

# The Drifting Seed

December 1, 1999

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## THE DRIFTING SEED

A triannual *Newsletter* covering seeds and fruits dispersed by tropical currents and the people who collect and study them.

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*Sea-Bean Symposium 2000* will be October 12 - 15, 2000.  
(Open to the public October 13-14)

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## FROM CATHIE



*The value of science remains unsung by singers, so you are reduced to hearing — not a song or a poem, but an evening lecture about it. - Dr. Richard Feynmann*



Our sea-bean gathering in October proved that the above quote doesn't have to be true. Not only did The Drifters sing the song for the scientists, they did it with passion, flair, and creativity. (A sea-bean song was actually written for Ed Garvin of Merritt Island in honor of his rare *Canavalia nitida* which he found in Florida 20 years ago: ♪♫♭♯CanaVALia NITidA ♪♫♭♯)

At the symposium, we caught *sea-bean fever* from the originator of the term, Debbie Harper who brought newspaper articles from her home in Gulf Shores, Alabama, complete with full-page stories and photographs of sea-beans on her coast. And a true symbol of the beauty of science came with Curtis Ebbesmeyer by way of Carol Wickenhiser-Schaudt's beautiful graphite art, created especially to capture the spirit of *all things afloat*. And Cathy Yow's whimsical porcupine hair pins and necklaces dangled with seeds she found in her backyard and beach in Texas. Pam Schrimsher used beach fibers and discarded fishing leads to create beachcombers' fashion accessories. Each of these seemingly incongruous additions to our symposium shows that our members are not only singing the songs, but writing the words for a new kind of music.

At the Saturday night panel with Curt Ebbesmeyer, George Maul, Ed Perry, Cathy Yow, and Pete Zies, we learned that the Sargasso Sea is the Grand Central Station of the Atlantic, receiving and discharging passengers from the highways of the ocean. Most of the regular passengers, such as sea turtles, take fairly predictable routes, but many of the foreigners (sea-beans) travel on a schedule with no pattern or regularity — or they simply get lost and drift around the transport system for another journey around the Atlantic.

Helle and Robert Patterson from the Bermuda Biological Station for Research tempted us to visit Bermuda with samples of drift seeds they collected on their beach (the seeds are now part of the Gunn Collection). We were also pleased to meet Wayne Armstrong and Elaine Collins from Palomar College in California and look forward to seeing them again. We were delighted to meet John V. Dennis, Jr. from New York, son of John Sr. (who signed copies of the newly released reprint of *The World Guide to Tropical Drift Seeds and Fruits* throughout the symposium).

A young lady who saw a recent article about our group wrote, "I really like sea-beans, but can't find any ...can you tell me when they will come and where they will be on my beach? Also, tell me when the LEGOs are coming." I wish I could write a simple answer, but we're now seeing how many factors are involved — time of year, currents, temperature, shore contour, winds, rainforest activity, global climactic shifts, hurricane activity.... So we keep walking the beach, looking for another clue to the puzzle, or, at least another bean ...

As Reporter Mark Lane wrote about our event last month in the *Daytona News-Journal*, "Finding mutual support for their beachcombing enthusiasm, the bean-friends were content. And being among them, my own stretch of shoreline began to make a little more sense."

*The meeting of two personalities is like contact of two chemical substances:  
if there is any reaction, both are transformed. - Carl Jung*

## FROM BOB

I was surprised to read the email message [see next page] asking for the return of drifted and beached *Mucuna* seeds to the tropics because tourists and collectors are over harvesting these seeds from the parent plants. I feel like we are on a "very slippery slope." I would feel much better about this matter if we could hear from Central American botanists or those who have done extensive field work in Costa Rica and adjacent countries. If you have knowledge about this interesting problem of the over collection of *Mucuna* seeds from parent plants, please contact me at [Mucuna@juno.com](mailto:Mucuna@juno.com).

I agree with Charles Nelson [see next page] that the collecting of tropical drifted and beached seeds and fruits from temperate beaches does not deplete the tropical supply of these disseminules. Nor does this collecting deprive the species in question from expanding its range. On the other hand, collecting tropical disseminules from tropical beaches may present a (slight) problem to species distribution. This subject could be considered at one of our future symposia, but we must have more information from tropical botanists.

Thanks to the newspaper clippings Cathie sent me, I have some idea of how excellent the meeting was that I missed. See you all in 2000.

# SAVE THE BEANS? By The Drifters

Dr. Gunn's comments on page 2 were in response to a series of emails received just before the 1999 Symposium: An exchange between The Drifters and the **Douglas Robinson Marine Turtle Research Center in Costa Rica** ([www.gema.com/ostional](http://www.gema.com/ostional)) generated some healthy dialogues. The resulting words were far too informative and stimulating not to share with other beaners, so I'm including highlights from the mail that pulsed around the world. The comments are shortened here for the sake of space, but I think the spirit remains intact:

## From Costa Rica:

*We read your message regarding the Sea-Bean Symposium. We were unaware of the "Sea-Bean network," but [because of] the common ground between the two disciplines, we would like to make an appeal. We have been defending the humble sea-beans (all species) for many years due to the fact that so many people collect them. In fact, in Florida one can buy them by the HUNDREDS in the Shell Shops. In Costa Rica, the species Mucuna is on the verge of extinction due to the over collection of the seeds by tourists. We conduct a campaign whereby we try and retrieve all the seeds we can from the tourist shops and markets for transfer back to the wild. So, would you be so very kind and relay this message to your friends and the organizers of the symposium:*

*As a friendly gesture for the new millenium:- look, touch, feel, photograph but please leave the seeds where you find them.*

*Thanks, Leslie du Toit, [DRMTRC in Costa Rica]*

So, the plea from Costa Rica went out to the sea-bean folks and the responses came fast ...

## Dr. E. Charles Nelson in England was the first to respond (October 11):

*... There is no conservation problem about drift-seeds, except, perhaps, that if the plants that yield such seeds are becoming rarer in their native habitats they are also becoming rarer in trans-ocean drift ... drift-seed collectors [are not] depleting native populations as the vast majority (if not all) of the seeds we are interested in are waifs and strays that will never produce viable populations of living plants at their final destinations, even in tropical regions such a Florida. ... the problem of conservation of the native flora lies in destructive land use in those countries. Not picking up a drift-seed ... on an Irish beach is not going to help save Mucuna in Costa Rica. Thus while we should offer conservation workers in the countries of origin our support in their daunting work, I do not think there is any logic in asking people not to collect these seeds - EXCEPT, OF COURSE, IN REGIONS WHERE THE PLANTS ARE RARE AND ENDANGERED.*

*There is an strange inversion to this. For many years under Irish legislation, Lathyrus japonicus subsp. maritimus (sea pea) had been protected (the protection was renewed earlier this year) — no one can interfere with living plants, and so of course collecting seeds is also prohibited. But the seeds are washed ashore in their hundreds every year, undoubtedly from North American sources. This is a case where the law is not logical. The reality is that Lathyrus japonicus has a precarious hold on Irish coasts, for some other reason than that it is a "rare" plant. It is constantly "invading" Ireland from North American sources (although some would not agree with this hypothesis) and obviously has done so for many millennia. The only harm that a drift-seed collector in Europe does is deprive the next collector of a prize — those seeds that are viable will never survive as seedlings except in tropical conservatories. The most harm a drift-seed collector in Florida does is deprive the next collector of another trophy. So, I conclude that collectors of seeds in regions outside the species normal geographic range are not contributing to the decline of species in their native habitats because the seeds they may collect are NEVER destined to return whence they came, to sprout, and start a new generation.*

*- Dr. E. Charles Nelson*

## The next to respond was Pete Zies in Florida:

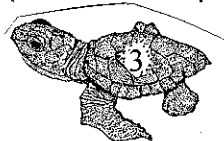
*... I concur completely with Dr. Nelson's observations. To start, you are correct that several species of Mucuna are among the uncounted number of species heavily impacted by [human] exploitation of the tropics. Your assertion that seed collection is the root source of this decline is [not correct], although it may be a minor contributing factor. ... [Sea-bean] collection on U.S. shores is to be encouraged since they can no longer contribute to their species' life cycles in the tropics, but they CAN be tiny ambassadors (like animals in a zoo). If Americans learn to like sea-beans, they will want to protect the parent plants in the tropics. We have already found this to be true for our organization, as our members with the most knowledge about sea-beans have been most active in environmental protection activities. All of that said, I would still agree that some restraints need to be placed on the collection of the seeds IN THEIR NATIVE HABITAT ... As for the seeds collected on our American beaches, their germinability comes into question when heat, time, wear and tear, and saltwater exposure are taken into consideration, so returning them to the tropics would be a great deal of trouble for an uncertain benefit. Thank you for your kind thoughts!*

*Sincerely, Pete Zies Curator of the Gunn Collection*

## from Charles Nelson:

*Whatever response is made, responsible collectors of beach debris in the North Atlantic region are only picking up what Mother Nature has in a sense discarded. None of us is collecting the seed-bank of future generations.*

(continued next page)



**from Leslie du Toit:**

*With great respect, I have to submit that I am not in agreement with Charles Nelson's analysis of the migration of the Sea Bean and the threat to its survival. As I stated previously, the ocean's major gyres conspire to return the seeds to their source EVENTUALLY. It's interesting to note that this same discussion was going on in the 30s with regard to the life cycle of turtles. It is now understood that the Green turtles spend most of their youth in the North Atlantic gyre returning to the coasts of their birth (? Costa Rica) after some ten years having spent time in the Azores and West Africa [I am trying to convey] the message that we have to start, at some point, to raise the awareness for the depletion of the SOURCE of the plant. What better place to start than this forum, obviously populated with consummate experts in the field? Anyway, as you [Cathie Katz] and Charles Nelson state, our major concern (what promoted my original message) is the exploitation of seeds at the source. Unfortunately I do not know much about the plants but our recovery "project" started about six years ago when I was talking to a local indigenous farmer who was telling us about the "magical" properties of the Mucuna and lamenting its disappearance in the last twenty years. We then consulted local botanists who corroborated the data but, as the plant has little importance, no interest is being shown in its demise. So, this is simply a side line interest for us as ecologists...*

*Thanks again for all your interest. Regards, Leslie*

**from Charles Nelson:**

*In response to the above, I must make a further comment. Mucuna seeds that reach the North-east Atlantic, via the North Atlantic Drift, have only one final destination — the Arctic Ocean. No ocean current is capable of returning them to their place of origin. Beached and stranded seeds, even in tropical waters, are also more than unlikely to return to their point of departure. Moreover, I would respectfully suggest that the case of seeds and turtles is entirely different — adult turtles are capable of swimming, perhaps vast distances, but the seeds are totally dependent on ocean currents.*

*Thus, again, I submit that the depletion of Mucuna is not a problem of seed-collecting, especially not on chilly temperate shores whence the seeds never will return. But, we still should be concerned about collection of seeds within their native range, and not encourage collection except from renewable sources. There is surely an excellent case here for someone to establish a seed farm, growing and harvesting seeds for the jewelry trade.*

**from Ed Perry:**

*I understand the concern of [those who] wish to save the Mucuna species. Collecting these seeds from their sources of origin, could, and will have detrimental effects on the well being of future Mucuna populations in the wild if this situation goes unregulated ... I disagree however, that collecting stranded drift seeds on distant shores has any effect on these wild populations.*

*[Drift] seeds have become Nature's castaways in an ingenious plan that distributes seeds to new places throughout a competitive forest of plants, which are all competing for space and light. Those that reach the oceans and drift will NEVER return upstream to their habitats of colonization. This is regardless of the fact that it is possible after many years of traveling the North Atlantic Gyre to strand on the [shore] of their origin. The wet and dry seasons of the tropics do not allow for seeds to wash out of the oceans back into the rainforests.*

*I do propose that collecting and collections of drift seeds are a glimpse, however, of the plights of the rainforests. Interesting it would be to view species and quantities of seeds from past collections to those of more modern efforts. Collecting of drift seeds can, and may shed light on possibly undiscovered species of plants, as in the case of the producer of the brown nickarnut.*

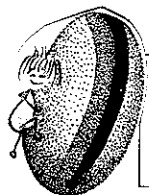
*If nothing else, sea-beans, the magical little beings they are ... will be ambassadors and teaching agents of a distant land in trouble. I fear the thousands of pieces of coal and burnt wood that wash in with our drift seeds on the coast of Florida are a peek at the vast "slash and burn" devastation that occurs daily in the tropics ...*

*"Point of origin" collecting and clear cutting of the rain forests seem to pose a more immediate threat to the Mucuna ... In addition, there is the fact that sargassum weed is now being harvested by the metric tons every year off the coast of the U.S. and Mexico ...*

*And more of a problem than collecting drift seeds is the practice of beach raking — thousands of miles of beaches are cleaned daily of sargassum weed — here nothing is spared, beans and all. And so many plants and animals of the dune system depend on this for nutrients*

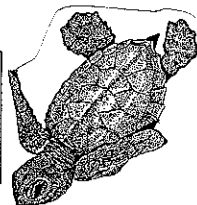
Readers, what are your comments? — The above letters all indicate our dedication to sea-beans and their habitats. In that respect, we've now heard about over-collecting, sargassum harvesting, rain forest development, and beach raking. — What action should be taken, particularly by our organization, The Drifters?

**Write or email your comments to Cathie at the address on the front page.**



*When saltwater anglers and coastal states are spending millions of dollars to restore and create fisheries habitat, it is ludicrous to allow the offshore mechanical removal of an important habitat like sargassum for an additive to hog and cattle feed.*

*--Ted Forsgren, executive director of Coastal Conservation Association Florida*



[This is the conclusion of a three-part Johan Ernst Gunnerus article  
by Bob Gunn]

A JOURNAL ARTICLE BY JOHAN ERNST GUNNERUS (1718-1773):  
Bishop of Dornthiem [Trondhiem], Norway and Botanist

[The following is the continuation of the text of Johan Ernst Gunnerus]

**Gourd, *Cucurbita lagenaria*, Gourd and Calabash, *Crescentia cujete*, Calabash**

I own some pieces of a large foreign fruit from which the kernel and [or] meat have been removed, so that only the shell [epicarp] is left. It is brownish, hard as wood and sometimes very thick. At one end it has round and full belly, while at the other end there is as a slender neck. I own two of these which are very large. The one, where the neck has been cut off, I got from a sailor who found it in the North Sea. The other large one came from farmer Dreier in Numedalen who told me he had found it at Foosnes. The smaller fruits are whitish or yellowish. Otherwise they have the same shape, generally in appearance like a pear [*Pyrus communis*], although the neck is sometimes thicker in one end than the other. It is obvious that they belong to the same fruit that our Worm (1655, 197-198) wrote about under the name *Cucurbita lagenaria*, because I found there all the varieties of the fruits I have so well described that I can easily see they are the same. Tournefort (1700, 1:107) has the plant under the name *Cucurbita lagenaria* J.B., ([Journal of Botany] 2:216, tab. 36, lit. D) and the drawing he has made of *C. lageniformem* [*lagenaria*] is in accordance with some samples I have of this fruit. Linnaeus ([1752], 1010) called it 1) *Cucurbita lagenaria* folius subangulatis, tomentosis, basi subtus biglandulosus, *ovis lignosis* Linnaeus ([1745], p. 291; 1749, 156, Number 442), who is Princeps Botanicorum [The Prince of Botany]. *Cucurbita seminibus* obsolete *bicornibus* and Linnaeus was followed Royan ([1740], p. 263), Kalm ([1772, reprinted], 2:440) and Gouan ([1765], p. 487, no. 1), n.l. and Rzaezynski ([unknown], 140) described the same fruit under *Cucurbita lagenaria* (Flaschen-Kurbisse) and described in "Forandringer" as 1) Hollandicas that he called sweet, round, and whitish; and 2) Long as "f. perticales camerarias"; etc. This kind of pumpkin [gourd] had its origin in America and usually is called Calabash as one may see in Worm ([1655]), Linnaeus ([1745]), and Kalm ([1772 reprinted]). In France they are called, besides la Calebasse, also Corge de Pelerin. Under the name of Calabass, Rast [or is it Rask?] ([unknown], 72-73) wrote [that] the Calabash can be as large as half an anchor and others the size of half a bucket. It is known that they are very useful in housekeeping. Yes, it is even known that aborigine priest used them as rattles. Mr. Lord Chief Justice and Professor Jens Kraft (Markem) ([1760], page 317) has described this well for us.

There exists in [tropical] America a tree which is known as the Calabash Tree [*Crescentia cujete*]. It was described in detail by Rochefort ([1667] 101, 102) under the name, du Calabassier, where in addition to many other interesting facts, he told us that they bear flowers and fruits almost all year around and on the same tree, yes, even on the same branch and may grow fruits of completely different sizes and shapes. The fruits are so different that one has difficulty in finding two which are alike. He added that the Indians polish and color the skin [fruit coat] of the calabash in a most attractive manner. In Rochefort (122) one finds the tree all copied in copper. It is clear, however, that this tree is not *Cucurbita lagenaria* [Gourd] of Linnaeus and other authors. [But it is what] Rochefort and Linnaeus ([1745], p. 291) wrote about, because the [Gourd is an annual], [and this] is *Crescentia cujete* of Linnaeus ([1753], p. 626). It also is called *Arbor Americana cucurbitifera*, or in English, the Calabash Tree, in Miller ([1763], who also called it in [his] English Lave-Lexico). Miller described five kinds [varieties] of [this] tree following Plumier ([1693]): 1) *foliis oblongis angustis; magno fructu ovato*, 2) *latifolia, fructus putamine fragili*, 3) *minima fructu duro*, 4) *angustifolia fructu minori globoso*, and 5) *angustifolia, fructu minori ovato*. But all five of these Miller and Plumier kinds [varieties] are as one as can see from Linnaeus ([1752]), [who listed] five varieties of the Calabash-tree. Because the Calabash-tree fruits have a hard shell and often resemble the ordinary [annual gourd, *Cucurbita lagenaria*] in shape, one has to show care when one has no more than the shell [fruit coat], which is sometimes left as it is and sometimes artistically embellished.

**The "Core," *Cassia fistula*, Purging Cassia**

Still a kind of "core" [cylinder] may be found along the beaches. They are fairly long like a cylinder and five to six inches long, but only one inch in diameter. They are made of a hard and thin beige bark covered with a hard and thin film. Inside is a collection of seeds packed closely together alternating with a kernel [septum], and within a short distance, a group of seeds again and then a kernel [septum].

I can thank Professor Leem for owning one piece of the kernel [fruit] described above, which he said is found at Ingvaldsnaes rectory in Carmesund in Christiansands County. Furthermore I found that Stroem ([1762], 140), also wrote about the same kind of kernel [fruit] found on the beaches at Sunnmore, he gives the following account: 1) It was one-half an eel long, I can easily understand that mine has been longer then five inches since it shows clearly that it was broken off at both ends, and 2) that the pip [septum] which is found in each joint is shaped like an almond and the size of a nut. The color is brown, and it is smooth and shining. It is split in two by a dissepimentum [septum] is such as way that they cannot be altogether parted. It also has been described as being too hard to be chewed which I do believe.

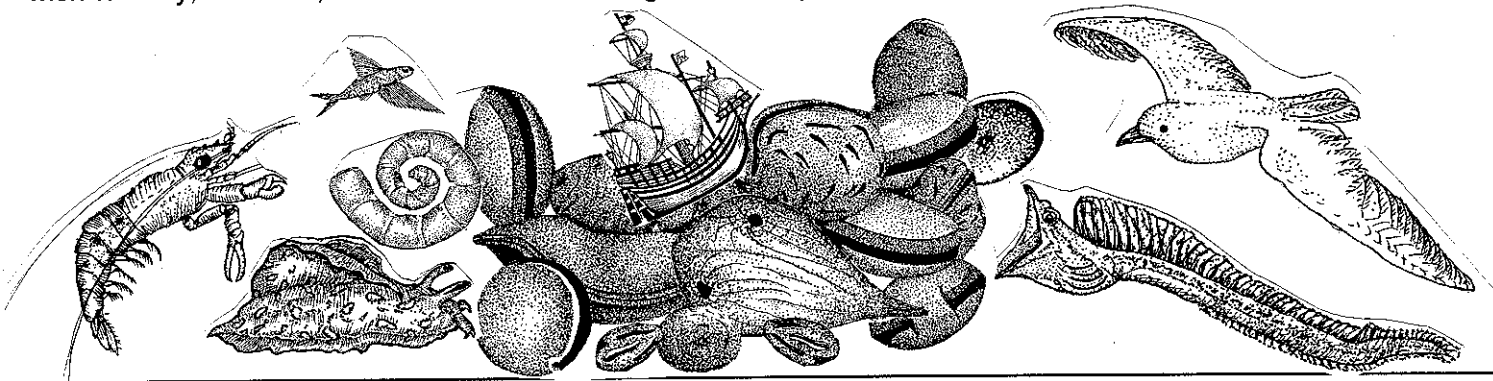
The pips were much smaller than an almond, but it is easy to see that they had been dried. Inside they were so spoiled that I had no chance to understand their make-up. I do not doubt that these kernels [fruits], as is also believed by Stroem are fruits from the trees called *Cassia*, because its silique [a type of fruit, but not the correctly used here] is described by Tournefort (1700, 619), to be round as a cylinder and parted into several joints. These are sitting across [transverse] and are often covered with a black marrow and also include tough pips (*semina dura* [seed]). The illustration in Tournefort ([1700] Vol. 3, plate 392, lit E and II, GG as well as lit. L) shows the kernels in exterior and interior views. Those who handle the *Materia Medica* used to call these kernels [fruit] *Cassia tubes*. Here they come under the name *Cassia fistula* (Worm, [1665], 194) and (Valentini, [1714], volume 1, book 2, section 5, chapter 23, page 341 [under the names] von der Rohr und Purgier-Cassien). In Clusi ([1605], book 7, chapter 29, page 197 [on aromatica history]), he described them under the well-known name of *Cassia foliata*, and he said it grows in America. It is obvious that it also belongs to *Cassia* L., but for me to judge from an incomplete and dried kernel [fruit]: What Linnaeus had to say will be too difficult [to interpret]. I do believe, however, that it belongs to *Cassia fistulum* [*fistula*] (Linnaeus [1753], 377 and 1749, 68, number 199).

### **Anacardium, *Anacardium occidentale*, Cashew**

Finally, I happened to obtain some foreign fruits shaped like rabbit-kidneys and badly spoiled. They were found on the beach in Nordland. It seems clear that they belong to the type which naturalists denote as Acajou or Acaju, Cajos and Cajos or Caju growing on the tree that is called Acajaiba. You can find out about this from Clusi ([1605], book 7, chapter page 30), Worm ([1655], 192) Rochefort ([1667], 72, and [unknown], plate 16). In Linnaeus ([1752], 383) they are called *Anacardium occidentale* as a variation of *Avicennia* [a misapplied genus name] *officinale*. Linnaeus ([1752], 110), Clusi ([1605], 198), Bauhin ([1671], 511, number V), unknown (unknown, General Travel over Land and Sea, vol. 16, plate 5, figures, 3 and 4), and in many other books, they also are called *Anacardium*, and therefore have the name *Anacardium orientale* in the Pharmacoporum and Linnaeus ([1759], 14, number 42).

### **Conclusion**

I do not need to explain in winding up how these foreign fruits arrived on our beaches, because we well know that the road from America is by sea as long as they may remain in their natural condition floating on the water. I do not wish to deny, however, that some of these foreign fruits may have arrived through ship wrecks.



*Nature is not an intrinsic harmony of clearly defined units. Nature exists in multiple levels, interacting with fuzziness at their borders. Stephen Jay Gould in Dinosaur in a Haystack*

**THE LUCKY BEAN**  
by John V. Dennis, Sr.  
11719 Beechwood Street  
Princess Anne, MD 21853

The dictionary definition of a beachcomber is "A white man living as a drifter or loafer especially on the islands of the South Pacific." This is a reasonably good description of those of us who call ourselves drifters and search for sea-beans on the beach. But our group is made up of both sexes, is not limited to any ethnic group, and its membership is world-wide in scope, not just from islands in the South Pacific.

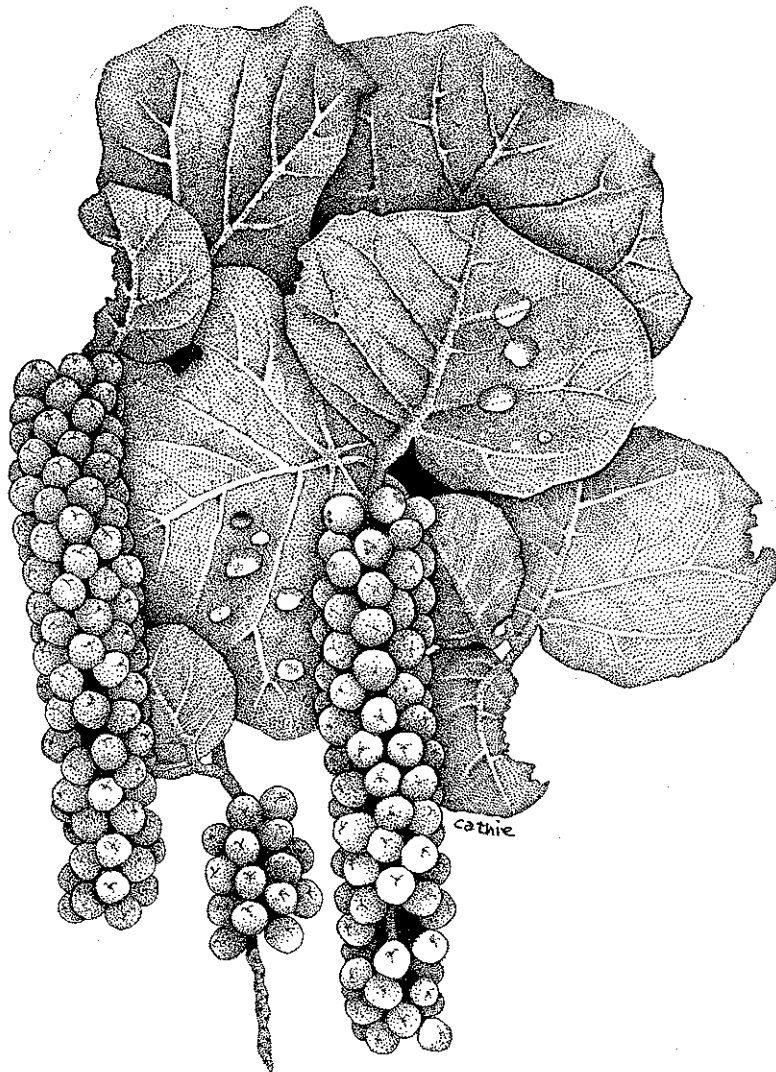
We do, however, in the manner of indigent beachcombers, make use of edible products we find on the beach. For information on what we find and eat, I've gone first to Cathie Katz's book *The Nature of Florida's Beaches* (1995). On page 54, she states that the berries of the sea grape (*Coccoloba uvifera*) "can be made into jelly and the juice can be used in baking muffins and cakes." The sea grape grows just back of the beaches in Florida and the berries are often found on the beach. She states that the yucca cactus (*Yucca aloifolia*), another beach side plant, produces flowers "that will jazz up any old plain salad." Similarly, she states that the bay bean (*Canavalia rosea*) has young pods which are tender and "can be eaten in salads or cooked like Chinese pea pods."

For those of us who want something more substantial than salad fare, there is always the coconut (*Cocos nucifera*). The meat is relished everywhere as an edible product and an ingredient in cakes and cookies. The protein content of the meat is as much as 20 percent. The milky juice within the coconut provides a refreshing drink.

Easier to open and with about the same food value as the coconut is the sea-coconut (*Manicaria saccifera*). D. Morris, writing in *Nature* (1895), states that "the white kernel is sometimes fresh enough to be eaten after long immersion in salt water."

Along with sea-coconuts, Florida beaches are rich in another edible fruit. This is the tropical almond (*Terminalia catappa*). The kernel is edible and has a pleasant almond-like flavor. Many of the specimens found on Florida beaches have been cut in half. This is evidence that they have been cut open by natives in the West Indies, the kernel extracted, and the halves left to be carried northward by the currents. Fresh tropical almond fruits have a thin, outside fleshy surface which is edible.

It takes a lot of cutting and opening to get much nutrition out of the small kernels inside tropical almonds. The hungry beachcomber would do much better keeping an eye out for the commercial nuts of commerce. Some are left on the beaches by picnickers; others wash in from the shipping lanes or arrive by way of ocean currents. Among those to look for are the pecan (*Carya illinoensis*), black walnut (*Juglans nigra*), English walnut (*Juglans regia*), peanut (*Arachis hypogea*), hazelnut (*Corylus avellana*), and macadamia nut (*M. ternifolia*). All of them have some drift capacity. Under test conditions, the pecan had a maximum flotation of one year.



Above: sea grapes (*Coccoloba uvifera*)

Pecans, as well as hickory nuts, are not uncommon on Florida east coast beaches. Many of them have probably come from the Mississippi and other Gulf coast rivers and been carried by ocean currents to beaches near the Gulf Stream.

The candlenut (*Aleurites moluccana*), an euphorb, has edible kernels. Uncooked, they are poisonous; cooked, they are safe to eat.

Precautions also must be taken with the pangui (*Pangium edule*), an Indo-Pacific species rare on Florida beaches. Before the seeds are safe to eat, they must be roasted and washed to remove hydrocyanic acid.

No precautions need to be taken with the guavas (*Psidium guajava*) and mangos (*Mangifera indica*) found on East Coast Florida beaches. They come from locally grown plants. The guava fruits can be eaten raw or turned into jelly. The juice can be drunk in the same way as orange juice. The seed of the mango is inedible but fleshy fruits found on the beach are as good as those in the grocery store. A drift specimen that I picked up looked like a slightly rotten white potato.

Mammee apples (*Mammea americana*) found on the beach have usually lost the edible reddish orange pulp that covers the stones. The sweet pulp can be eaten raw or cooked. The seeds within the fruit are poisonous.

The hog plums (*Spondias mombin*), found so plentifully on Florida East Coast beaches, have also lost the fleshy portions that surround the endocarps. The pulp can be turned into jam, jelly, and wine. In the West Indies the fallen fruit is much relished by swine, hence the common name hog plum.

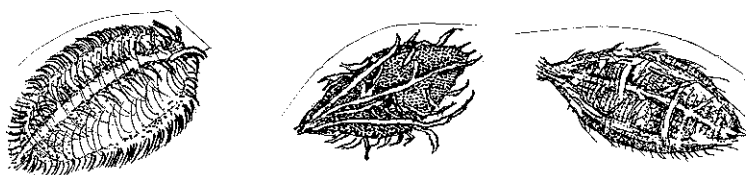
The nypa palm (*Nypa fruticans*), whose fruits are extremely rare on Florida beaches, has edible fruits, according to a letter of June 2, 1978 from my son, John, Jr., who was writing from Thailand. He states that the soft inner seed, usually dipped in a sweet sauce, is eaten fresh. However, the seeds are not edible if they have been in the ocean.

When visiting beaches on the southeastern coast of Florida, I sometimes had the experience of finding apples, oranges, onions, and other vegetable matter that had washed in from the shipping lanes. Here was a bonanza—all one could eat without having to go to the grocery store! Well seasoned by the salt water, the food needed little flavoring. But in case spices were needed, there was always the Surinam nutmeg (*Myristica fragrans*) which is a drift seed and often not far from edibles of various kinds.

No one need go hungry on Florida beaches. There is a gourmet banquet out there for anyone who is a drifter and wants to make use of nature's bounty!

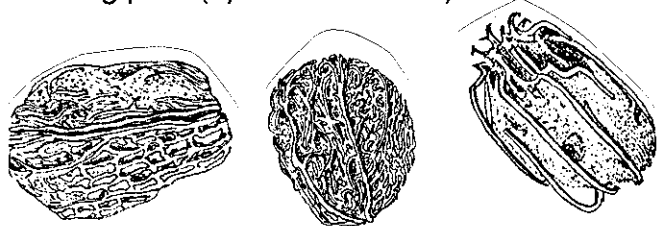
Literature cited

Katz, Cathie. 1995. the nature of Florida's beaches. Atlantic Press, Inc., Melbourne Beach, Fla.  
Morris, D. 1895. A Jamaican drift-fruit. Nature, vol. 53.

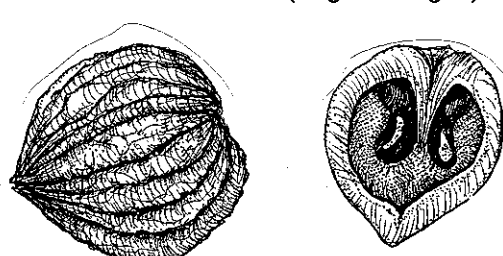


tropical almond (*Terminalia catappa*)

hog plum (*Spondias mombin*)



black walnut (*Juglans nigra*)





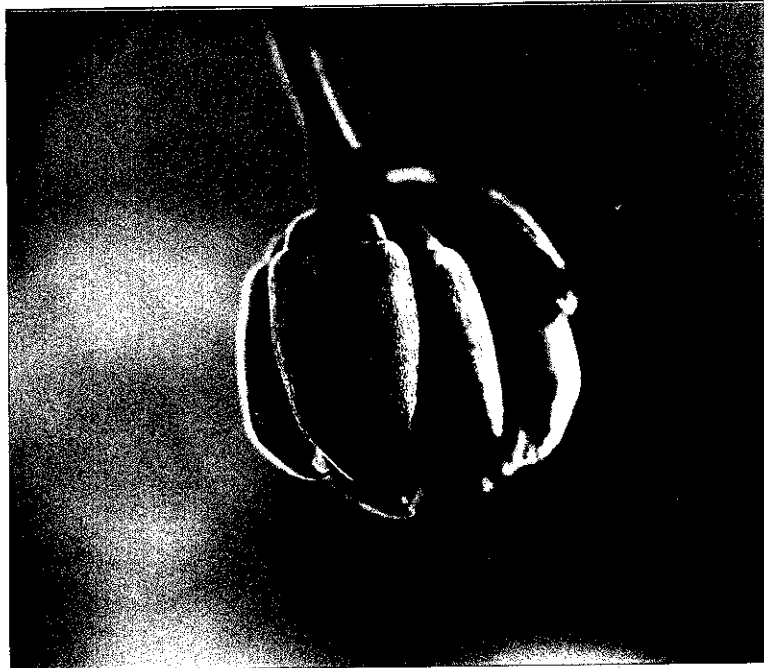
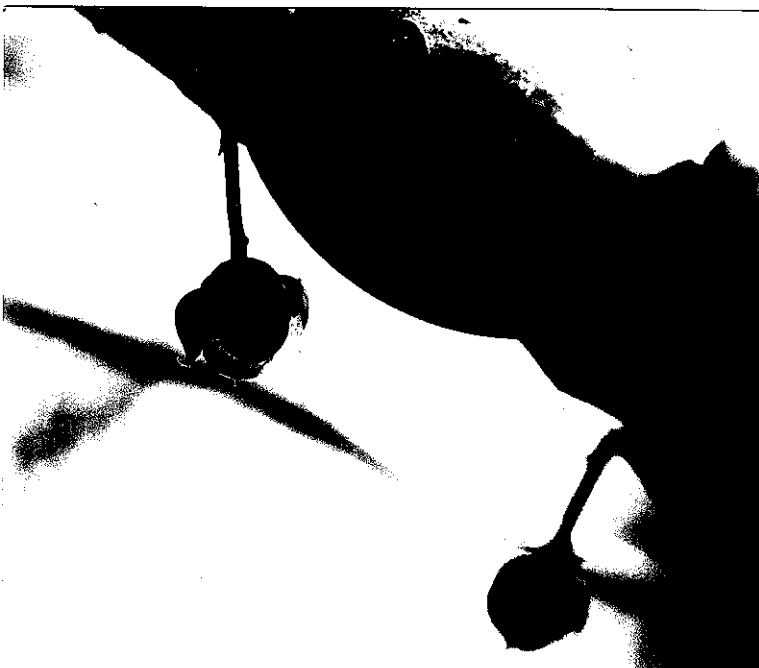
## My *Mucuna* of Melbourne

by Ed Perry

Two years ago this December, my wife and I welcomed a new addition to the family. During a beach walk in pursuit of sea-beans, we came across one damaged *Mucuna* seed that had apparently been run over with an A.T.V. on a bed of coarse shell, compromising the seed coat of the bean.

After learning about growing these tropical treasures from Cathie Katz at the 1997 International Sea-Bean Symposium, we decided to pot this seed up and give it a try. Soon we had a young, vigorous vine to care for. I later learned that this brown hamburger bean we had germinated was most undoubtedly a *Mucuna sloanei*. I wanted to start the young plant in a transportable pot so that it could be brought inside for cold weather during its first winter. It is not uncommon to receive several nights of below freezing temperatures during the course of a Central Florida winter.

After making it through its first winter, the young vine was finally placed outside in our more protected back yard and allowed to climb up an old growth live oak tree. After roots grew through the bottom of the pot and into the surrounding soil, this spot became the vine's permanent home. The warm, long summer days of Florida helped the vine to thrive, and its growth was apparent and fast. By fall, the base of the vine that entered the potting soil had become woody and grown to about one inch in diameter.



By early December of 1998 the vine, now one year old, was still thriving. I had been told that it would be at least three years old before it might flower and produce fruit. I was excited when at this early age I noticed waxy, green pendulous "balls" forming from leaf nodes along some of the thicker portions of the vine! Were these the flowers, or some other part of this strange and exotic vine?! Indeed, the green balls turned out to be the beginning of the plant's fruiting cycle. The waxy green parts that formed the "ball" soon fell off and exposed a cluster of young *Mucuna* buds that first appeared much like a miniature hand of bananas.

By mid December several of the clumps of buds had blossomed into yellow-green chandelier-like clusters of flowers. In the middle of the plant's blooming cycle cold weather struck with two nights of just freezing weather, 31 degrees Fahrenheit each night. Yikes! I thought the vine would be lost, for younger vines grown by Cathie Katz had succumbed to even warmer temperatures. But apparently the size of this vine was its protection, because it made it through this and the rest of the winter, suffering only minor frost damage and leaf loss.

I wondered if the vine would need bat pollinators as we now know so many of the *Mucuna* species from the rain forests try to attract. Would the cold weather of Florida during its blooming period deter even any would-be insect pollinators? Possibly so, but the plant did go on to produce some pods for its first blooming effort.

Lack of pollinators, cool nights, and the young age of the plant could have all been reasons why fruit production appeared low during this first cycle. Again, but not with the quantity as seen in December, the plant bloomed the following April. This time however, fewer blossoms produced more fruits. Perhaps this could be from the warmer temperatures contributing to more pollinators, or due to the increase in vigor of the vine itself, which now measured almost *two inches in diameter* at the base! This was the first month that the pods produced from the December blooming released a few of their seeds, and *I harvested hamburger beans from my own back yard lawn!*

In the summer of 1999, the vine again grew with vigor, and increased its hold on the live oak that it now blanketed. Light penetration through the canopy of the oak was little. Pods produced from the April blooming had turned brown on the vine but did not release their seeds. However, with the passing of Hurricane Irene over our house in October, the back yard lawn became littered with *Mucuna* seeds, and pods, some hollow, and some with beans still in them.

Ponding water in our backyard concentrated the pods and seeds which stranded in one corner of the yard. The whole event reminded me of what must happen in the tropics when hurricanes hit, and seeds are blown from the canopies by the thousands, and washed from forest floors to be swept out to the oceans.



At the time of this writing, my *Mucuna* of Melbourne, Florida is doing great. The "trunk" has now grown to over *four inches* in diameter and shows no sign of slowing. Wind-whipped leaves on half of the tree that was damaged from Hurricane Irene are falling and new growth is sprouting out to fill its place. A walk around back this morning to visit "my exotic friend" brought a smile to my face, as I noticed tiny little green balls starting to show from every leaf node along the stronger portions of the vine. It seems the cycle of life has once again come around for this beautiful plant. Soon its clusters of yellow green flowers will dangle down and once again add a sense of the tropical beauty of the rain forests to this concrete and sod neighborhood I call home.

*If I have ever made any valuable discoveries, it has been owing more to patient attention, than to any other talent.*  
- Sir Isaac Newton

### Beach Report

Steady east winds ever since the symposium in October have kept the east coast beaches of Florida "renewed" nearly every day with fresh sargassum, beans, and all sorts of other "stuff." Portuguese man-o-war jellyfish are dotting the beaches with their balloon-like bodies of purple and blue. Exceptionally high tides are pushing up the wrack line high in some areas, while sweeping it completely away in other areas. Though there is not a great amount of any one type of sea-bean to be found right now, there is probably more variety to be had than any other season I have yet experienced. Beachcombers are finding quantities of Central American species that must be linked to some weather event from that past. Could we still be getting beans from the devastation that Hurricane Mitch unleashed on Central America a little more than a year ago? Anything is certainly possible, as we know the Sargasso Sea can act as a reservoir of drift material. But I remind you that Central America has also had some hurricane and tropical storm activity this past summer and fall.

### Rare Finds

What a month it has been for rare finds here in Florida (Europe: this is headed your way!). Probably the most rare of finds to begin the list are the ivory nut palms (*Phytelephas*) that my wife and I have found. We now have three records for Brevard County, Florida beaches! Has anyone else run into one of these out there? Beachcombers are also finding good numbers of mahogany (*Swietenia*) pods washing up on local beaches. Some of these pods appear very old and weathered, while others, like one that Cathie Katz picked up in October, look as fresh as though she picked it off the parent tree herself. I was happy to add two of these treasures to my collection this past month, sea-beans that I had never before found.

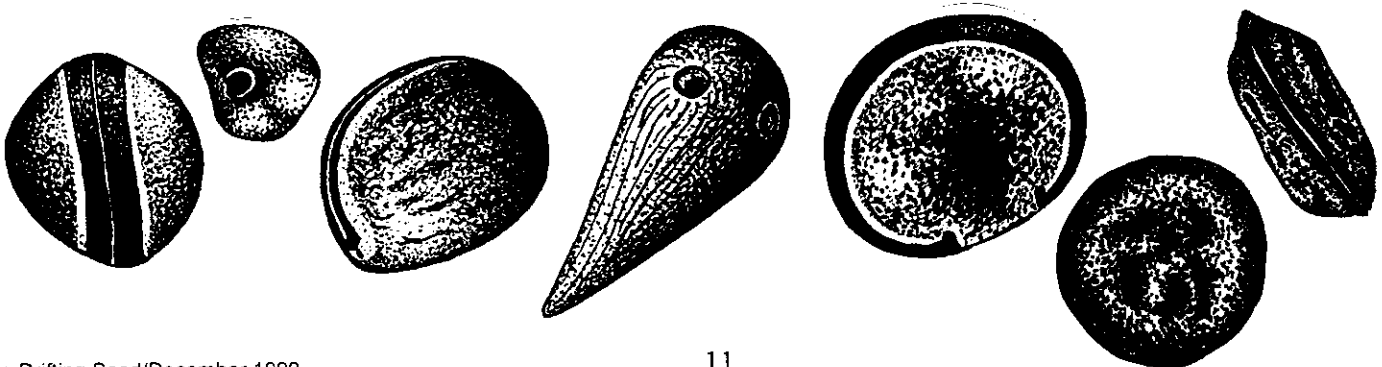
One of the more interesting showings on our beaches has been that of the white-hilumed *Oxyrhynchus volubilis*. These seeds are slightly smaller than the more common, but still rare *Oxyrhynchus trinervius*, which is jet black with a black hilum. From the five specimens of *O. volubilis* I have examined that were collected in the last week, they appear to be overall brown or purplish, with a beautiful natural luster. Beachcombers should keep their eyes alert for these small and rare treasures!

Lori Veber of Melbourne Beach, along with my wife and I, were all lucky enough to come across the black *Mucuna* (*M. holtonii*) during our November beachwalks. Paying close attention to objects that appear at first glance to be a blob of tar can lead you to these interesting drift seeds. Rhonda Lovec-Theobald of Orlando, Florida found a beautiful bright pink *Canavalia nitida* during a recent beachwalk in south Florida. This is probably the most beautiful of all the bay beans, and may go unnoticed due to its small size. On her birthday, November 13th, Rhonda was lucky enough to find an acacia thorn that doubled perfectly as a costume mustache! Happy birthday Rhonda!

Other rare and exciting finds have included scads of Mary's-beans, anchovy pears, calabashes, burnt orange Diocleas, porcupine seeds (*Caryocar* spp.), and cabbage bark seeds. Many beachcombers are noticing the regularity all of a sudden of both species of *Mora* seeds, but if you are like me, you leave them on the beach until they dry out completely. Wow, can these things stink!

Not to go unnoticed are a few boxfruits, some coral beans (brown and red!), giant hamburgers (*Mucuna* spp.), Calatola, a few candlenuts, and wood roses, as well as an occasional egg fruit seed. It really has been a bean smorgasbord out there, so enjoy the variety!

Last but not least, congratulations goes to Cathy Yow who just recently moved to the coast of Jamaica Beach, Texas. After returning from the symposium, and finally finding the time to "hit the beach" after having been in her new house for three weeks, Cathy found a Mary's-bean on her first trip out. What a way to start off her new abode!



### Nickarnut Chat

Of all the rare Central American species that Florida beachcombers have been finding, the brown nickarnut is the most intriguing to me. Several of these have also been found in the last couple of months on Florida beaches, with some of them being mistaken as "the world's smallest sea heart." During one day in November, my wife collected one on Melbourne Beach while unbeknownst to her, another one ten miles down the road had just washed up and made it into the hands of another beachcomber, Holly Fernandez.

While visiting Florida for this year's symposium, Cathy Yow was able to make it by my house to see the progress that my nine-month-old brown nickarnut plant has made. Even after being blown completely over during Hurricane Irene, the plant is now almost 10 feet tall and thriving. A mild forthcoming winter would certainly help towards the effort of getting this plant to flower. Perhaps someday soon we will know what plant is actually contributing this elusive drift seed to our beaches. Cathy is working on finding grant money to help us transport this precious cargo to Kew, England, when and if the day of flowering comes! Thousands of gray nickarnuts (*Caesalpinia bonduc*) covered the beaches shortly after the passing of Hurricane Floyd in September. I attribute this great flurry of nickarnut activity to the seasonally high waters of the lagoon system behind our barrier island, and the erosive effect of the strong west winds that occurred during the passing of Floyd. The West Side of the barrier island suffered extensive damage from this combination of effects; evidence from all the docks and roadways that were lost to the high, wind whipped river waters. Showing up in the droves of local nickarnuts, beachcombers also saw hundreds of pond apple seeds, mangrove propagules, coin vine "coins," and Australian pine cones (*Casuarina*) after the passing of Floyd. All of these seeds help to shed light on the local origin of the wrack line seen on the beach afterwards.

### Crustacean Tags

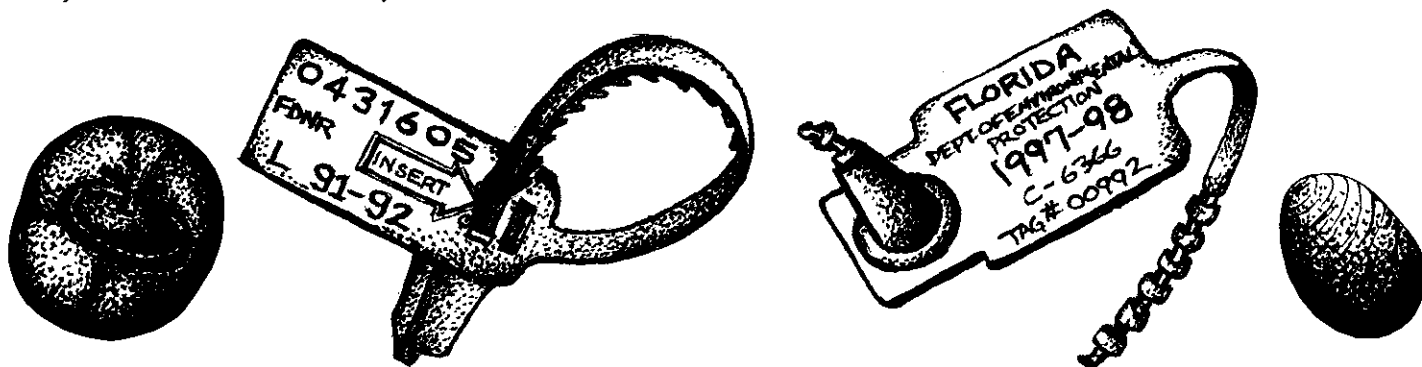
During his visit to Florida in October, Curtis Ebbesmeyer was able to spend a day with me at the Sebastian Inlet. Besides finding more "keeper" beans than ever before (Curt was one *Dioclea* short of a "Grand Slam"), he found a tag from Canadian waters that made him more excited than any of the beans he picked up. This might prove to be another tag from the Canadian salmon aquaculture farms, possibly having traveled the Atlantic gyre now more than once!

Again, beachcombers are also finding the "97-98 Florida Dept. Of Env. Protection" tags which are a bright orange color. These tags originate from lobster and stone crab traps in the Florida Keys. I believe this batch is from those tags that broke free from derelict "ghost" traps during the last wave of rough weather brought on by Hurricane Irene. Far fewer of these tags are showing up now than were witnessed last year, leading me to hypothesize that they are now originating from lost traps, weak and decomposing at the bottom of the ocean. I have not found any "99-00" tags as yet.

A Guatemalan crustacean tag I picked up last week might help shed light on the origin of some of the Central American sea-bean species we have been finding. While Guatemala is a primary coastline of the pacific region of Central America, it also has a small coastline touching the Gulf.

### Final Thoughts

Beachcombers, please keep records of dates and places of your interesting beach finds. I am interested to know about these because species of seeds, crustacean tags, messages in bottles, and some trash can help to identify the origins of the tropical drift we see on our beaches. Some of the seeds we find on the beaches are thought to be extinct, and some have yet to be identified. Let me know of unusual finds like giant hamburgers, brown nickarnuts, and black *Mucunas*. Please check out the new web page my wife and I are creating, with an emphasis on bean I.D. through use of color photos. Until next time, "keep your eyes on the wrack line, and your toes in the sand."



*Everything begins with a thought ... We become what we think about. If we don't think at all, we don't become anything at all. - Earl Nightingale in Earl Nightingale's Greatest Discovery*

## The Sea-coconut *Manicaria saccifera*, a new tropical drift seed from the Dutch coast

by Gerhard C. Cadée

Netherlands Inst. Sea Reseach  
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Netherlands  
Cadée@nioz.nl

On the Island of Texel, in the northern part of the Netherlands, where I live, many people know my interest in tropical drift seeds and fruits thanks to Texel Radio and articles in the local newspaper. As a consequence more tropical seeds are known from Texel than from any other part of the Netherlands. This might give the wrong idea that Texel is the best place to find them, but it only indicates more people are looking for tropical fruits and seeds and bring what they find to my attention. My own contribution is only small, other people are usually more lucky in finding tropical drift seeds!

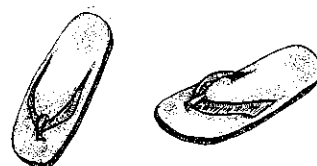
In 1999 the sea seems to deliver more tropical seeds on Texel than any other year, which might indeed indicate that tropical seeds come in "bulges" as observed by Ed Perry (1999). High numbers of drift seeds appeared in Florida from October, 1998, to April, 1999. He suggests a relationship with hurricanes in the source area releasing more seeds than normal. Dennis (1999) relates local mass strandings of drift seeds to the fact that they may have been concentrated in eddies at sea. Strong onshore winds may bring the material concentrated in these eddies to the shore. Such mass strandings will probably never reach the Dutch coast, most drift seeds will have been intercepted by the shores along the Channel. However, higher numbers in some years might support the 'bean bulge hypothesis' of Ed Perry.

The harvest of 1999 up to now (mid October) includes a sea heart (*Entada gigas*) found in June by Theo Rutten, a horse-eye bean (*Mucuna* sp.) found by Rob Dekker in August, and my best collector Edwin van Emden presented me with an ivory nut (*Phytelephas macrocarpa*) found in August. Normally these ivory nuts cannot float, only the empty nuts can, as also reported by Guppy (1917, p. 17). This was an empty one that could float. In April 1999 Edwin found a seed which I had some difficulty in identifying. I first thought it to be the kernel of an avocado (alligator pear), although it certainly was not flattened like the ones I have in my reference collection.

Fortunately, in response to my request for some tropical seeds for experiments on their possible antifouling capacity (Cadée & Dijkzen, 1999), Ed Perry was so kind as to send me a whole collection of tropical seeds from Florida. Among these were some sea-coconuts (*Manicaria saccifera*). At once I recognised this to be the same as the unknown seed found by Edwin! A search in the literature indicated I had overlooked the excellent illustration of our sea-coconut by Pamela Paradine in Gunn & Dennis (1976, Fig. 84, B). This shows the "golf ball" endocarp devoid of its heavily tuberculated outer wall just as it was found on Texel. This outer wall is often partly or totally absent from drift seeds, which makes them not always easy to identify according to Gunn & Dennis (1976). The absence of the tuberculated outer wall was already predicted by Guppy (1917) for all sea-coconuts stranded on the shores of Europe. This is probably also the reason they are seldom reported, they are far less conspicuous than e.g. *Entada* or *Mucuna* seeds. *Manicaria saccifera* was not reported earlier from the Dutch coast (see Cadée, 1996). Dennis & Gunn (1976) cite only Sloane (1707) for a European record. It is not mentioned by Nelson (1990), but in his new book (Nelson, in press) a few records are mentioned from Cornwall and Shetland for the early 1990s. Guppy (1917) also mentions Bates (1864), who reported in the last paragraph of his famous book on his travels in Amazonia, seeds of *Manicaria saccifera* drifting at the sea surface, about 400 miles to the north of the River Amazon.

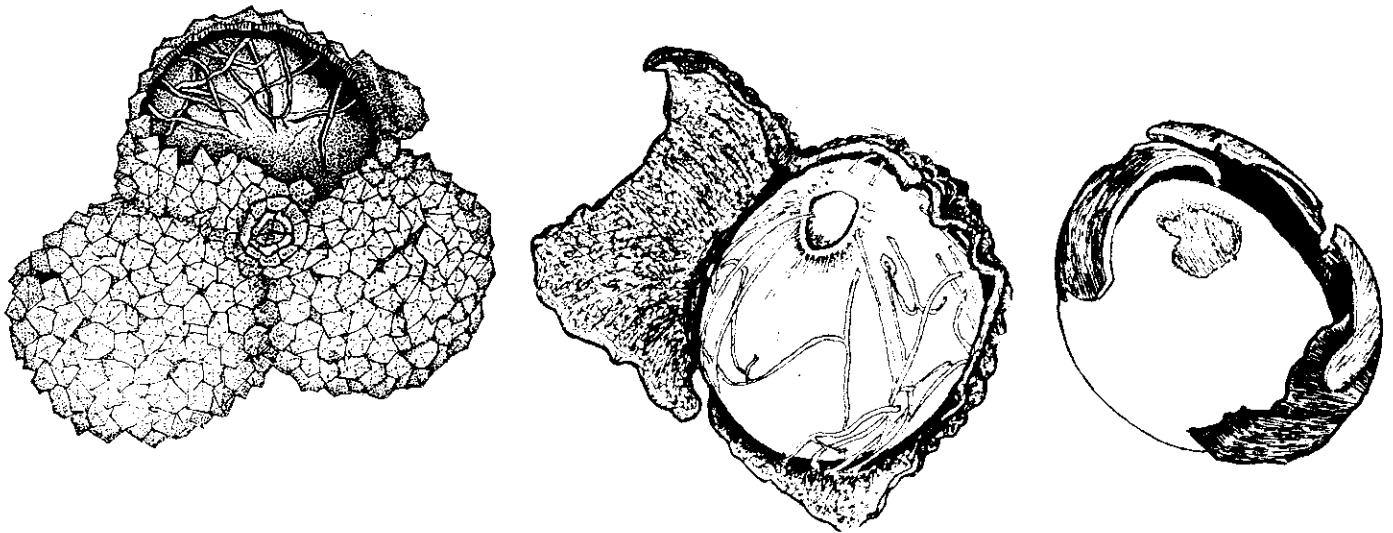
I thank the collectors mentioned for showing and sometimes even giving me the drifting seeds they found on the coast of Texel, Charles E. Nelson for allowing me to cite from his book in press, and Ed Perry for his nice reference collection of Florida drift seeds.

(References are on the following page)



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sea-coconuts (*Manicaria saccifera*) (art by Pamela Paradine and Cathie Katz)

*The sound of the surf, the big washing machine of ocean, sometimes seems to rinse out my brain, or at any rate, it expands me and it slows me down.*

Anne Lamott in *Traveling Mercies*

## NEWS AND NOTES

Thanks to **Paul Mikkelsen of Ft. Pierce, Florida**, all issues of The Drifting Seed newsletter are now online at **www.seabean.com**

Here are a few other sites to visit:

<http://daphne.palomar.edu/wayne/pldec398.htm> (Wayne Armstrong's "WAYNE'S WORD" by Elaine Collins)

<http://www.assateague.org/plover/3-97-h.html> (by John V. Dennis, Jr.)

[www.beachcombers.org](http://www.beachcombers.org) (by Curtis Ebbesmeyer)

[www.floridaplants.com](http://www.floridaplants.com) (by Leigh Fulghum)

[www.c-beans.com](http://www.c-beans.com) (by Pete Zies)

[www.geocities.com/seatrout00](http://www.geocities.com/seatrout00) (by Ed Perry and Beth Sinclair ....)

Beth and Ed are gathering drift information by asking you to write about your beach, your treasures, and any related sea-bean information, when you sign their guest book. All the data they receive will help see patterns in drift material and perhaps gain a better understanding of the plight of our humble hamburger bean.)

Readers, let us know about other sea-bean sites.

We are proud to tell you all that long time sea-bean supporter **Janice Scott** won the election for **Mayor of Cocoa Beach!** Janice came to this year's symposium with a "drift log" for our Show&Tell. Not just *any* log, though — this one has the last will and testament of Morris Taylor of Overland, Missouri carved into it from the 1800s. The log was found on the beach by **Mary Lund of Cocoa Beach** about 35 years ago. Milt Salamon, daily columnist for **Florida Today** newspaper wrote, "Wondrous objects wash up on Space Coast beaches. And, last month, enthusiastic beachcombers brought samples of those finds to the 1999 Annual International Sea-Bean Symposium at the Cocoa Beach Public Library. But in our opinion, nothing compared with Mary Lund's growingly famous log." [Updates will be in future issues of **Beachcombers' Alert!** and this newsletter.]

An email from **Bob and Mary Reed in Virginia**: "As a result of the symposium and related news articles --now, we not only search for beans we must also pick up all bottles looking for messages and scan every piece of wood looking for someone's last will and testament."

**Larry Groshart (aka Johnny Coconut) from Ft Lauderdale, Florida** wrote: "I watched a TV documentary on the History Channel about Voodoo (vodou). The African 'priest' was divining the future using a double-handful of small seashells and other items. When he cast the pile out on the mat, I recognized several *Mucunas* and sea-hearts!" [Eds note: In Kenya, sea-beans, shells, and beads in gourds are used to "read" someone's health. Maybe some of our readers can add to our limited knowledge about this?]

**1999 SYMPOSIUM:** (More news about the symposium will be in Pete Zies' column next issue.)

Once again, we thank **Ray Dickinson, Director of the Cocoa Beach Public Library** for allowing us to use the beautiful new facility for our 1999 International Sea-Bean Symposium. Without Ray's wonderful support (and patience) the weekend would not have been the success it turned out to be. Ray has offered The Drifters use of the library again next year for Symposium2000. Thanks to Ray and the enthusiastic staff for contributing so much to our group!

We also thank **Dr. George Maul** from Florida Tech for joining our panel on October 23. His experience with Florida's currents helped us understand the complexities of our drifting sea-beans. Thanks also to **Debra Frasier**, author of *Out of the Ocean* for a beautiful presentation and slide show about creating a book. And we are so grateful to **Cathy Yow** for taking time out from moving into her new home on the beach in Texas to play with us and open our eyes to the beauty of the seeds around us.

**Krieger Publishing** provided wonderful support throughout the process of reprinting the World Guide, and continued their support throughout the symposium in handling the orders. Their efforts made the event a particularly happy occasion for all the Drifters! Thanks to both **Mr. and Mrs. Krieger(s)**, and a great bow of gratitude to **Elaine Harland**.

Once again, thanks to **Jim Angy** for displaying and taking beautiful photographs. And all the great helpers through the weekend, particularly **Paula Boys** who coordinated a mighty fine crew! Naturally, nothing would have gotten done without **Sue Bradley**, our traffic controller, bookkeeper, cheerleader, and rememberer-of-all-things-great-and-small.

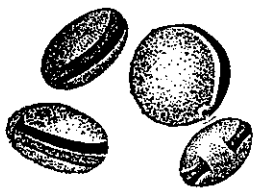
Congratulations to the winners of the **1999 Bean-A-Thon** on October 23: **Bill Eastlake** for the GRAND SLAM; **Dick Williams** for Cool Bean Award; **Ed Perry** for Largest Variety of Beans; **Cindi Fontana** for The Non-Bean Award; **Zachary Biddulph** for Youth Award; **Rondall Owens** for Smallest Sea Heart; **David Williams** for Largest Hamburger Bean. Congratulations to the winners of the **First Annual Sea-Bean Jewelry Contest** on October 24: **Pat Palazzola** for BEST OF SHOW; **Pam Schrimsher** for MOST CREATIVE; and **Mike Stewart, Beth Sinclair, Patten and Spaulding Bashem** received Honorable Mentions.

**Ed Perry** won **The Drifter of The Millennium Award** for his ongoing and tireless support.

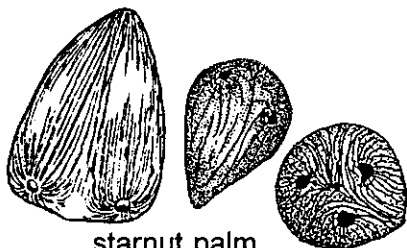
To express our appreciation for outstanding contributions and sharing many years of drift research, we presented **Dr. Curt Ebbesmeyer**, our keynote speaker and devoted Drifter, with the **1999 SPECIAL BEAN AWARD**.

# Simple Guide to Common Drift Seeds

(Illustrations by Cathie Katz and Pamela J. Paradine)



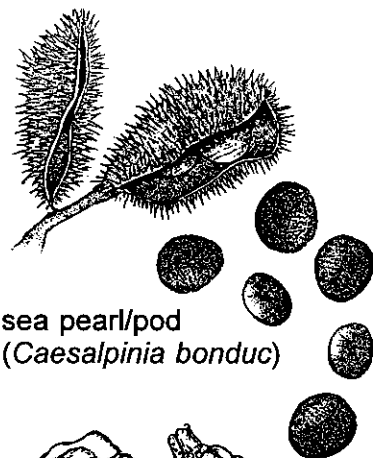
hamburger bean  
(*Mucuna* spp.)



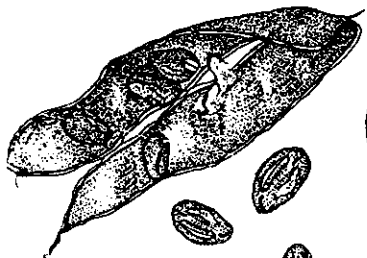
starnut palm  
(*Astrocaryum* spp.)



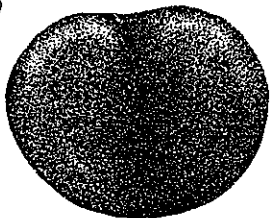
country almond  
(*Terminalia catappa*)



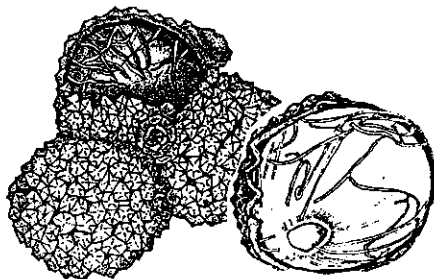
sea pearl/pod  
(*Caesalpinia bonduc*)



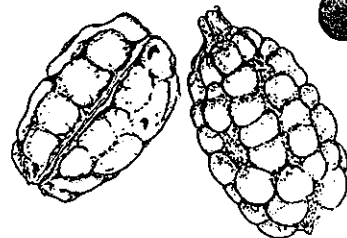
bay bean/pod  
(*Canavalia rosea*)



sea heart  
(*Entada gigas*)



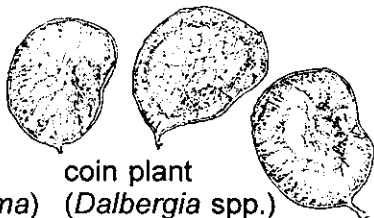
golfball/pod  
(*Manicaria saccifera*)



hand grenade  
(*Sacoglottis amazonica*)



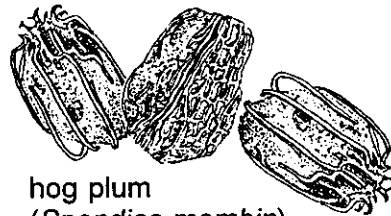
Mary's bean  
(*Merremia discoidesperma*)



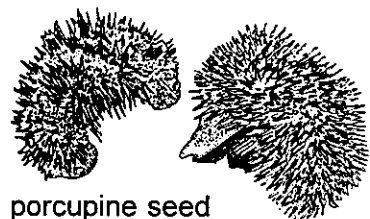
coin plant  
(*Dalbergia* spp.)



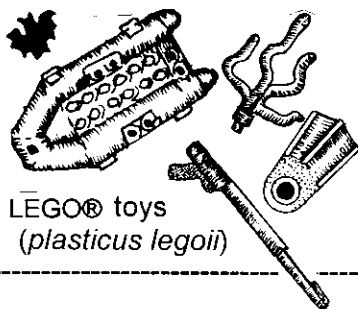
sea purse  
(*Dioclea reflexa*)



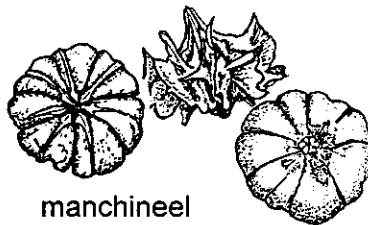
hog plum  
(*Spondias mombin*)



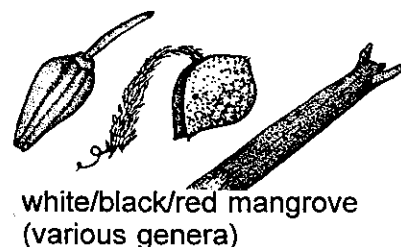
porcupine seed  
(*Caryocar microcarpum*)



LEGO® toys  
(*plasticus legoii*)



manchineel  
(*Hippomane mancinella*)



white/black/red mangrove  
(various genera)



## The Drifting Seed

PO Box 510366  
Melbourne Beach, FL 32951

stamp  
here

