

Ivy Gourd and Its Avian Seed Dispersers: Nature around Human Dwellings

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One of the commonest plants around our homes, gardens and lanes is the Ivy Gourd, easily recognized by its conspicuous 5-petalled white flowers (Figs. 1, 2). It is known in Central Thailand as *phak tamlueng* (ผักตำลึง). The fruits, about 4 to 5 centimeters long when ripe, resemble little cucumbers—not surprising because it is in the same family, Cucurbitaceae (DE WILDE & DUYFJES, 2008, pp. 423–425). Its leaves, three or five-lobed, are cooked and eaten in Thai cuisine (Fig. 1C), and in some countries, especially India, the green fruits are sliced and eaten in salads. The plant is found to have medicinal properties, and is rich in vitamins, minerals, and antioxidants. It has anti-inflammatory and antidiabetic properties.



Figure 1. A, flowers of the Ivy Gourd; B, Ivy Gourd vine growing on wall; C, Ivy Gourd leaves cooked and served with egg. Photographs by the author.

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The Ivy Gourd is a typical “weedy” vine that occurs abundantly in human-altered landscapes. It grows on the shrubbery and trees that we plant, climbs up our walls, dangles from our fences, and has a special liking for shrubby roadsides, although it is not a pest that smothers other plants like some invasive alien vines. I have wondered why the vine seems to prefer growing so close to human dwellings. Is there a special advantage in living around our houses and gardens? As it turns out, the answer may be yes, and this article attempts to shine the spotlight on the most likely explanation.

The unripe fruits of the Ivy Gourd are light green with irregular longitudinal white lines (Fig. 2B). I have tagged many female flowers and followed the developing ovaries until the fruits mature. The flowers are in full bloom for only one day. From then, the fruits take about ten days to reach full size, and remain green for two or three weeks more until one day, they rather quickly turn a bright scarlet red (Fig. 2C), beginning from the bottom and moving upward toward the stem. This clearly seems to be a signal—we know from many studies that they are designed to “fool” frugivores into swallowing and dispersing their seeds (Fig. 2D) by rewarding them with valuable nutrition. The dispersed seeds find new places to grow and thus may have better

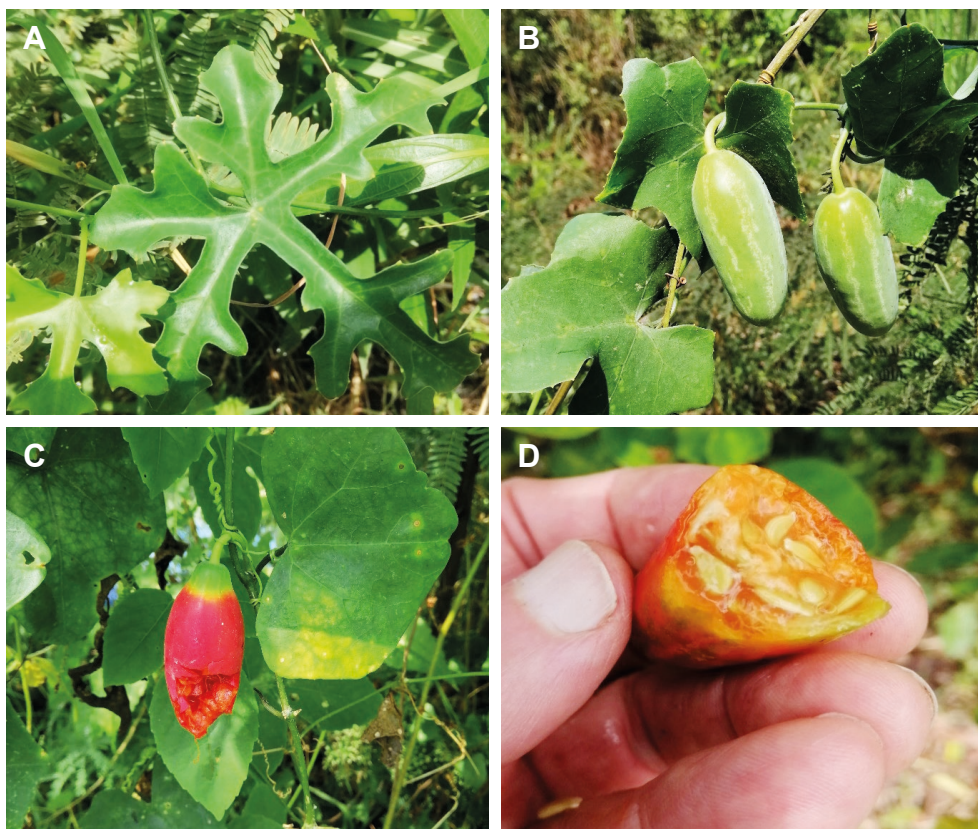


Figure 2. A, leaves on some Ivy Gourd vines are lobed; B, Unripe fruits of Ivy Gourd; C, A ripe fruit with some flesh consumed by birds; D, flesh and seeds inside a ripening gourd. Photographs by the author.

survival. As birds can get considerable nourishment from these juicy fruits, the relationship is termed by biologists a “mutualism,” in which two species provide reciprocal benefits to one another.

The Ivy Gourd grows commonly around our property and lane in Salaya, and so I decided to find out just what kind of bird (or other animal) feeds on the red fruits and disperses the seeds. I set up my camera with a 50–300 mm zoom telephoto lens on a tripod and sat in a canvas chair behind it in a clump of banana trees, aimed at some bushes draped with Ivy Gourd vines about six meters away. This kind of research requires considerable patience. After sitting and waiting quietly with my camera aimed at some red Ivy Gourd fruits for several hours on many days, I was finally rewarded by the spectacle of birds feeding. They were bulbuls (Fig. 3), which every hour or so swooped in and vigorously pecked at the fruits and gobbled down the red flesh. Only two species of bulbuls were seen eating the fruit, the most common being the Streak-eared Bulbul, in Thai นกปรอดดสวน. The other species that sometimes ate the fruit was the Yellow-vented Bulbul (นกปรอดหน้าขาว). In fact, these are the only two species of bulbuls common in southern Nakhon Pathom Province. A Streak-eared Bulbul visited the fruit every hour or so, gradually consuming it at the bottom and working its way up to the stem. One fruit lasted no more than two days. I saw the bulbuls coming to eat the fruit on at least eight vines. These bulbuls also eat other types of fruits such as palm fruits and figs which grow on our property, and although they are primarily frugivorous, they also eat the seeds of some trees. They will readily take banana, mango and papaya set out for them. They feed their developing young primarily on insects (LIMPARUNGPATHTHANAKIJ *ET AL.*, 2021; personal observations). Streak-eared Bulbuls are usually seen flying around in pairs, and apparently are monogamous in their mating habits. They usually feed singly, however; we rarely see a pair feeding peacefully together at a given fruit source.

This species of bulbul is not very colorful. Both sexes are drab brown above, with a pale yellowish vent (Fig. 3A–D), and diagnostic fine white streaks on the side of the head (visible in Fig. 3C). But it is ubiquitous around our house and lane, where its harsh rasping calls are heard throughout the day. It, too, seems to have an affinity for human dwellings and habitats: shrubbery, small trees, and edges of roads. In fact, it frequents every place where the ivy gourd grows, which makes sense because the bird, by depositing its seeds, determines just where the vine grows!

The seed-dispersal mutualism between bird and plant is a very common type of relationship, but it is a little puzzling why these species appear to be so closely associated with human dwellings. I have walked our lane to its entrance, a distance of some 800 meters, and counted 57 Ivy Gourd vines growing on the bushes and fences along the way. Could these species benefit in some way by being near us? We provide habitats suitable for both Ivy Gourds and bulbuls, but do the bulbuls get extra benefits from being near our houses? As a biologist, I am always searching for adaptive reasons for patterns in species' ecology and behavior. The bulbul's nesting behavior suggests some benefit; I have found five nests of the Streak-eared Bulbul near our house: one in dense vines near our driveway, three in planted shrubs very near our house or garage, and another in a potted shrub on our veranda where people walk by many times daily. Why does the bird like to live so near us? A theory that has been suggested is that the birds escape predation on their eggs and nestlings by being so close to houses. It is likely that are fewer birds of prey and snakes that would eat the birds and their eggs in nests near our walls, an idea which falls under the “Human Shield Hypothesis”



Figure 3. A–D, Streak-eared Bulbul feeding on Ivy Gourd fruits; E, nest of Streak-eared Bulbul in a *Uvaria* vine near our driveway; F, Yellow-vented Bulbul feeding on Ivy Gourd fruit. Photographs by the author.

(GAYNOR *ET AL*, 2025). MØLLER (2012) argued that small birds would tend to remain closer to human dwellings than larger predatory raptors which flee from people at greater distances, and hence would tend to suffer less predation by raptors in urbanized areas. Another theory is that birds nesting on or near houses escape brood parasitism by cuckoos which lay their

eggs in the nests of other birds, forcing the host species to raise their young (MØLLER, DIAZ, & LIANG, 2016). This does not seem likely to occur in the present case, because the local cuckoos apparently do not parasitize bulbuls (PAYNE, 2005).

An association that benefits one species (Streak-eared Bulbul) but does not provide any benefit or harm to the other (in this case humans) is termed a “commensalism.” We enjoy eating the leaves of the Ivy Gourd the bulbul helps to disperse, and admire its flowers along our lanes, but it is not likely that our reproductive fitness is thereby increased. In evolutionary terms, therefore, this is a one-way relationship. However, it may be a common one: there are a dozen or more native species of birds that appear to benefit from living near our houses and pathways, and also quite a few reptiles, mammals, and insects, many of which have invaded our dwellings. Such commensal relationships increase the biodiversity of our cities and towns (McKINNEY, 2006). Happily, our close relationship with the bulbul and the vine enriches our environment and our lives.

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Appendix 1. Names of species mentioned in the text.

Ivy Gourd	<i>Coccinia grandis</i> (L.) Voigt
Streak-eared Bulbul	<i>Pycnonotus conradi</i>
Yellow-vented Bulbul	<i>Pycnonotus goiavier</i>