



# Menu

Ecologists are devising  
invasive species control  
strategies that would make  
Julia Child proud.





Illustration by Paul Slater ©

BY JOE ROMAN

# Bon Appétit

**S**TANDING ON THE SHORE of Penobscot Bay in Maine, I look out on a typical New England scene: lobster boats head out to their pots, a herring gull casts a shadow across a still pool and a harbor seal bobs in the swell. But just below the surface, an army of European invaders is at work. Beneath the seaweed, half a dozen green crabs brandish dark, serrated claws before beating a hasty retreat under the rocks. As the tide recedes, thousands of European periwinkles appear, feasting on local algae and the eggs of other species and stunting the growth of native limpets in the process. Above the high-tide line, invasive weeds—dandelions, stinging nettles, and purslane, to name a few—line the roads and spread out across the country.

But while some researchers are hard at work engineering elaborate

biological control programs based on importing the pests' natural predators from their homelands, others point out that the answer to our alien species problems may have been staring us in the face all along. Why bring in more exotics, they ask, when we already have a steadfast omnivore on the plains, in the mountains, along the shore, and perhaps in its favorite reading chair right now?

Sure, fighting invaders requires a killer appetite, but just look at our track record: Atlantic cod, bison, manatees, and Pismo clams have all but disappeared under the weight of human demand. We managed to dispatch all 5 billion passenger pigeons—many of them smoked, roasted, stewed, fried, or baked in pot pies—in fewer than 100 years. After the birds were gone, market hunters missed the pie—half a dozen pigeons with three crimson

# Appetizer

## **NUTRIA, WILD BOAR, AND CRAWFISH EGG ROLL TOWERS**

*Makes 20 egg rolls*

- 2½ pounds ground nutria
- ½ pound ground wild boar
- ½ pound crawfish tails, chopped fine
- ½ cup water chestnuts, chopped
- ½ pound shiitake mushrooms, chopped
- ¼ cup sliced green onions
- 1½ tablespoons Thai-style seasoning
- 20 egg roll wrappers
- 1 egg, beaten
- Peanut oil for deep-frying

**1.** In a large bowl, mix the nutria, wild boar, crawfish, water chestnuts, mushrooms, onions, and Thai seasoning. Brown the mixture in a heavy skillet over medium-high heat. **2.** Remove from the heat, drain, and cool. **3.** Place 2 ounces of the mixture in each egg roll wrapper. Follow directions on the wrapper package for rolling and sealing the egg rolls. **4.** Pour 3 inches of oil into a heavy, deep saucepan. Heat the oil to 350 degrees. Fry the egg rolls until golden brown. **5.** Place three egg rolls in another wrapper and brush the edges of the wrapper with the beaten egg. Fold the edges over to create a bundle. Repeat until you have used up all the egg rolls. Fry the bundles until golden brown. **6.** Slice open each bundle across the top on the bias. Place the egg rolls upright on a plate and serve with a sweet and spicy sauce. (Recipe courtesy of Prejeans Restaurant in Lafayette, Louisiana)



Photo by © Sara Essex

**Nutria** (*Myocastor coypus*) were introduced to Louisiana in the 1930s for their fur. These large rodents are native to South America but have escaped from fur farms to become invasive throughout much of the U.S. and Europe. They are voracious herbivores and do extensive damage to wetland plants.

legs stuck in the crust—as much as they did the birds themselves.

So why not put our destructive streak to good use for a change? Eating invaders certainly

easy. The soft-shell clam *Mya arenaria* is a case in point. Native to the U.S. East Coast, fried clam is a popular dish among locals. “When you order the fried-clam basket on Cape Cod,

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isn't a new idea. Many species, from hogs to Himalayan raspberries, were introduced for just that purpose: to make the wilderness a larder for displaced immigrants. And even accidental invaders have been known to supply a meal. When Patagonians visited Magellan's ships in 1520, they devoured the ship rats, fur and all. The sailors were appalled, but a few months later, becalmed in the Pacific and down to a diet of sawdust and shoe leather, they were thankful for every rat they found.

Nowadays, we can afford to be a bit more discerning. With initiatives ranging from economic incentives to recipes by celebrity chefs to exotic food festivals, the idea is starting to catch on. All over the world, invasive species are being taken out of the wild and put onto the menu.

**B**ACK IN MAINE, I slipped some European invaders—a green crab (*Carcinus maenas*) and a few dozen periwinkles (*Littorina littorea*)—into a cooler and set off to the hostel where I was staying. Equipped with Euell Gibbons' *Stalking the Blue-eyed Scallop*, a slotted spoon, and a nutpick, I boiled a pot of water and set the small table with French bread and melted butter. I dropped the periwinkles into the pot for few minutes, then dragged them out of their shells and through the warm butter. The invaders were briny, firm, and delicious.

As for the crab, I felt a little guilty as I removed it from the cooler, live, soft and vulnerable in midmolt, but Gibbons' instructions were clear: “With a sharp knife remove the eyes.” That done, I sautéed it in butter and ate it with French bread. Fresh from the sea, the delicate flaky meat beat any store-bought crab I've had, claws down.

But while my foray into conservation cuisine was a definite success, convincing people to take up the fork against invaders is far from

you're eating *Mya arenaria*,” says Jim Carlton, an invasive species biologist at Williams College in Massachusetts. “On the West Coast, though, it has become the most abundant clam in the Oregon bays but is viewed as a waste clam.

**A**LTHOUGH TASTES ARE often slow to shift, change is possible. The Hadley Bowling Green Inn in Worcestershire, U.K., put gray squirrel (*Sciurus carolinensis*) terrine on its menu earlier this year. The North American rodent has taken the British countryside by storm, displacing the native red squirrel and destroying the bark of native trees. The inn's accountant, David Eccleston, says that diners enjoyed the dish, which combined roasted squirrel and foie gras. “I've had customers ring me up to express support,” he says. “[They say] you're doing the countryside a favor.” However, the item has since been taken off the menu after animal-rights campaigners protested—not for the love of gray squirrels but because of the force-feeding of waterfowl for the foie gras. Eccleston says customers are already calling for the dish to be reinstated.

In the southwestern U.S., the Arizona Game and Fish Department is also promoting the pot as a method of pest control. The Louisiana crayfish (*Procambarus clarkii*) was introduced as food for sport fish in the 1960s but soon set about devouring native plants in mountain streams before moving on to native animals and eventually each other. “Catch crayfish at every opportunity,” the department tells volunteers, who come armed with hand-held nets and traps baited with chicken, pork, or hotdogs. The slogan “Millions of Cajuns can't be wrong!” has sold the idea to Arizonans, who help police local waters. More important, from state fisheries chief Larry Riley's point of view, is raising awareness to the problems caused by crayfish and other aquatic nonnative species.



# Dessert



Photo by © Ben Fink

## KUDZU SORBET

Serves 4

- 2 cups dry white wine
- 2 cups water
- 1<sup>3</sup>/<sub>4</sub> cups sugar
- 2 cups kudzu blossoms
- 1 ounce licorice root, minced
- 1 pinch cayenne pepper

Place the wine, water, and sugar in a saucepan and bring to a boil. When this is boiling, add the kudzu blossoms, licorice root, and cayenne pepper and boil for only 1 minute more. Remove from the heat and set aside to cool. Cover the pan with plastic wrap and leave overnight to infuse the flavors. The next day, strain the mixture, place it in an ice cream maker, and process according to the manufacturer's directions.

For those without an ice cream maker: Transfer the strained mixture to a glass baking dish. Freeze the mixture until firm, stirring occasionally, for about five hours. Break the sorbet into large pieces and purée it in a food processor until smooth and creamy. Cover and freeze until firm. Let the sorbet stand at room temperature for 5 minutes before serving. (Recipe courtesy of José Gutierrez, formerly at Chez Philippe in Memphis, Tennessee)

**Kudzu** (*Pueraria montana*) was first brought to the U.S. from Japan for an ornamental plant display at the 1876 Centennial Exposition in Philadelphia, Pennsylvania. The plant caught on with gardeners and was also planted for erosion control during the 1930s. Kudzu grows at an alarming pace in the warm, wet climate of the southeastern U.S., smothering any shrubs or trees in its path.

Festivals and cookery competitions have also had an impact. Japanese knotweed (*Polygonum cuspidatum*), an aggressive weed that has spread across the U.S., the U.K., continental Europe, Australia, and New Zealand, is served up as knot soup and apple-knotweed pie in Pennsylvania at the annual Japanese Knotweed Festival. In Louisiana, celebrity chefs such

Zealand, the goal here is reduction, not eradication. “Even if one technically could eradicate them,” Australian ecologist David Forsyth says, “there would be a monetary incentive for people to ‘keep a few’ and make money from them.”

The recent appearance of feral pigs in Wisconsin prompted the Department of Natural Resources to call on the state’s 600,000 hunters

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as the native Cajun Paul Prudhomme and French-born Daniel Bonnot have taken on the nutria (*Myocastor coypus*) with meat grinders and stockpots. This aquatic South American rodent, also known as the coypu, is one of the state’s most destructive alien species. Recipes such as smoked nutria and andouille sausage gumbo aim to increase public awareness of the ecological havoc wreaked by invaders while providing a few courageous diners with a gourmet meal.

Guerrilla tactics like these certainly help the cause, but the massed assault of a commercial harvest is far more effective. It is also more contentious. In New Zealand, where red deer (*Cervus elaphus*) destroy native plants and prevent the forest canopy from recovering, commercial hunting from helicopters has reduced populations by more than 99 percent. Most of the wild venison is sold to Germany, where red deer are native. Ironically, invaders are often shipped back home, where native populations are now too small to satisfy local demand. Ecologist Dave Choquenot with Manaaki Whenua Landcare Research, an independent research institute based in Auckland, New Zealand, supports the hunters’ efforts. “For the vast majority of pests, eradication is simply not feasible, [so] anything that contributes to lower pest densities conceivably yields benefits.”

The feral pig harvest in Australia, according to Choquenot, “is one of the five largest game harvests in the world.” Millions of pigs are removed each year by trapping, aerial shooting, recreational hunting, and baiting. This hunt may reduce the impacts to native flora and fauna by removing pigs that root and wallow their way across half the Australian continent. As in New

Zealand, the goal here is reduction, not eradication. “Even if one technically could eradicate them,” Australian ecologist David Forsyth says, “there would be a monetary incentive for people to ‘keep a few’ and make money from them.”

**M**ANY CONSERVATIONISTS fear that creating a taste for unwanted species may make matters worse. “There is much skepticism among invasive-species biologists all over the world about prompting industries that harvest feral animals,” says Tim Low, freelance biologist and author of *Feral Future: The Untold Story of Australia’s Exotic Invaders*. “Once you have set up an industry, you may find you have created a problem rather than a solution.”

Clearly, the most effective treatment is prevention and a quick response to new invasions. At best, humans may be just another form of biological control—capable of reducing the ecological impact of an invader, if not completely extirpating it. But for every invader consumed—from knotweed to feral pigs to periwinkles—that’s one more native left in the wild, one less cage in the factory farm.

The solution, says Bill Walton, fisheries specialist at Woods Hole Oceanographic Institution in Massachusetts, is to just keep eating. He has received a grant to set up a green crab fishery in New England where there will be no restrictions, no quotas, and no early closures when stocks get low. “You have to be clear about it,” he says. “Extinction is a happy ending.”

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