

# Good fathers sing simple songs

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Hume's Warbler *Phylloscopus humei* in Kullu District of Himachal Pradesh, India. Credit: J.M.Garg/Wikipedia

The female Chinese Hume Warbler is attracted to males who sing simple songs, as opposed to the more common preference among birds of

choosing males who sing the most complex songs. This preference for males with inconspicuous songs may be related to nesting behavior and driven by the threat of predation, according to research published in the open access journal *Avian Research*.

This subspecies of the Hume Warbler *Phylloscopus humei mandellii* (*P.h.mandellii*) is found in central China, is socially monogamous and both parents feed and raise the offspring together. As it is a ground-nesting species, it is particularly vulnerable to predation and the females seem to judge potential male partners based on subtle characteristics that are advantageous to minimize predation risk such as nesting behavior.

Researchers analyzed a total of 139 recordings of male bird song. Dr. Yue-Hua Sun from Institute of Zoology, Chinese Academy of Sciences, Beijing, China said: "Females that chose large [males](#) whose songs are shorter with a faster increase in volume, tended to lay their eggs earlier and produce more surviving young. The earlier-hatched nestlings grew up faster, probably benefitting from higher feeding rates or better food. This suggests that female preference for larger males, e.g. individuals with the longest wing and tail lengths, may be driven by greater ability of such males to provide for their young. Another possibility is that these individuals may occupy better territories with better food resources and/or better nest sites."

Dr. Yue-Hua Sun adds: "Most of the *Phylloscopus* warblers are accomplished singers with complex songs and large repertoires. However, the Hume warbler sings extremely simple songs, of which it only has two, a doubled whistle note and a long low buzz; *P.h.mandellii* only sings the buzz song type. The males' short song could also be better for territorial defense, allowing the males to hear their competitors' responses."

The researchers recorded visual signals and song characteristics of

breeding males at the Shahetan station in Lianhuashan National Nature Reserve from April to July in 2009 and 2010. They captured a total of 55 males and measured bill length, wing length, tail length and tarsus length to assess the relationships with female mate preference. The nests were then checked daily to measure the length, width and mass of the newly laid eggs and record the body measurements of the nestlings two days before fledgling.

Mate choice among birds has influenced the evolution of complex songs. Females generally prefer males who sing impressive complex songs, using the 'song' as an indicator to select the healthiest male to increase the survival of their offspring. Similarly, this has also led to the evolution of elaborate phenotypes, where the showiest males will be assumed to have the best genes.

**More information:** Nan Lyu et al. Can simple songs express useful signals for mate choice?, *Avian Research* (2016). [DOI: 10.1186/s40657-016-0045-2](https://doi.org/10.1186/s40657-016-0045-2)

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