It's a clear night in July in a lowland rainforest of Costa Rica. The moon is less than a quarter full and it is just before 11 pm. A Costa Rican pygmy rice rat (Oligoryzomys costaricensis) is perched on a branch, feasting on the seeds of an unripe pepper plant (Piper sp) fruit (left). This small rodent species is often found within mature forests and along forest edges, where it can be seen running on the ground or climbing among small branches, usually looking for fruits and insects. This small mammal uses its front paws to manipulate the Piper stalk and cracks open the seeds with its teeth to consume the endosperm inside. It discards the seed husks on the leaves of the plant, leaving little “trash piles” behind (right). The frequent and heavy rain in this area usually washes these piles to the ground beneath the plant, perhaps providing some nutrient cycling for the soil. Piper is a highly diverse genus of plants, and an important food resource for many animals. When Piper fruits ripen, birds and bats feast on them and disperse their seeds, forming mutualistic relationships with the plants. Little is known about other species that consume Piper fruit, so this observation of O costaricensis provides new insight about other Piper consumers, and raises questions about whether Piper consumption by rodents incurs considerable costs to the plants.

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