

**PERCHING PREFERENCE, URBAN PARK
DENSITIES AND INFLUENCE OF ARTIFICIAL
FEEDING OF FERAL CITY PIGEONS (*COLUMBA LIVIA*) IN SAN JOSE, COSTA RICA**

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A population of feral pigeons (*Columba livia*) was studied in a three-square-block area of central San José, Costa Rica from March-April 2012, over a 6-wk period. Pigeons were counted on each of four sides of four different buildings in the area, noting those in shade, sun and on roofs. Numbers of pigeons in two parks and a plaza in the same area were estimated on the ground along with numbers perched on each of the surrounding buildings in the parks/plaza area. Regular locations of perching were on balconies and windowsills of buildings that were older and unpainted. Pigeon density was greater in areas where feeding by humans was very common. Mean total number of pigeons (on ground and surrounding buildings) was greater in the Plaza de la Cultura than in the Parque Central or the Caja Park ($P < 0.0001$). Overall mean total number of pigeons was greater in the shade of buildings than in the sun or on the roof ($P < 0.0001$). Pigeons appeared to be frightened away by arrivals of parakeets and also avoided nettings or surface spikes but were undeterred by auditory deterrents played in the Parque Central and from the Caja (Social Security building), as well as other minor devices used. Building material played an important part in perch choice, as the buildings made of rougher, unpainted stone had the highest overall mean number of pigeons on the building and the buildings made of smoother, painted stone had the lowest overall mean ($P < 0.0001$). Wind levels had little significance in perch choice, as the number of pigeons counted at each wind level showed relatively similar means ($P = 0.488112$). The increase in pigeons in the Plaza de la Cultura was likely due to the increased feeding by humans, as well as more available preferred perching space (the Teatro Nacional, one of the buildings adjacent to the Plaza, was made of unpainted, rough stone). They were probably undeterred by the wind and preferred the shade to the roof because of their ancestry as seaside-roosting birds. This behavioral data can serve as a rough guide for what areas need most protection from the damage by city pigeons.