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Chapulines and Food Choices in Rural Oaxaca



Above: Chapulines in a field, Mitla, Oaxaca, Mexico.

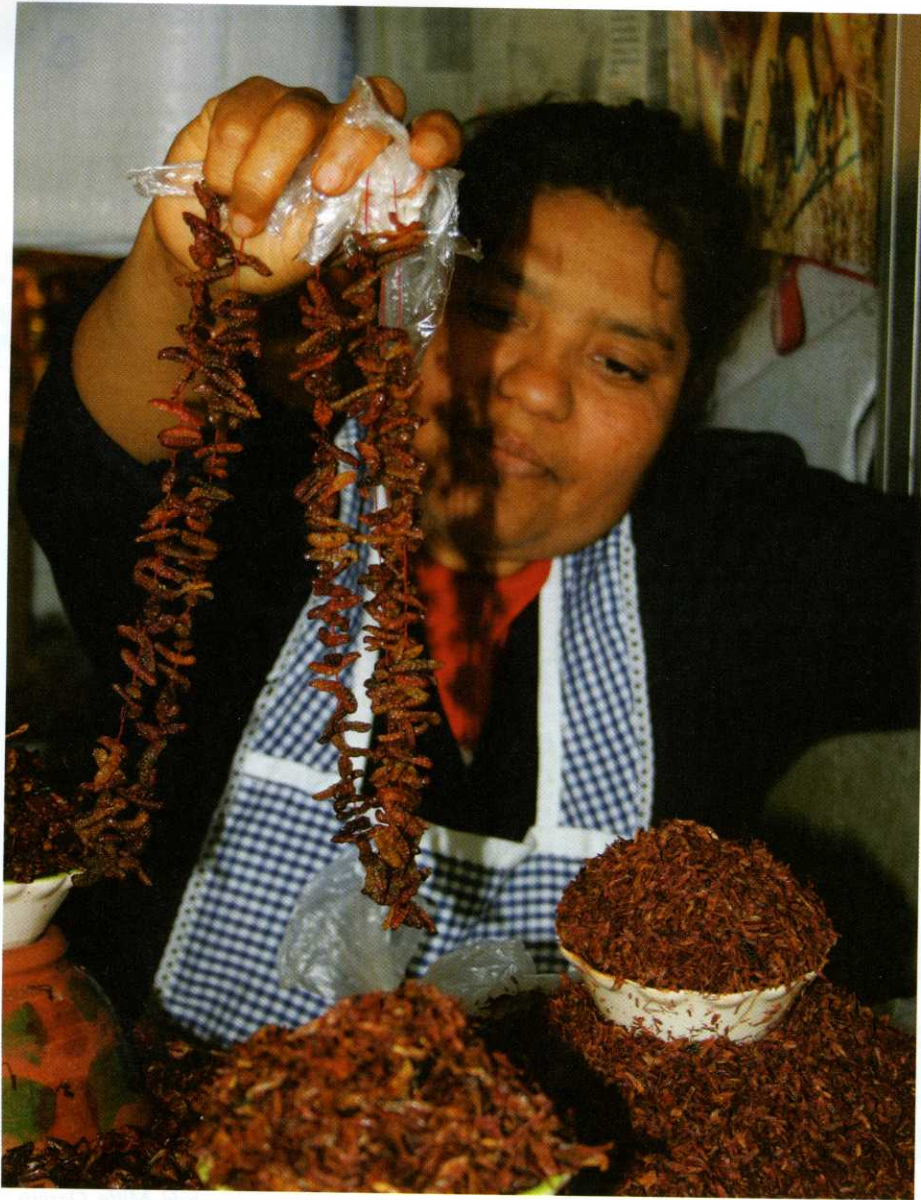
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AMONG THE DISTINCTIVE DISHES of Oaxacan cuisine, well known to locals and tourists alike, are such favorites as *tlayudas* (large, thick corn tortillas), *mole chocolate* (chocolate sauce), and black beans. Less well known to outsiders but central to the diet of Oaxacans are *chapulines* (grasshoppers). Although people throughout Mexico eat insects, including the prized *escamole* (ant-egg caviar),¹ nowhere in Mexico are *chapulines* more popular than in Oaxaca's central valleys.² Cleaned and toasted in a little oil, with some garlic, lemon, and salt added for flavor, *chapulines* are an important food in indigenous and mestizo peasant communities as well as a delicacy for the urban population of Oaxaca City.

Oaxacans have consumed grasshoppers for centuries, since well before the arrival of the Spanish,³ and they remain a part of the contemporary local diet, whether as a condiment, snack food, or main dish.⁴ Grasshoppers are found in the green places of human settlement, such as

yards, gardens, and parks. However, grasshoppers collected for consumption are taken from *milpa* (fields planted with maize and alfalfa, among other crops). Because they live on managed fields rather than in open scrub and forestlands, *chapulines* are, in a sense, semi-domesticated; they live longer than other kinds of grasshoppers and reproduce at high rates.

Chapulines are caught and prepared for consumption beginning with the arrival of the rainy season in late spring and continuing through early winter. Harvest commences when the grasshoppers first hatch in the alfalfa fields. Newly hatched *chapulines*, called “nymphs” in English, taste sweet because of the alfalfa they have been eating. Considered a truly special delicacy, they sell for a premium. As they mature, *chapulines* leave the denser, cool cover of alfalfa



for more open maize fields. The drier and hotter maize allows the grasshoppers to sun themselves in the open spaces between the rows of maturing plants. Maize imparts a slightly bitter taste to the insects.

Harvesting begins very early in the morning, just as the sun is rising. It is important to get to the fields while the *chapulines* are cool and dormant. Anna Garcia of Santa Inéz Yatzeche describes the harvest: “If you try to catch the bugs in the middle of the day, you look like an idiot jumping around, and you can’t catch them anyway. It is too hot. You need to go out early with a net to get them.” (Except for Donaji Martinez, all the names used here are pseudonyms.) Collecting is typically done by men and boys. Armed with nets and boxes, they begin at the edge of the *milpa*, then methodically—and quietly—work their way across the fields.⁵ The harvesters try not to disturb the grasshoppers, which, once aware of humans, will leap to safety.

Above: Chapulines at the Mercado 20 de Noviembre, Oaxaca City, Oaxaca, Mexico, February 2006.

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Rather, they locate the *chapulines* sitting on leaves, warming themselves in the sun, and then quickly scoop them up with a net and transfer the catch to a cardboard box. As one hunter explained while trapping nymphs in the town of Mitla, “You can almost grab them by hand; they are so slow in the morning!”

The harvest continues until a box is filled, the harvesters are tired, or the *chapulines* become too active. It is obviously important to close the box of grasshoppers securely to prevent their escape. Once a harvest is complete, the boxes of bugs are set in a cool part of a house, where the *chapulines* again become dormant. Once the grasshoppers have settled, men and women sort the catch, removing any unwanted bugs, plant materials, and trash.

Once cleaned and sorted, the grasshoppers are left in their boxes for one to three days with no food. This period allows the *chapulines* to void any waste in their system before they are cooked. Many Oaxacans argue that most large-scale *chapulines* production (which takes place in the state of Puebla) does not include this resting stage; instead, grasshoppers are captured, sorted, cooked, and quickly sold. Julian Ramirez, a vendor in Oaxaca's central market, contends that large-scale producers use chiles to cover the bad taste of *chapulines* that have not rested or, even worse, that have grown stale while waiting to be sold. When asked about the harvest and chiles, he exclaimed, "What am I, a vendor from Puebla? I never put chiles in my *chapulines*. If they're fresh, you don't need to do that! They should be fresh and unflavored, cooked with only a little *sal de gusano* and maybe garlic.⁶ These *chapulines* from Puebla are not good, the growers don't rest them, and the grasshoppers have a bad taste because of it!"

Clean, live *chapulines* can last for some time when stored in a cool, dry place. Sometimes a vendor will hold back her *chapulines* and wait until the demand rises, in order to ask for a higher price. Most often, however, cleaned *chapulines* are cooked and eaten or sold quickly, often within a week.⁷

After the insects are clean, it's time for them to be cooked, typically by women. First, the *chapulines* are plunged into boiling water seasoned with garlic and lime. This immersion quickly kills the grasshoppers and rinses them a final time. Next, the *chapulines* are toasted by the handful on a *comal* (a clay cooking surface), tossed with a spoon or bare hand. No oil is used when toasting *chapulines* on a *comal*; rather, they are sprinkled with lime juice and *sal de gusano* or plain salt. A distinctive flavor and crisper texture can be obtained by toasting the grasshoppers at a higher heat and with garlic. If a cook uses a stove instead of a *comal*, she may sauté freshly parboiled *chapulines* in a little oil over a fairly high heat. Whatever the method of preparation, the *chapulines*, now fully cooked, are ready for family consumption or sale.⁸

As a relatively low-cost source of protein, *chapulines* are a crucial part of the diet for rural families struggling to put enough food on the table. Most rural, central valley families depend on the remittances of a migrant working in the United States to cover the costs of living and daily expenses that average about two hundred pesos (or about twenty dollars). Other families make ends meet and keep costs low by eating a relentlessly repetitive diet based largely on tortillas and salsa with little or no protein beyond an occasional chicken, eggs, and low-grade meats such as tripe. Donaji

Martinez has described *chapulines* as "a gift from God, a gift that feeds us when we have nothing."

Chapulines are not only critical to the Oaxacan daily diet; they also play a role in local, small-scale marketing, restaurants, and exports.⁹ In the Mercado Vente de Noviembre, for instance, women sit near the southern entrance at stalls advertising their expertise: "Chayo-Chapulines Oaxaqueños" (Chayo's Oaxacan Chapulines) and "Puesto de Pan y Chapulines Oaxaqueños de Antequera" (roughly, Ye Olde Oaxacan Place for Bread and Chapulines). The latter stall is no fly-by-night operation; it advertises more than thirty years of selling experience. The vendors, from nearby towns such as Santa Inéz Yatzeche and San Juan Mixtepec, collect, process, and roast the *chapulines* at home; if they do not have enough, they supplement their stock by buying fresh grasshoppers from neighbors. One vendor working the Sunday market in the city of Tlacolula travels throughout the eastern branch of the central valleys, buying *chapulines* from various families to prepare for sale on market days.

Selling *chapulines* is a full-time job. Women are at their stalls in the markets nearly every day of the week. Doña Marian said, "Well, I'm here in the market every day. Sometimes, if I have to go to the doctor or one of my children is sick, I'll send my sister, or maybe my niece to fill in for me, but I need to be here." Women arrive at the market early in the morning and sell for eight to ten hours straight. Their efforts are supported by family members at home, who often continue collecting, processing, and toasting newly harvested *chapulines*.

Vendors bring as many prepared *chapulines* as they think they can sell in a day, about two kilos. If too many grasshoppers are left at the end of the day, they may go bad, and most women do not like to carry unsold stock home. Most sales are made directly to consumers. A small serving (measured in an empty tuna-fish can) costs about ten pesos. Sometimes, though, restaurateurs purchase several kilos from vendors, paying between ninety and one hundred and ten pesos for a full-kilo bag. On a good day, women can earn several hundred pesos. This is very good money indeed for rural families who otherwise find work as unskilled laborers and are often paid no more than fifty pesos a day.¹⁰

For an average family of four to six members, a kilo can last a few days and accompany several meals. I was first introduced to *chapulines* one fall morning in 1992 as Don Mauro Ortiz and I collected firewood in the mountains above the village of Santa Ana del Valle. For a break he pulled a stack of fresh corn tortillas from his bag, followed by a bag of large, toasted adult *chapulines*. He filled the

tortilla with *chapulines*, sprinkled on a little salt, and rolled everything together tightly. He ate the “taco” with gusto and finished with a fresh orange and water before returning to work.¹¹ I remember not so much the flavor of my first *chapulines* as the sensation and awareness of what I was eating. The *chapulines* complemented the tortillas; they were a little spicy with a texture just between chewy and crisp, but they did not overwhelm the flavor of the tortilla. Toasted adult *chapulines* are large bodied, and most still have their rear legs attached. As I bit down, my only thought was that I was eating bugs. My discomfort intensified as those legs stuck between my teeth, scratched the roof of my mouth, and caught in my throat as I swallowed. All the same, like any good anthropologist, I took another bite, hoping to mask my apprehension. I learned it was okay to spit out the legs. From Don Mauro I also learned how to remove the legs beforehand, leaving the head and thorax. While I never really got beyond the sense that eating bugs wasn’t for me, I learned to enjoy *chapulines*, particularly when I sampled the smaller, sweeter nymphs.

Although the typical way to eat *chapulines* is freshly toasted, with a corn tortilla hot off the *comal*, more complicated dishes can be found in restaurants. At Restaurant Donaji in Mitla, Oaxaca, Señora Donaji Martínez adds *chapulines* to her menu when she has collected them. They appear as an appetizer to be eaten with lime and salt, or with a little salsa and chips, washed down with a shot of mescal. Sometimes Señora Donaji prepares one of the more complex dishes, *chapulines con picante*. After sautéing garlic with cilantro and lime juice in olive oil, she grinds the mixture with a *molcajete* (mortar and pestle) to the consistency of a salsa. Next, she adds several handfuls of *chapulines*, mixes everything together, and briefly sautés the mixture again to blend the flavors. The finished dish is served in tortillas, but it can also be mixed with eggs or used as a condiment for meat. Other restaurants serve *chapulines* as main dishes, in sauces, chilies *relleños*, tacos, and the like. Finer restaurants that cater to more refined or at least wealthier palates create fusions of *chapulines* with other dishes and charge high prices while advertising the food as an authentic taste of Oaxaca.¹²

Chapulines are also an important export for Oaxacans.¹³ Humberto Ruiz, the manager of La Internacional, a family-based export business in San Agustín Yatareni, just east of Oaxaca City, regularly ships *chapulines* to his store in Poughkeepsie, New York, where they are eagerly purchased by Oaxacans looking for a taste of home. He sends approximately one hundred kilos of *chapulines* (along with cheese, *tlayudas*, and mole) every other month, although,

depending on demand, he sometimes ships more often. The *chapulines* are sold to Oaxacans living all over the East Coast of the United States; many families come from as far away as Pennsylvania, New Jersey, Maryland, and parts of New England. Priced at twenty-five dollars a kilo, the *chapulines* usually sell out within a day.¹⁴

The importance of *chapulines* to Oaxacans cannot be overestimated. An important food in the past, *chapulines* today fill the bellies of citizens who cannot afford alternatives, and they serve as snack food for nearly everyone. Additionally, harvesting and selling *chapulines* offers an economic opportunity for women and families in a region with few jobs and limited possibilities. Nevertheless, there is some controversy surrounding *chapulines*. Although the insects can be delicious, recent tests of cooked *chapulines* show that they are sometimes contaminated with high, at times dangerously high, levels of lead.¹⁵ The presence of contaminated *chapulines* in Monterey County, California, drove the Centers for Disease Control to issue a warning and recall *chapulines* from local stores.¹⁶ While much of the *chapulines* harvest available in Oaxaca is not contaminated, this problem is not easily solved, nor is it clear how the insects come to be contaminated. Despite this caveat, *chapulines* are a wonderful treat that should be enjoyed. While you may not get past the idea of eating a bug, your experience will link you to a very old, and distinctive, food tradition. Oaxacans claim that “If you eat a *chapuline*, you are destined to return to Oaxaca.” Not a bad idea! ●

NOTES

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Interviews for this project took place in the winter of 2006 and the spring and summer of 2006 and 2007.

1. For a discussion of the place and importance of insects in Mexico and the Oaxacan diet, see Julieta Ramos-Elorduy and J.M. Pino Moreno, “Persistencia de Consumo de Insectos,” in *Biodiversidad de Oaxaca*, A.J. García-Mendoza, D.J. Ordóñez, and M. Briones-Salas, eds. (Mexico: Instituto de Biología, Universidad Nacional Autónoma de México, Fondo Oaxaqueño para la Conservación de la Naturaleza and World Wildlife Fund, 2004), 565–584.

2. The central valleys of Oaxaca surround the state’s capital, Oaxaca City, and include the Centro, Etla, Ocotlán, Tlacolula, and Zimatlán districts. Communities in the central valleys are relatively well off in comparison to the rest of the state. For more on the region and its economy see J.H. Cohen, *The Culture of Migration in Southern Mexico* (Austin: University of Texas Press, 2004).

3. Fray Bernardino de Sahagún, *General History of the Things of New Spain: Florentine Codex, Book 11 Earthly Things* (Santa Fe, NM: School of American Research, University of Utah, and the Museum of New Mexico, 1963), 96, notes that locals consume several types of *chapulines* including *Yectli chapolin*. He describes the grasshopper as “of average size. Its lower legs are chili-red, and its breast chili-red. It appears when it is harvest time. It is edible.”

4. While Oaxacans consume eighty-five different species of insects and fifteen kinds of grasshoppers (of the *Ophoptera* order), three species are most commonly found in local kitchens: *Sphenarium histrio*, *Sphenarium spp.*, and *Sphenarium purpurascens*. These species are nutritious, with protein levels of between 56 and 77 percent of their total body weight; fat accounts for only 4 to 11 percent of the total body weight. See Julieta Ramos-Elorduy, "The Importance of Edible Insects in the Nutrition and Economy of People of the Rural Areas of Mexico," *Ecology of Food and Nutrition* 36 (1997): 347–366.

5. Most people harvest from their own fields. However, in some communities, harvesters are welcome to visit any fields, as their efforts clear or at least manage a pest that can destroy crops if left uncontrolled. Oaxacans joke that one way to manage a plague of grasshoppers is by eating the pest.

6. *Sal de gusano* (worm salt) is made from grinding larvae found in maguey cactus, the plant from which the alcoholic beverage mescal is made. The larvae, like *chapulines*, are toasted, then ground and combined with salt and chile. This pungent condiment is used in many Oaxacan dishes.

7. The Oaxaca-based company INALIM freeze-dries cooked *chapulines* and bottles them for sale and export. These grasshoppers are marketed as "the flavor of my land" and are sold throughout Oaxaca City and in the United States, chiefly in the Los Angeles region. See Reynaldo Bracamontes, "Salta Chapulin a los Mejores Mercados Mundiales: Tijuana, Contacto Agroindustrial de Oaxaca con Estados Unidos," *Noticias*, 27 February 2006, at www.noticias-oax.com.mx/; and Humberto Niño Haro, "Entrepreneurs Cash in on Grasshoppers," *Miami Herald* online, 30 June 2006, at www.mexiconews.com.mx/miami/vi_18406.html.

8. Prepared nymphs are small, from ¼ to ½ inch in length. Because nymphs lose their legs when cooked, they can sometimes look like shredded meat. Adult *chapulines* come off the *comal* with their hind legs intact. They look more like grasshoppers (although they are red) and measure from ½ to 1½ inches in length.

9. Don Antonio, a community leader in Santa Inéz Yatzeche, estimated that about 15 percent of his village's households produced *chapulines* for sale. He also noted that local families eat a part of their harvest, while others ship *chapulines* to family members living in the U.S. who are homesick for "a taste of home."

10. One vendor swore he often earned more than one thousand dollars a day and had left a job as a mechanic to join his sister and cousin selling *chapulines*.

11. Certainly, some of his enjoyment came from taunting me, the gringo, to join him. I was surprised at just how good the *chapuline* tacos were.

12. Typical *chapuline* platters include chile relleños filled with garlic, *chapuline* salsa served with rice and black beans, and *crema de chapuline*, a sauce combining grasshoppers, garlic, heavy cream, and spices that is ladled over pork chops or chicken.

13. James Grieshop, in "The *Envios* of San Pablo Huixtepec, Oaxaca: Food, Home and Transnationalism," *Human Organization* 65 (2006): 400–406, examines the importance and structure of the Oaxacan export business for various foods, including *chapulines*.

14. At twenty-five dollars a kilo, *chapulines* are effectively two and one-half times more expensive than those sold in Oaxaca, where prices hover around one hundred pesos (about ten dollars) a kilo.

15. Two papers focus on the risks associated with *chapulines* and contamination. Margaret A. Handley et al., "Globalization, Binational Communities, and Imported Food Risks: Results of Outbreak Investigation of Lead Poisoning in Monterey County, California," *American Journal of Public Health* 97 (2007): 900–906; and M.A. Handley and J. Grieshop, "Globalized Migration and Transnational Epidemiology," *International Journal of Epidemiology* 10 (2007): 1205–1206.

16. See Ken August and R. Miller, "Recall: State Health Department Issues Health Warning on Lead-Contaminated Chapulines (Grasshoppers); U.S. Food and Drug Administration" (2003), at www.fda.gov/oc.po.firmrecalls/grasshoppers11_03.html; J.G. Courtney et al., "Childhood Lead Poisoning Associated with Tamarind Candy and Folk Remedies: California, 1999–2000," *Center for Disease Control: MMWR Weekly* 51 (2002): 684–686, at www.cdc.gov/mmwr/preview/mmwrhtml/mm5131a3.htm; and Mary Jo McConahay, "State Misses Lead Poisoning's New, Immigrant Face," *Berkeley Daily Planet* (2004), at www.berkeleydailyplanet.com/article.cfm?archiveDate=05-18-04&storyID=18884.

Chapulines con picante

Here is a recipe from Señora Donaji Martínez's Restaurant Donaji in Mitla, Oaxaca.

To make *Chapulines con picante*, crush approximately five garlic cloves in about a cup of water. Add several ground chiles and mix well with another cup or so of water, a pinch of salt, and several *epazote* leaves. Add about a cup of toasted *chapulines*, mixing with a spoon and crushing some (but not all) of the grasshoppers to form a pasty sauce. Transfer the mixture to a sauté pan with some vegetable oil and cook for several minutes over high heat, stirring constantly. Once the mixture is well blended and warm, add the juice of three lemons and let the dish rest for three hours. When ready, quickly reheat and serve on fresh corn tortillas as a side dish or appetizer.