as delivering a harsh chuckling sound" suggests that this species has a scold analogous to the *jik-jik--kijuk--kujak* of the Fiji Shrikebill.

Given the similarity of several vocalisations of these two congeners living syntopically, it would be interesting to study whether they are interspecifically territorial.

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