all tend to produce restriction of circulation, which eventually results in considerable discomfort. Even in sleep, periodic movements occur reflexively, a result, at least in part, of stimuli from congested regions. Jackson (*Science*, 96, 1942: 564) has recently shown that in the sleeping human being an anticipatory increase in heart rate occurs before a general movement. Stimulation of receptors by local congestion, pressure, and increased skin temperature is interpreted as bringing about a reflex acceleration of the heart rate before the impulses are strong enough to bring about activity of skeletal muscles and a change in position. In recording the heart rate of incubating birds on their natural nests (Odum, *Ecol. Mon.*, 11, 1941: 318) a similar anticipatory acceleration in heart rate, occurring just before the bird left the nest, was often noted. Indeed, when a quickening of the heart (readily detected by ear) occurred without apparent cause, it was usually safe to predict that the bird would leave the nest within the next few seconds to begin an inattentive period. If circulatory congestion, together with local pressures and heating of ventral skin areas in contact with eggs or nest, is the cause of these anticipatory responses, then we have an indirect indication that the bird may end an attentive period on the nest as a result of the discomfort produced by sitting still. Since the smaller the animal the more rapid the heat loss and circulation rate, we would expect circulatory congestion to be felt more quickly in small birds than in large ones during periods of inactivity. Correspondingly, the length of the attentive period is generally shorter in the smaller species.

One might inquire at this point as to the condition at night. Even though the incubating bird remains continuously on the nest, it does not necessarily remain still. In making records with passerines at night, I was much impressed with the amount of muscular activity which often occurred (Odum, *Ecol. Mon.*, 11, 1941: 318). Sometimes the bird even left the eggs for short periods to move to the edge of the nest or to the front of the nesting box.

Since activity on the nest may serve the same purpose in relieving discomfort as leaving the nest, and since anticipatory cardiac acceleration by no means occurred in my records at the end of every attentive period, it cannot be concluded that circulatory congestion with related discomfort is the sole regulator of attentive-inattentive behavior. Also, psychic factors cannot be ruled out; perhaps cardiac acceleration results from cerebral stimulation, that is, occurs when the bird thinks about leaving the nest (granting that it does think at all). The physiological basis here, as in other forms of behavior, is probably complex, and regulatory factors may well vary at different times or in different species.—EUGENE P. ODUM, *Department of Zoology, University of Georgia, Athens, Georgia.*

An unusual song from a House Wren.—The note by Edward S. Thomas (*Wils. Bull.*, 55, 1943: 192–193) on a wren which sang the songs of both the Bewick's and the House Wren reminded me of an odd song which I heard near Lexington, Virginia, on May 18, 1943, from a wren which I definitely identified as a House Wren (*Troglodytes aëdon*). At first, when the bird was singing in thick underbrush, I thought that the song might be coming from either a Carolina Wren or a Kentucky Warbler, for it was like that type of Carolina Wren's song which so much resembles the song of the Kentucky Warbler. Later, when a glimpse showed me that the singer was a wren, I thought that it was an unusual song of the Carolina Wren, but as I followed the bird, it came out into the open and sang from a tree, showing itself unmistakably to be a House Wren.

Phonetic rendering of bird sounds is notoriously unsatisfactory, but this song sounded clearly to me like the syllables, "turple, turple, turple, teer teer," with a heavy accent on the first "teer." This the wren sang again and again. Later it sang several times another two-part song, the first part of which was like the song of the Carolina Wren, the second being the normal rippling notes of the House Wren.—J. J. MURRAY, *6 White Street, Lexington, Virginia.*