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Bird hormone cuts noise distractions**Susan Milius**

A jolt of springtime hormones makes a female sparrow's brain more responsive to song, say researchers.

The female hormone estradiol doesn't do this by boosting the tissue's response to song, though. Instead, it dulls the reaction to junk noise, says Donna Maney of Emory University in Atlanta. Songs might thus stand out against a background of unromantic environmental sounds.

Scientists have learned that one of the ways hormones affect animals' behavior is by changing the ways in which their brains process smells and sounds.

Maney and her colleagues explored such hormonal tuning in captive female white-throated sparrows. The researchers gave half the birds tiny implants that released estradiol, which normally abounds in females during breeding season. The other half received empty implants. After several days, the researchers played recordings of either male songs or a string of beeps at frequencies in the songs.

The researchers then dissected the birds' brains and checked the activity of the gene *zenk*, which turns on during processing of important sounds. The females with the hormone implants showed more *zenk* activity if they'd listened to real song than if they'd heard just beeps. Females with the empty implants showed about the same *zenk* activity after either recording, Maney and her colleagues report in the March *European Journal of Neuroscience*.



COME HITHER. A female white-crowned sparrow reacts favorably to a male's courtship song.
Maney

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References:

Maney, D.L., E. Cho, and C.T. Goode. 2006. Estrogen-dependent selectivity of genomic responses to birdsong. *European Journal of Neuroscience* 23(March):1523-1529. Abstract available at <http://dx.doi.org/10.1111/j.1460-9568.2006.04673.x>.

Sources:

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