NIGHT SOUNDS

by Robert H. Stymeist, Brookline

Night singing is mostly associated with some of our owls, the goatsuckers, and some shorebirds, notably the American Woodcock and the Common Snipe. Birding after dark can be fun, and sorting out night sounds is challenging to say the least. For example, the sound of the "Timberdoodle" is not a true song but is made by the passage of air through the outer three primaries. The winnowing of the Common Snipe is also produced by air passing through the stiffened outer tail feathers during courtship flight.

Song is at its best at night near sunset and again near dawn although some species like the mockingbird sing regularly throughout the night. While spring migration is underway and also during the breeding season, many species will sing at night. Common Yellowthroats, Song and Swamp sparrows, Marsh Wrens and Eastern Kingbirds stand out as night singers in my experience. Some species sing a night song that has little resemblance to the day song. The Ovenbird's flight song - a wild outpouring of jumbled notes of various pitches with a few familiar "teachers" thrown in - is one of the remarkable vocal performances among the warblers, and this song is most frequently heard in the night. Other birds have a distinctive "evening song" for which the birds are named - Evening Grosbeak and Vesper Sparrow, and some thrushes sing variations beginning after sunset and continuing into darkness.

Much of bird migration passes unnoticed because so many birds migrate at night. To be sure, there are many species that travel long distances during daylight hours, usually larger birds or birds that can feed while flying, e.g., the swallows. Smaller birds, notably warblers, thrushes (except the robin), wrens, and other secretive birds, tend to make their long migrations at night. As better methods such as radar have been used to study nocturnal migration, more and more birds, including waterfowl and shorebirds as well as the smaller songbirds, have been found to migrate then. By flying at night, small birds avoid the attacks of hawks, gulls and other predatory birds that could easily catch them. Another advantage of night flight is that it allows all the daylight hours for feeding and rest; small birds burn up energy so quickly that after a long night in the air, they must feed extensively to restore energy sources. Most of our songbirds, in addition to being small, are not the strongest of flyers and must travel great distances in a relatively short time to get to the breeding ground. The most efficient system for doing this is to travel at night and to rest and feed during the day.

Birds migrating at night often emit characteristic flight calls. Some species use the same calls during the daytime, and these can be recognized by experienced birders on nights of heavy migration. On a quiet night, the sky may be filled

with call notes that can be identified as to family, if not to species. The calls of these birds probably help to keep individuals in touch with one another and the flocks together.

Night sounds have been studied for nearly one hundred years, but much is still unknown. William Brewster (1886) suggested that night calls hold the migrating flocks together and that young birds benefit from the experience of adults by travelling together. Frank Chapman (1907, page 57) writes the following about the nocturnal journey of birds.

> "On September 26, 1981, I visited the Bartholdi statue of the Goddess of Liberty in New York Bay. The weather was most favorable. The first bird was observed at eight o'clock, and for the succeeding two hours others were constantly heard, though comparatively few were seen. At ten o'clock it began to rain; and almost simultaneously there was a marked increase in the number of birds about the light, and within a few minutes there were hundreds where before there was one, while the air was filled with the calls of the passing host. At daybreak a few stragglers were still winging their way, but before the sun rose the flight was over. From the balcony which encircles the torch the scene was impressive beyond description. We seemed to have torn aside the veil which shrouds the mysteries of the night, and with the searching light exposed the secrets of Nature."

Not so, Mr. Chapman. Much has still to be learned about the function of these calls. However, there has been no lack of speculation. Ball (1952) supposed that the dawn surge of call notes of the thrushes might be inspired by hunger and light from the oncoming dawn. Hudson (1923) thought the calls were an expression of fear in the unfamiliar night. Another idea, similar to Brewster's, was that the calls are mutually stimulating, each call urging flight partners onward (Tyler, 1916). Still another idea, though there is lack of evidence, is that the calls may serve an echo-sounding function, facilitating the landing process (Lowery and Newman, 1955). Hamilton (1962) clearly found evidence that for at least some passerine species the calls are communicatory. Hamilton in his studies with captive Bobolinks recorded and played back these calls to caged birds. The Bobolinks showed migratory restlessness and the urge to join the flock. In all likelihood, birds in the wild, resting for the moment, may be spurred on by the calls of other members of their species flying overhead.

The call note used by Bobolinks in flocks, migrating at night, appears to the ear of the listener to be the same distinctive flight call used by flocking Bobolinks during the day. Other species that migrate at night, often in flocks that appear to include a number of species, use call notes that are different from those heard during the day. These birds, notably the thrushes, do not flock during the daytime hours, and therefore a special call would be needed to keep the flock

together as they migrate. The "heep" of the Swainson's Thrush is one call that can be recognized.

On a night of heavy migration, a considerable number of calls may be heard. In 1975, Joseph (Terry) Leverich, unable to sleep on the warm night of May 21, spent the quiet hours after midnight on the steps outside his apartment in the South End of Boston. Here he recorded an amazing 4700 migrating Swainson's Thrush and 39 Gray-cheeked Thrush [BOEM,3(4):137]. The exact frequency at which a migrating bird flying overhead calls is not known, but Leverich allowed three call notes per bird based on the results of listening and watching on earlier evenings of insomnia. Another recent report of heavy nocturnal migration occurred on the night of September 3-4, 1981, when Richard Heil of Peabody counted over 600 Swainson's Thrush, 250 Veerys, and over 500 Bobolinks on a low-overcast evening with light northeast winds and a fine mist [BOEM, Field Records, 9(6): 310].

Much has yet to be discovered and many points about night calls remain unsettled. What precisely are the call notes of migrating birds; that is, what is their function and how many of these notes can the experienced observer readily distinguish? Do individuals of one species recognize the call notes of other species? What influences the rate at which the birds call? How does the number of calls heard by observers on the ground reflect the number of birds migrating overhead? Field observers can render an important service by carefully documenting weather conditions and any observations of the things that go "heep" in the night.

REFERENCES

Ball, S. C. 1952. Fall Bird Migration on the Gaspé Peninsula. Peabody Museum Nat. Hist. Bulletin 7: 1-211.

Brewster, W. 1886. Bird Migration. Mem. Nuttall Ornith. Club, No. 1: 1-22.

Chapman, F. M. 1907. Bird Life. D.Appleton, New York.

Hamilton, W. J. 1962. Evidence Concerning the Function of Nocturnal Call Notes of Migratory Birds. Condor 64: 390-401.

Hudson, W. H. 1923. A Hind in Richmond Park. E. P. Dutton, New York.

Lowery, G. H.,Jr. and R. J. Newman. 1955. Direct Studies of Nocturnal Bird Migration. In Recent Studies in Avian Biology, ed. A. Wolfson, pp. 238-263. University of Illinois Press, Urbana.

Tyler, W. M. 1916. The Call-notes of Some Nocturnal Migrating Birds. The Auk 33: 132-141.

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