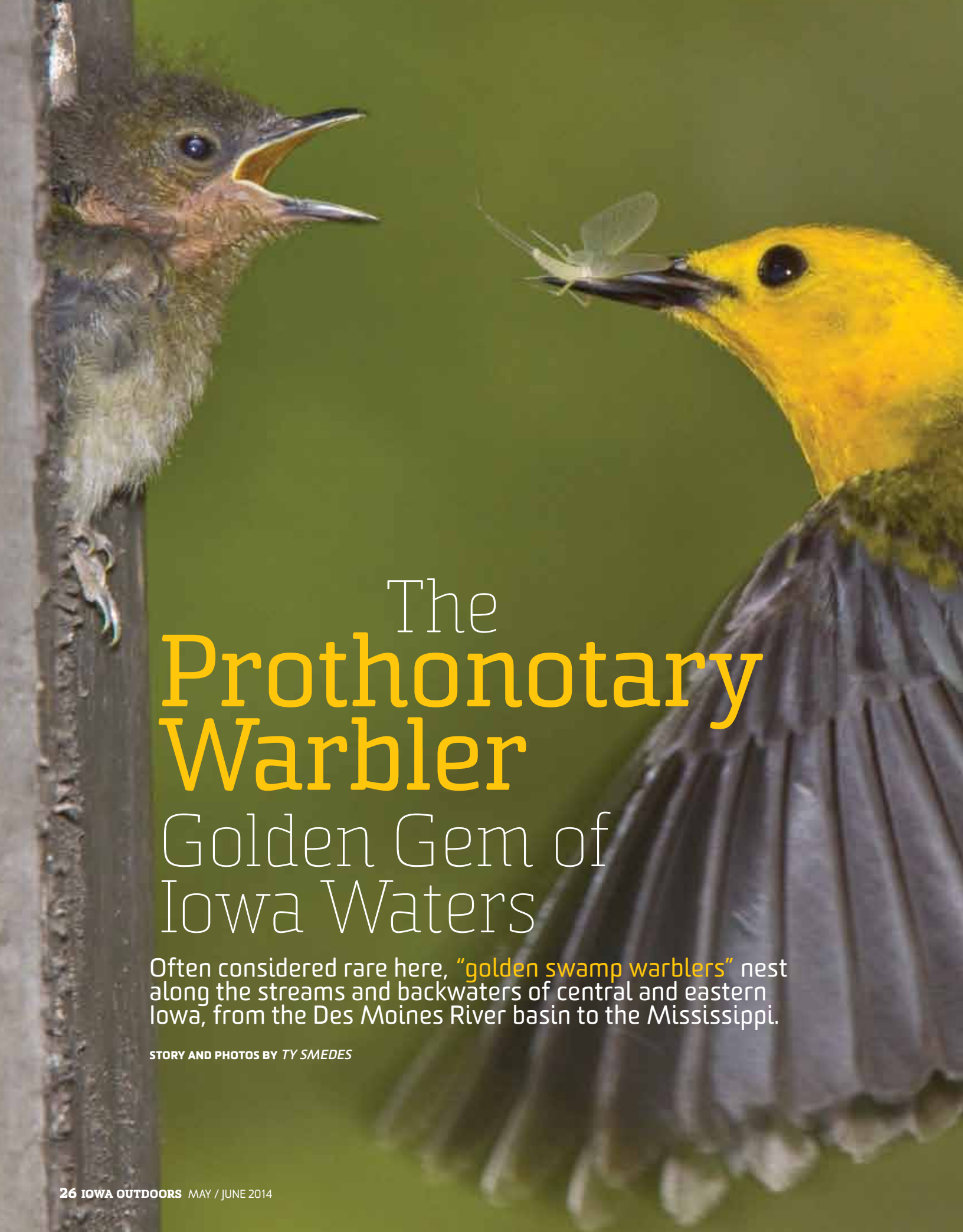

The Prothonotary Warbler
Golden Gem of Iowa Waters

Often considered rare here, "golden swamp warblers" nest along the streams and backwaters of central and eastern Iowa, from the Des Moines River basin to the Mississippi.

STORY AND PHOTOS BY *TY SMEDES*

It's early July and I'm wading through flooded backwaters of Beaver Creek, just south of Granger in Polk County. The heat index is 96 degrees, and trapped in my chest-waders, I feel like I've entered a sauna. I would rather have waited out the withering summer heat wave and rising floodwaters, but the prothonotary warbler nest I've monitored has hatchlings that will fledge today or tomorrow. Mother Nature has her own wondrous schedule, and I must adhere to it, or lose a rare and wonderful opportunity to photograph the parents bringing worms and insects to their nestlings. The rapidly growing youngsters won't wait for floodwaters to recede or the heat wave to break.

As owner of this floodplain property for more than 25 years, I know where every low spot lurks. Most of my quarter-mile trek is through knee-deep water, but one particular rivulet tests my chest waders. As I slowly enter the fast-flowing streamlet, the water inches closer to my backpack carrying many thousands of dollars worth of photo gear. Reaching back with one hand, I carefully push the pack several inches higher up my back to keep it above the roiling waters. A few more steps and the risk passes. As the blind and nest box come into view, my spirits lift when the stunning, gold-colored male warbler brings an insect to four hungry youngsters. The nestlings have yet to fledge. The camouflaged photo blind is surrounded by floodwaters, no more than a foot from the front of the blind, but having placed it on high ground, it sits dry. I'm swept with exhilaration knowing I can continue photographing the life-cycle of this beautiful little warbler.

The prothonotary (pronounced proh-THON-uh-ter-ee) warbler is the only cavity-nesting warbler in the eastern U.S. and southeast Canada. It's one of more than 30 species of colorful wood warblers that migrate through Iowa, and one of only a few warblers that commonly nests as far west as central Iowa. But not many will don hip boots or waders to ply the backwaters of swampy and mosquito-infested habitat to find the "golden swamp warbler." "Prothonotary" is a reference to clerks in the Roman Catholic Church, whose robes were bright yellow. During breeding season, the male's loud ringing

Returning prothonotaries arrive in Iowa in late April to mid-May, with males **(PICTURED ABOVE)** arriving first to pick and begin building nest sites. They prefer marshes, wooded swamps, flooded bottomland timber and streams with dead trees. They have few enemies—except for the common house wren **(LEFT)**, who will nest in almost any habitat and in some of the oddest places—like mailboxes or planters. They often take over existing nests and toss out material and eggs, rebuilding with the same material they just discarded.

song—sweet sweet sweet sweet sweet—reverberates along water edges during spring and summer.

Ready to fledge—Capturing the Final Photos

As soon as I entered the blind, both parents returned, bringing food to the four nearly grown and hungry youngsters. Big green worms were the menu item of the day, and both parents brought up to three insects at a time—a physically challenging task, without dropping one. The trifecta of insects was always diverse, often consisting of a worm, beetle and damsel or dragonfly. The rapid feeding pace continued, with one parent or the other alighting at the nest box every five minutes or so, taking but a few moments to pop in, deliver the payload and pop back out. A youngster appeared, perched at the entrance window. In a moment, the brightly colored male returned with an insect, and clinging to the entrance, quickly stuffed it into the wide and waiting mouth of the young. I never could have imagined what would happen next. Returning again and again, the male hovered like a hummingbird, stuffing an insect or larvae into the gaping beak of the seemingly insatiable youngster. It was a photographer's dream.

It was a very special day, spent with a very special warbler family, and I could only hope the species survives the challenges of diminishing habitat and competition from the competitive house wren. Back at my truck, I exchanged sweat-soaked clothes for dry ones, and savor memories that would last a lifetime.

The Nest Box Project

Several years ago, while photographing wood ducks at a nest box at the same location, I observed a small bird of rich golden hue at the entrance hole. It was a male prothonotary warbler. Excited by the discovery, I placed several bluebird boxes on poles over water. Several pairs of warblers set up housekeeping the following spring. These charismatic birds have few enemies, except for one—the ubiquitous house wren. Aggressive and unyielding, the male house wren builds several dummy nests made of sticks to attract a mate. And where wrens and prothonotaries occupy the same habitat, the wren always wins, often building his house of sticks atop the nest and eggs of a frantic warbler pair. The larger prothonotaries will swoop at a male house wren singing from the roof of their home but aren't aggressive enough to hit it and drive it away. Needless to say, the house wrens were aggressive, and prothonotary nest box success was mixed.

The House Wren Threat

Prothonotary nest box expert Charles Bombaci of Westerville, Ohio, has years of experience maintaining a nest box trail at the Hoover Nature Preserve in Ohio. According to an Audubon chapter in Columbus, Ohio, Bombaci "has erected 250 nest boxes in the preserve—with impressive results—68 breeding pairs of prothonotaries."

"Prothonotary warblers have been victimized over the years by loss and degradation of habitat, and these

GET INVOLVED: Build a nest box with plans found on page 60. Go to *Audubon.com* and search prothonotary warbler songs to hear calls of the bird.

To watch video of a prothonotary warbler building and maintaining a nest box, go to *sialis.org/prow.*

Having trouble identifying a bird? Go to *Audubon.org* and download the Audubon Online Bird Guide. Get descriptions, hear songs and learn the habits of more than 800 species in 22 orders and 74 families. Search by quick guide, such as long-legged waders or duck-like; by family, like ducks, geese or swans; or by common name. Learn what put some species in peril, the natural history of birds and which ones are threatened or endangered. Discover the difference between uppertail and upperwing coverts, tertials, secondaries and primaries.

The Prothonotary Warbler Nesting Habits

Excavation or nest site selection: Arrives in Iowa during mid-May. Males arrive first, and pick nest sites before females arrive. Makes one or more "dummy nests" of fresh moss (1 to 8 centimeters deep, may have nest cup). Displays at nest sites for female, repeatedly entering and exiting cavities.

Nest construction: Females build the actual nest, which is completed within 6 to 10 days, consisting of mosses and lichen, rootlets, small twigs, dry leaves and strips of bark.

Egg laying: Usually three to eight, commonly four to six, and one egg per day early in morning. Eggs: oval, smooth, somewhat glossy shell, with a creamy or slightly yellow tinge. Boldly and liberally spotted/blotched with dull reddish brown and pale purplish gray spots.

Incubation: 12 to 14 days. Female incubates and male often brings food to her during incubation, and may inspect the nest. Female continues to brood for the first few days after hatching.

Hatching: Usually mid-morning—all eggs usually hatch within 12 hours, sometimes one hatches up to 24 hours later

Development: Nearly naked with sparse downy feathers, orangish pink with gray head. Eyes are closed. Both parents feed young—may feed while perched at entrance. Both parents remove fecal sacs until babies fledge.
Day 2: young readily lift head to gape if nest box is tapped.
Day 3 to 4: female stops brooding.
Day 5: young are mobile, often sitting in star pattern facing different directions from center.
Day 6: youngsters crouch and stay silent when nest is disturbed. Capable of "tschip" call .
Day 7: can now hop and grasp with their feet. Can often shift position in nest by **day 7 to 8**, and may form a pyramid pattern with all heads pointed towards entrance hole.
Day 9: able to run.

Fledging: 10 to 11 days old, usually in morning, usually all fledge within several hours although sometimes one fledges the next day. Nearly completely feathered except tail feathers are half-sheathed. The young are able to "swim" (propel themselves across the water surface) and fly short distances. This is important since they often nest over water.

Dispersal: Parents feed juveniles up to 35 days after fledging. Parents divide up the young and feed only part of the brood.

Number of broods: Generally two in the southern U.S., but usually one in the north.

Longevity: Oldest record of a banded female is about eight years. Average male life span is 2.44 years.

The prothonotary is one of only two North American warblers that nests in cavities and the only one outside the extreme desert southwest.

Prothonotary warbler populations (and some other songbird) populations are in decline due to the destruction of wintering mangrove swamps in southern Central America and northeastern South America, breeding habitat loss, nest predation and brood parasitism. Cowbirds parasitize more than 220 bird species, removing one of the host species' eggs and laying one of its own. If a nest is parasitized, the female may abandon it. About one in four nest attempts fail due to predation by raccoons, snakes, weasels and other predators.

issues continue to be troublesome. Currently the species has another nemesis, the house wren, which are rapidly becoming a major competitor for nest sites, including nest boxes," says Bombaci. "With the ever-expanding housing projects in suburbia, more and more sites once devoid of house wrens are becoming havens for them."

Combating House Wrens

Bambaci offers several methods for combating house wrens:

Avoid marginal habitat. Install or move nest boxes away from brushy, heavily wooded areas such as thickets, brambles, trees or shrubbery to decrease the likelihood of house wrens using the box. Remove brush near a box as shrubbery appears to be more attractive than trees. Face the entrance hole away from shrubbery. House wren populations appear to be increasing. As nesting pressure increases, or as the season progresses, they may move farther away from what is considered "ideal" wren habitat. The best deterrent is to move boxes away from wren habitat, especially boxes used in the past by wrens.

Remove extra boxes. Fewer boxes may keep wren populations in check so they don't attack prothonotaries' nests.

Plug nest boxes using a rubber drain plug in boxes with dummy nests, or leave the box door open for three to seven days, up to two weeks, if wrens attempt to claim the box. The downside is it may encourage wrens to attempt to claim another nest box.

Dummy nests may be removed and destroyed. They generally consist of loose sticks only without feather or fiber lining or eggs. They often lack white fuzzy spider cocoons wrens use on active nests. A nest with a lining is an active nest and must be left alone under the Migratory Bird Treaty Act. A nest is a dummy if eggless after three weeks. Repeatedly remove sticks and twigs of dummy nests, or leave the box open or plugged for a week or two. Removing sticks usually requires daily visits, as wrens can fill up a box in a day. If they intend to use the box for a real nest, the pair may begin refilling the box within minutes. Discard sticks far from the nest to discourage rebuilding.

Dedication Is Key

"In places where the breeding ranges of the house wren and prothonotary warbler overlap strongly, the house wren always out-competes the prothonotary warbler. In the northern part of its breeding range, prothonotary warbler breeding success is most strongly limited by highly aggressive interaction with house wrens," according to an excerpt from the Canadian Prothonotary Warbler Recovery Program Annual Report. "Moreover, house wren aggression is so strong that it cannot be countered by any means. As a result, the recovery team strongly discourages people from placing prothonotary warbler nest boxes at sites that are already occupied by house wrens. It is a losing proposition and only serves to bolster wren populations, making the situation worse."

I wouldn't advise placing nest boxes in prothonotary habitat unless dedicated to the project. Boxes require daily monitoring and patrol to maximize nesting success.