

The Arizona/Sea of Cortez years of J. Laurens Barnard

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(Accepted 2 March 1993)

In 1970 Jerry Barnard and his wife Charline, and their two youngest children (Gretchen and Roger), moved to Tucson, Arizona. An arrangement had been made with the Smithsonian Institution's Museum of Natural History for the University of Arizona (UA) to acquire Jerry 'on loan' for 3 years. Jerry was appointed as a Research Associate at the UA and provided with a small office and faculty privileges. In return he was to help the UA Marine Sciences Program in various ways, such as assisting graduate students and providing advice regarding the university's new field station in Puerto Peñasco, Mexico. For Jerry it meant an opportunity to collect amphipods intensively in the Sea of Cortez (the Gulf of California), a region he knew to contain a diverse and uncommon mix of tropical and temperate taxa.

Having completed both his undergraduate and graduate studies at the Allan Hancock Foundation of the University of Southern California, Jerry had early on developed an interest in the tropical eastern Pacific fauna. By the time of his arrival in Tucson he had published several papers based primarily upon material collected in the tropical eastern Pacific under the auspices of the Allan Hancock Foundation *Velero III* and *IV* expeditions (Barnard, 1952a, b, 1954, 1960, 1963, 1967; Durham and Barnard, 1952), the Beaudette Foundation (Barnard, 1962, 1964, 1970), and the San Diego Natural History Society (Barnard and Grady, 1968; Barnard, 1969). The Beaudette Foundation's survey of Bahía de San Quintin (on the west coast of Baja California) was organized by Jerry with the help of Drs Donald Reish, Robert Menzies, and E. Yale Dawson. The study of Bahía de Los Angeles (in the Sea of Cortez) was supported by the Beaudette Foundation, National Science Foundation, and San Diego Natural History Museum, and was based at the Natural History Museum's Vermillion Sea Field Station in Bahía de Los Angeles. The latter study had given Jerry an acute appreciation for the high amphipod diversity of the Sea of Cortez and served to pique his interest in the region.

Jerry came to Arizona shortly after completing a series of overseas postings, at the Bishop Museum in Honolulu (1967–1968), the New Zealand Oceanographic Institute in Wellington (1968), and the Western Australian Museum in Perth (1968). Having lived in the Washington, DC area only from 1965 to 1967, the four years Jerry and Charline lived in Tucson ended up being the most stable period the family had known since Jerry left the ill-fated Beaudette Foundation in 1964. Jerry quickly fell in love with the Sea of Cortez and the Sonoran desert, and by 1972 had initiated an effort to stay on in Tucson indefinitely while still in the employ of the Smithsonian

Institution. He managed to extend his stay one year (to 1974) but, regrettably, he was unable to negotiate a longer arrangement.

When Jerry first arrived in Tucson, I had just moved to the small Mexican shrimp-fishing village of Puerto Peñasco in the northernmost Sea of Cortez, to begin a two-year contract with the UA as manager of the new 'University of Arizona–University of Sonora Cooperative Marine Laboratory'. Jerry made regular visits to Puerto Peñasco during his time in Tucson, and together we collected in the region fairly thoroughly. He was somewhat of an enigma as a marine biologist in that he preferred not to wade into water too deep, and I never saw him go under water or swim. Thus our collecting trips developed into a routine wherein I would snorkel or dive for algae-covered rocks and carry them to Jerry in shallower water, where he would wash the material in a weak formalin solution to drive off the amphipods and isopods we sought. This routine was forestalled on one unforgettable occasion when a chubasco appeared on the scene more quickly than either of us expected. Chubascos are powerful monsoon-like storms in the Sea of Cortez that can make their appearance in just a few hours, driving strong winds and large waves. On this occasion we expected to accomplish our sampling before the storm waves got too high. Our timing was off, however, and as I surfaced from a shallow dive with rocks in hand, I looked up just in time to see a large wave catch Jerry off guard. The wave snatched the pan of formalin from his hands, flinging it into the air and turning it upside-down. Just as Jerry looked toward the sky and his mouth fell open, the falling formalin somehow managed to funnel itself into it. That was the only time I ever saw Jerry Barnard voluntarily stick his head under water.

On the Tucson campus Jerry gave unselfishly of his time, providing advice and his unique brand of scientific insight for the marine science students. All remember Jerry for his unselfish and sincere interest in their research, his encyclopaedic mind, and his wonderfully vibrant view of life. During these years Jerry was strongly preoccupied with issues of amphipod evolution and Pacific biogeography, especially the strong ties he was beginning to recognize between the faunas of California, Hawaii, the Galapagos and the Sea of Cortez. He could easily talk for hours, quite spontaneously, on amphipod biogeography, and we had many long discussions on the topic of zoogeography, some of which were incorporated into my paper on Mexican mayfly biogeography (Allen and Brusca, 1973) and my Sea of Cortez reviews (Brusca, 1975, 1976). Many of Jerry's thoughts on these subjects were published shortly after he returned from Tucson to Washington (Barnard, 1974, 1976, 1979).

One of the most loved professors in the UA marine program was Dr Donald Thomson, who often hosted parties for faculty and graduate students at his home in the desert foothills outside Tucson. Tucson parties frequently included Mexican beer or tequila-tasting contests, an enjoyable southwestern tradition. After one such contest at Don Thomson's home, at which I recall Jerry correctly identified five out of five unmarked glasses of Mexican beer, Jerry approached me with the idea for a Sea of Cortez expedition, to sample the southernmost reaches of Baja and mainland Mexico, and the southern islands of the Gulf.

As time went by and we discussed the plan, it grew to become an attempt to retrace the collecting localities of the famous Ed Ricketts/John Steinbeck Sea of Cortez Expedition of 1940. Over the next few months the plans and itinerary were finalized, and an old acquaintance of Jerry's from southern California, Richard Dwyer, agreed to transport us on his motor yacht to the southern Gulf islands we wished to visit. We would sample the mainland coast of Sonora and Sinaloa, and then take the ferry

across the Gulf from Topolobampo to La Paz where we would rendezvous with Dwyer and his yacht. For such a strenuous undertaking we needed a good field vehicle. Jerry's youngest son Roger had just reached the age at which he was dropping hints to his parents about wanting a car. To Jerry the solution was obvious. Buy Roger a good used truck and immediately appropriate it for our Sea of Cortez expedition. So, in early December 1972, we headed south, collecting along the coast and working our way to Topolobampo. As planned, we joined Dwyer in La Paz and headed out to sea. However, the shipboard work was cut short by a week and we failed to sample all the islands on our itinerary. Dwyer was exceedingly conservative, demanding that we dress for dinner and agree (or at least not disagree) with his strong political views. We failed at both tasks, and by end of the first week Dwyer was beginning to snarl at us over the dinner table. We were soon put back ashore in La Paz to continue our expedition by land. We sampled the rich tropical coast between La Paz and Cabo San Lucas, known for its insular endemic fauna (*sensu* Garth, 1992), then headed north to sample Bahía Concepción, and the areas around Loreto, Mulege, and the old French mining town of Santa Rosalia. We were able to recollect nearly all the Ricketts/Steinbeck sites, and much to our delight we found little had changed biologically.

In La Paz we had heard of a possible new ferry service between Santa Rosalia and Guaymas. If such a service existed, we could save several days of driving on the return. Our inquiries at the small Santa Rosalia dock resulted in a ticket for the alleged morning ferry run to Guaymas. The following morning we searched the dock in vain for a ferry, only to finally discover that the new 'ferry service' consisted of a very old shrimp boat with barely enough deck space for one vehicle. To make matters worse, the boat rode so low in the water, and the dock was so high, that there seemed no way to get Roger's truck on to the deck of the 'ferry'. The crew seemed stymied. I believe we might have been their first customers. They attempted to resolve the dilemma by producing two long planks, obviously long-since torn from the deck of some other shrimp boat, and placed one end on the dock and the other on the boat deck. The angle of descent must have been close to 40°, and the planks were only 12 inches wide. I stood on the deck providing hand signals, while Jerry jockeyed Roger's truck on the dock until the front wheels were on the planks and the front bumper dipped dangerously downward. I looked up at 3000 lb of steel with Jerry at the wheel; behind me lay a few feet of deck space and the Santa Rosalia harbour. Jerry and I stared at each other for several long minutes before we both realized the folly of the situation. It would never work. Jerry, Roger's truck, and our samples would surely be at the bottom of the bay if we tried this manoeuvre. Against the insistence and curses of the Mexican boat crew, we eased out of our situation and headed south, back to La Paz to catch a real ferry for the return trip to Topolobampo and the long drive back home.

Jerry and Charline returned to Washington in November of 1974. It was largely as a result of his encouragement and friendship that my laboratory keys to local invertebrates grew into a handbook on the marine invertebrates of the Gulf of California (Brusca, 1975). Our field work saw direct fruition in his monograph on the gammarideans of the Sea of Cortez (Barnard, 1979) and my PhD dissertation (Brusca, 1981). Even today I continue to work on the large collections Jerry and I made during those memorable years, the period during which Jerry developed the habit of calling his friends 'amigo'.

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