

# The current state of invasive Rose-ringed Parakeet (*Psittacula krameri manillensis*) around the Tokyo area

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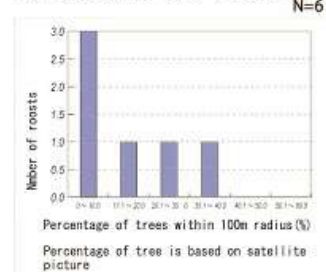
<sup>1</sup>: Japanese Society for the Preservation of Birds

## Roosts environment

There are six roosts that have been confirmed, three of which were bamboo groves. In other places, 3 to 4 Ginkgo trees (*Ginkgo biloba*), Linden (*Tilia maximowicziana*) and Himalayan Cedar (*Cedrus deodara*) were used as roosts. Rose-ringed Parakeet (*Psittacula krameri manillensis*) seems to prefer an open environment with few tall trees and high-rise buildings around the roost. Concerned about attacks from predators, they change the location of the roost in the winter when Linden tree leaves fall. Although Ginkgo is also a deciduous tree, Rose-ringed Parakeet can escape the attack from predators because of its fine branches, so they use it even in winter.

Environment	Tree species	Roost size(㎡)
University campus	<i>Ginkgo biloba</i>	300.85
Park	<i>Tilia maximowicziana</i>	646.06
Park	<i>Cedrus deodara</i>	163.25
Residential area	Bamboo grove①	1167.12
Residential area	Bamboo grove②	1057.20
Residential area	Bamboo grove③	206.74

## How dense is the woods?



The Red-breasted parakeet (*Psittacula alexandria fasciata*) also is in the roost with the Rose-ringed parakeet

## Distance between roost and nest

Through follow-up survey by radio telemetry we found that some male Rose-ringed Parakeets flew a distance of more than 20km one way between roost and nesting areas during the breeding season. It is also confirmed that fledglings move to the same roost.



A female removed the radio telemetry device attached to a male

## Nests environment

Since Rose-ringed Parakeet nests in the tree hollows, and holes and gaps of buildings, competitions with Grey Starling (*Sturnus cineraceus*), Japanese Green Woodpecker (*Picus awokera*) and Brown Hawk Owl (*Ninox scutulata*) were confirmed. And like roost environment, Rose-ringed Parakeet seems to prefer the open environment with few tall trees and high-rise buildings. The entrance of the nest is high from the ground in many places, and it is confirmed that it breeds even at the lighting of the stadium of 34 m in height (Fig. 1, 2).

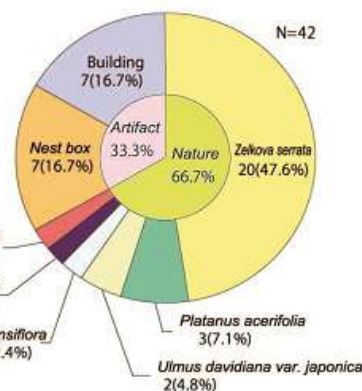


Fig. 1



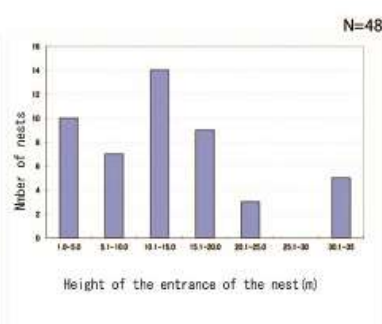
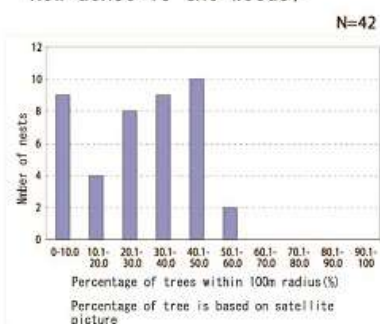
Fig. 2

## Nests environment



Adult male and five chicks in a nest box

## How dense is the woods?



## Dietary preference

We inferred that Rose-ringed Parakeet could survive even in winter with some fruits such as Japanese persimmons (*Diospyros kaki*) in gardens and parks and some foods from bird feeders. Previously, when they eat foods, they do not get off on the ground, but in recent years it has been reported as a rare case that they get off on the ground. Due to these changes, it is expected that food resources that could not be acquired so far will be available, and there are concerns that not only fruit trees but also agricultural damages to field products would be expanded.

### Spring

**March**  
Nectar: Apricot, Japanese apricot and Cherry tree  
Flowers: Magnolia  
Feed on the feeder: Sunflower seeds, Apple and Rice

**April**  
Nectar: Cherry tree  
Flower buds: Tulip tree  
Leaf buds: Tulip tree, Japanese elm, *Acer buergerianum*, Plane tree and Ginkgo  
Leaves: Midland  
Feed on the feeder: Sunflower seeds, Apple and Rice

**May**  
Flowers: Tulip tree  
Flower buds: Tulip tree  
Plant buds: *Acer buergerianum*, Plane tree and Cherry tree  
Leaves: *Lamprolaima japonica*  
Fruits: Mulberry, Japanese locust and Cherry  
Seeds: Casparyella, Queensland silver wattle and Mimosa  
Feed on the feeder: Sunflower seeds, Apple and Rice

### Summer

**June**  
Inflorescences: Bamboo  
Plant buds: Tulip tree  
Fruits: Cherry and Peach

**July**  
Flowers: Sunflower  
Seeds: Sunflower, Japanese chestnut  
Cones: Japanese cedar and Sawara cypress  
Fruits: Apple, Cherry, Peach, Plum and Persimmon

**August**  
Flowers: Sunflower  
Seeds: Sunflower  
Fruits: Round leaf holly, *Fraxinus japonica*, *Fraxinus japonica* sp. and Persimmon

### Winter

**December**  
Flowers: Sawanaga  
Winter buds: *Acer buergerianum*  
Nuts: *Castanopsis* sp.  
Cones: *Quercus dentata*  
Fruits: Persimmon, *Fraxinus japonica* and *Fraxinus japonica*  
Feed on the feeder: Sunflower seeds, Apple, Peach and Rice

**January**  
Flower buds: *Kobushi magnolia*  
Seeds: Japanese Pickle-ash  
Fruits: Orange and Persimmon  
Feed on the feeder: Sunflower seeds and Rice

**February**  
Nectar: Cherry tree  
Flower buds: Japanese apricot, Cherry tree, Rose, *Mulca magnolia*  
Flowers: *Broussonetia*  
Leaf buds: *Kiwaia*  
Leaves: *Broussonetia*  
Fruits: Maku Tree  
Feed on the feeder: Sunflower seeds, Apple, Millet and Rice

### Autumn

**September**  
Flowers: Tulip tree  
Seed: Sunflower  
Fruits: Apple and Flowering dogwood  
Achenes: Japanese zelkova

**October**  
Stalks: Locust tree  
Seeds: Sunflower  
Fruits: Persimmon and Maku Tree

**November**  
Seeds: Pine tree, Locust tree and Locust tree  
Fruits: Maku Tree, *Foxglove* and *Quercus dentata*  
Nuts: *Quercus serrata*  
Leaf buds: Locust tree  
Feed on the feeder: Sunflower seeds and Rice



Roadside cherry trees



Persimmons (*Diospyros kaki*) of a orchard