a Zebra finch template

b Bengalese finch syllables

c Canary phrase (trill)

d

5kHz

1 sec

e

syllables

400

0

0   20

Song duration (sec)

Waterslager Canaries
Domestic Canaries
Bengalese Finches
Zebra Finches

f

Shared fraction

.5

.1

10^1 10^2

syllables

g

Duration (sec)

0.5

0

1   20

Syllables id

Figure 1 | Annotating large datasets of birdsong is a hard task
a. The zebra finch repeating motif allows annotation by matching its template sonogram.
b. Bengalese finch songs segmented to syllables.
c. A canary phrase is a trilled repetition of a syllable.
d. A third of one domestic canary song of median duration segmented to phrases.
e. The median, 0.15 and 0.75 quantiles of song durations (x-axis) and # of syllables per song (y-axis) for
2 canary strains, Bengalese finches and Zebra finches (color coded)
f. Variable songs are not suited for template matching. Songs contain repeating sequences of syllables but
 because of sequence variability songs with more syllables (x-axis) share smaller sequence fractions (y-axis)
g. Distributions of syllable durations for one domestic canary. The bird had 20 different syllable types (x-axis,
ordered by mean syllable duration). Box plot shows median, 0.15 and 0.75 quantiles of syllable durations.
Whiskers show the entire range
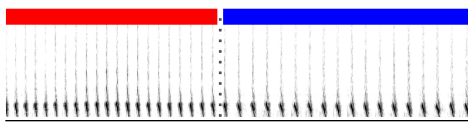
Supplementary Panels:
Example of two consecutive canary phrases that differ mostly in inter-syllable gaps. These two elements
necessitate combining the segmentation and annotation steps