

# Color-opponent responses in the avian lateral geniculate: A study in the quail (*Coturnix coturnix japonica*)

Maturana, Humberto R.

Varela, Francisco J.

Extracellular recordings were made from cells in the ventral lateral geniculate (GLv) of the Japanese quail (*Coturnix coturnix japonica*), and their responses studied with chromatic stimuli. A total of 156 units were studied, and of these, 124 were found to be optimally responsive to changes in hue, and not to changes of contrast or motion of the stimuli in their receptive fields. These chromatic responses can be characterized as follows: (1) they have large (average  $15^\circ \times 15^\circ$ ) receptive fields; (2) these receptive fields are mostly located in the anterior part of the visual field; (3) the receptive fields are organized in a (rough) retinotopy in agreement with anatomical findings; (4) units exhibit a sustained response in the dark or under white illumination, which is strongly modulated by changes in hue of stimuli of equal illuminance; (4) the units have a complementary inhibitory response, thus exhibiting a color-opponent pattern of responses; (5) the inhibitory and excitatory areas o