



Olga F. Linares

1936–2014

BIOGRAPHICAL

Memoirs

*A Biographical Memoir by
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NATIONAL ACADEMY OF SCIENCES

OLGA FRANCESCA LINARES

November 10, 1936–December 2, 2014

Elected to the NAS, 1992

The renowned Panamanian anthropologist Olga Linares pioneered research that was remarkable for integrating archaeology, human ecology, and social and economic anthropology in uncommon ways. Focusing on tropical Africa and Central America, Linares excelled in examining the interface between historical heritage, human ecology, subsistence systems, and political economy among both past and present societies. In recent decades her predilection was for studying contemporary small-scale agrarian societies, notably the Jola rice farmers of Senegal. Before her unexpected passing at her residence in the Old Quarter of Panama City on December 2, 2014, she was becoming increasingly involved in the role of house gardens for agro-biodiversity and sustainability.

Linares earned a B.A. in anthropology from Vassar College in 1958 and a Ph.D. from Harvard University in 1964. After a brief stint as an instructor at Harvard, she worked as a lecturer at the University of Pennsylvania from 1966 to 1971. She then joined the Smithsonian Tropical Research Institute (STRI), based in Panama, and remained there until her retirement in 2008, a tenure of 35 years.



Olga F. Linares

*By Dolores R. Piperno,
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Olga Francesca Linares was born on November 10, 1936, in the city of David in the Chiriquí province of western Panama. She was the daughter of Olga Tribaldos de Linares and Francisco “Frank” Esteban Linares, a Puerto Rican agronomist, through whom she acquired U.S. citizenship. When she was a schoolgirl, Frank would take her to visit archaeological excavations at pre-Columbian funerary sites in Chiriquí, including some investigated by German archaeologist Wolfgang Haberland. Enlightened by this experience and by her friendship with Roberto de la Guardia, a professor at the Felix B. Olivares High School in David, Olga opted to go for a B.A. in anthropology at Vassar College, from which she graduated in 1958.

After arriving at Harvard for graduate studies, she participated in the “Interrelationships of New World Cultures” project under the aegis of the Institute of Andean Research, which was seeking evidence for Pacific interconnections between Ancient Middle, Central, and South America during the Formative Period (2000 B.C.E to 200 C.E.). The Panama sector was entrusted to University of Arkansas archaeologist Charles McGimsey. In 1961 Olga participated in the project’s first season, surveying the mangrove-fringed coast and islands of Chiriquí and Veraguas provinces. Her father lent her a 4-wheel-drive vehicle and boats for the fieldwork. For her 1964 doctoral dissertation Olga summarized the results of test excavations she made at several coastal Chiriquí shell-bearing middens.

After attaining her Ph.D., Olga worked briefly as an instructor in archaeology at Harvard; then, from 1966 to 1971, she was a lecturer in anthropology at the University of Pennsylvania, where she met and married David Sapir, who was a lecturer in linguistics there. In 1973 she joined the scientific staff of the Smithsonian Tropical Research Institute (STRI), based in Panama.

Archaeology in the new world tropical forest



Tony Ranere handing Olga excavated dirt.

Olga was the first Panamanian female archaeologist and played a key role in shaping the archaeology of her homeland by posing important theoretical questions, promoting an interdisciplinary methodology and implementing meticulous field techniques. In the 1970s she, along with her student at Harvard and good friend Tony Ranere, directed National Science Foundation-funded projects in Panama’s Bocas del Toro and Chiriquí provinces that resulted in an influential article in the journal *Science* and a major volume edited by her and Ranere titled *Adaptive Radiations in Prehistoric Panama* (1980).

At the time, the tropical forest was considered by many prominent scholars, most of whom had never set foot south of Mexico City, as a kind of cultural backwater in prehistory—it supposedly was too wet, too full of pests and pathogens, with soils too

infertile and too difficult an environment for florescence of culture. As is evident from the title of the edited volume, Olga incorporated biological and evolutionary theory into interpretations and explanations of the project findings. In her own words, she “reconstructed a prehistoric example of adaptive radiation among human populations in the New World tropics and evaluated divergent settlement and subsistence systems resulting from different ecological and social conditions.” Her interpretations were thus built, in part, around adaptations through time of human cultures to their external environment and, importantly, to their own changing social systems. These were not common themes at the time, and the volume is still timely in the present day, when archaeologists and anthropologists continue to debate the role of evolutionary theory in explaining the correlates of human social change.

A little-discussed fact related to her Panamanian research is that Olga was among the first in the Americas to enlist the collaborations of botanists, zoologists, and paleo-environmentalists in analyzing and interpreting biological remains recovered from archaeological sites. These pioneering efforts produced a corpus of multidisciplinary information—now considered essential for archaeological investigation—that demonstrated the enormous potential of tropical archaeological sites for addressing important issues in bio-cultural change. It showed how the Isthmus was far more than merely a passageway for the movement of populations from north to south or south to north, as it became apparent that major cultures had lived in tropical forest habitats for thousands of years and interacted with their environments in diverse ways. These are themes that would be taken up by subsequent generations of archaeologists in Panama.

In addition to the *Science* paper and edited volume, Olga published two highly influential works in the 1970s, an article in the journal *Human Ecology* called “Garden Hunting in the American Tropics” and a Dumbarton Oaks monograph titled *Ecology and the Arts in Ancient Panama: On the Development of Social Rank and Symbolism in the Central Provinces* (1977). In “Garden Hunting” she proposed, against received wisdom, that the small-scale clearing of forests through slash-and-burn methods to plant gardens does not necessarily have detrimental effects, insofar as it generates new habitats that attract a host of forest animals that feed on garden plants—mostly tubers—and which are eventually hunted by garden owners. The gradual reversion of these gardens into forest after being abandoned as sites of primary agricultural production also generates a variety of habitats that promote the presence of particular sets of animals and plants.

Likewise, in *Ecology and the Arts in Ancient Panama*, Olga presented a novel interpretation of the funerary objects found in tombs at the renowned Sitio Conte, Coclé, rejecting Eurocentric views of pre-Columbian art in favor of an indigenous perspective focused on the relationship between people and their environment, in this case the coastline, estuaries, and anthropogenic savannahs that characterize the site. Using archaeological, ecological, iconographic, ethnohistoric, and ethnographic evidence, Olga concluded that in this highly hierarchical society local artists “used animal motifs as a metaphor in expressing the qualities of aggression and hostility characteristic of social and political life in the central provinces.”

Concepts and interpretations that stand the test of time are of course one measure of the influence and impact of a career. *Ecology and the Arts in Ancient Panama* is still being cited in articles and books on subjects ranging from cultural symbolism to environmental archaeology to animal domestication. The phenomenon of garden hunting is receiving increasing attention in the anthropological and conservation literature. For example, in a recent paper by a prominent young anthropologist and human ecologist, Olga’s garden-hunting paper is one of the two major case studies used for the development of “theories of ecological interactions” that can accommodate various evolutionary models and theories in archaeological explanation. A subtle but important point about her thinking is that she never considered human interactions with the natural environment wholly “intentional,” nor were the feedbacks and consequences always foreseen. She realized that unintentional actions and consequences could and did occur.

Cultural ecology in Africa

In the 1980s Olga shifted her research focus to studying the cultural ecology of the Jola, small-scale African rice farmers, who lived in the Casamance region of Southern Senegal. As with her archaeological work in Panama, she was interested in the interaction between humans and the environment, and specifically in patterns of radiation and cultural responses to ecological adaptation, together with the many ways in which humans transform their environments.



Olga F. Linares laughing with a Jola woman.

In this latter line of studies she not only focused on the destructive aspects of human activity on the environment, but also on its more creative dimension. That is to say, how human activities often lead to the creation of new habitats that preserve and even foster biodiversity, leading to the creation of culturally created landscapes. These subjects are receiving much attention today in archaeological and anthropological discourse throughout the world.

These themes are particularly manifest in her 1992 book *Power, Prayer and Production: The Jola of Casamance, Senegal*, where she examined how religious beliefs can foster environmental conservation in deeply humanized landscapes. In the case of the Jola, who have radically transformed their environment through the cultivation of the only known African variety of rice, this is achieved through the preservation of sacred forests that are off-limits for agricultural and hunting activities. These forests, which are believed to contain a variety of spirit forces that ensure the vitality of the cosmos and human society, contribute to preserving the region's biodiversity and become the reproductive grounds for a large variety of animals, as well as repositories of a large number of wild plants that are used for medicinal, ritual, and culinary purposes.



Linares's last trip to Senegal.

In addition to studying Jola food cultivation practices in rural areas, Olga began to explore a new form of agriculture that developed in Senegal in postcolonial times, which she termed “urban farming.” With increased migration to Senegal's larger cities, the Jola adapted their traditional practices of subsistence agriculture to “backyard farming” in order not only to have an alternative source of food, but also as a way of maintaining and strengthening bonds of friendship and interethnic cooperation. In her last book *Home Gardens and Agrobiodiversity* (2010), co-edited with Pablo Eyzaguirre, Olga further explored this subject, highlighting the contributions

of home gardens to human subsistence and the maintenance of biodiversity. She argued that home gardens, both in rural and urban settings, have been underestimated as sources of family income and subsistence. But more importantly, she said, they have been under-

valued as crucial sources of ecological goods and services, particularly in urban settings, the most degraded environments created by human activity. Olga argued that home gardens are important reservoirs of crop genetic diversity, not only being repositories of useful and rare plants but fostering genetic experimentation and long-distance exchange networks. Small-scale farmers continue to select for qualities that enhance the productivity and resistance of cultivars. Thus, such conservation of local varieties of important crop plants is a much more dynamic and ongoing process than ex-situ conservation of seeds in a “gene bank.” Olga continued doing fieldwork in the Casamance until shortly before her death, despite a bad back that gave her considerable trouble.

While spending time on her house in Puech Malou, in southern France, Olga also became aware of the importance of tracts of wilderness that were allowed to grow along the region’s dense network of rural roads. Such tracts had become not only the refuge for a wide variety of animals and plants, but also allowed for the circulation of animals throughout vast areas, thus ensuring the necessary genetic diversity. She never studied this phenomenon in detail, but the anecdote shows that she was always attentive to these conscious or unconscious effects of human activity on the environment.

Other activities

In more than 30 years of work for STRI, Olga not only demonstrated an unflinching commitment to the Institution, but also played an important role in establishing it as a leading center of tropical interdisciplinary research. She served on numerous international boards, including the board of trustees of the International Plant Genetic Resources Institute, and was an active member of many professional societies. In acknowledgment of her academic and other original ecological and scientific contributions to the field of anthropology, she was elected to the National Academy of Sciences in 1992.

Her talent as an educator is still remembered by former students from Harvard and Penn, who consider her one of the best teachers they ever had; her considerable skills as a public speaker allowed her to broadly disseminate her findings to general audiences. As she became a senior member of STRI’s staff, Olga still enjoyed being around young people, interacting with students and even showing them the best food markets in Panama City after their arrival. She retired in 2008 as senior research scientist at STRI but retained status as scientist *emerita* on the scientific faculty. As colleagues of hers at STRI, we consider ourselves fortunate not only to have had the opportunity to summarize her career, but also to have been among her best friends. Along with her other friends and

colleagues, we will always remember the numerous gatherings at her beautiful house in Panama City's Casco Antiguo, where the best food was served and the wine flowed, and which brought together not only scientists but also artists and writers from Panama and abroad.

Family life

Olga met her second husband, Martin Moynihan, then Director of STRI, in Panama and married him in 1973. Martin was a prominent animal behaviorist who studied birds, primates, and cephalopods. They shared a love of many things, including travel, classical music, and Indian food, and each was multilingual. The farmhouse they bought in southern France, like their home in Panama, became a wonderful visitation spot for their friends and colleagues. Martin passed away on December 3, 1996. After having been widowed for many years, Olga, on the advice of a friend, renewed a relationship with Fenwick "Fen" C. Riley, an old college sweetheart. They first met again in Istanbul in 2005, carrying recent photos of themselves. They married in 2006, lived in Panama, and remained together until their deaths a few months apart in 2014. Olga is survived by her brother, Francisco Esteban Linares, and sister, Iddy Linares, and by her nephews Manolo, Roberto, Francisco, Emelia, Alberto, and Miguel Linares in Panama. Olga was affectionate, good-hearted, and extremely loyal, and she will be greatly missed.

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