



Starlings with diverse repertoires will father more young than vocally mediocre ones. (Photo: John Harding, BTO Library)

Birdlife in Your Garden

Birds are noisy animals compared to most other biological groups. Their vocalisations fall into two groups - calls and songs. Calls tend to be simple, short patterns of sounds intended to convey a succinct, specific message, such as alarm, recognition or threat, or are used for such purposes as maintaining contact among the flock or by youngsters begging for food. But it is bird songs that capture our imagination and elevate our spirits. Songs are generally longer, more acoustically complex and often louder than calls but not all are necessarily beautiful. The song of a House Sparrow, for example, consists of a long string of call-like cheeps, chirrups and chirps, interspersed by rattles and whistles (although I would venture that, if you listen intently, you will find it richer than you first thought). At the other end of the aesthetic spectrum is the virtuosic performance of the Blackbird, a mellow, complex, varied and flute-like liquid outpouring, usually finishing in a discordant squeaky phrase.

In most species (about 95%), it is the males that produce what is normally thought of as song. Why do they do it? They are not singing to entertain us or because they enjoy it – they are doing so because it gains them an advantage in the struggle to ensure that their genes get passed on to the next generation. At first thought, singing seems counter-intuitive from this perspective. A singing bird is more conspicuous and more likely to be taken by a predator. Time spent singing is time taken from feeding and singing is itself an energetically expensive activity. Look at the effort invested by the minute Wren, singing so loud that it can be heard 500 m away. Think of the incessant song of the Chiffchaff on a spring day. Some birds' songs require hundreds of notes per minute. Singing seems to be both dangerous and exhausting so, if it has survived in a species, it must be very useful indeed. Why is this?

Firstly, singing sends a strong message to other males and helps to secure the territory in which the singer and its mate will collect resources (such as food) and rear young. A singing bird is, in effect, saying, "Listen to me you lot. Note how strong and complex my song is. That is because I have been round the block a few times and I know how to take care of myself. If I can afford to spend this much time and energy singing, think how healthy I must be and what a drubbing

you are going to take if you trespass on my territory. Stay out – it's mine!" (OK – I'm anthropomorphising, but you get the idea!) The role of singing in territory defence explains why Robins, which hold territories all year, sing all year and why Bullfinches, which do not defend a territory at any time of the year, have only a quiet and unmelodious song.

Secondly, listening to song helps the female choose a high quality mate because she is looking for the same qualities that intimidate other males. For example, Starlings with large vocal repertoires have been shown to father more chicks. It is, perhaps, no accident that many birds, including Starlings, are good mimics – what quicker way is there of enhancing your vocal talents than by imitating the noises you hear? In Great Tits, males with more diverse repertoires tend to be older, have better breeding records and are preferred by females.

One of the reasons birds can produce such remarkable sounds when they sing is the structure of their vocal apparatus. To understand this, think of a capital letter 'Y' upside down. The vertical line now at the top is the windpipe (trachea) and the two diagonals are the bronchi that go to each lung. In humans, our 'voice box', the larynx, lies near the top of the trachea and modifies the airflow in that tube alone. In birds, their voice box – the syrinx – lies at the junction of the trachea and the bronchi and, in some species, two sets of vocal cords, one on each bronchial branch, can be used to produce two notes simultaneously or to permit birds to accompany themselves! The Reed Warbler is capable of this feat but other species exhibit this ability to varying degrees.

You don't need to know why birds sing and how they do so to be inspired and uplifted by our best songsters. I will return to the topic of bird song again next month to explore a few more threads but, in the meantime, do get out into your garden and experience what listening to birds (even those with a less extensive repertoire and limited vocal talents) can do for your state of mind. Listen out for the teacher-teacher of the Great Tit, the loud repeated clear run of musical phrases of the Song Thrush, the cheerful chiff-chaff of the Chiffchaff, the rapid, thin, sweet warble of the Dunnock and, of course, the silky, liquid melodies of the Blackbird.

John Arnfield

The author is British Trust for Ornithology Ambassador for the Garden BirdWatch (GBW) scheme in southern Shropshire and is available to speak to local organisations on GBW, as well as answering questions on garden birds and feeding. GBW needs more garden observers in this area. If you are willing to help, contact John on (01694) 724 170 or at arnfield.2@osu.edu to arrange to receive an information pack and free book.



Robins sing all year round but the spring and autumn songs differ, the latter having a melancholy quality compared with the confident and upbeat tone of the former. (Photo: Jill Pakenham, BTO Library)