



The Drifting Seed

September 1, 1999

Vol. 5, No. 2

THE DRIFTING SEED

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

Distributed to more than 20 countries.

Cathie Katz, Editor and Publisher
Dr. Charles R. (Bob) Gunn, Advisor and Columnist
Sue Bradley, Business Manager
Patricia R. Frazier, Production Editor
John V. Dennis, Sr., Columnist
Ed Perry, Columnist
Pete Zies, Columnist

1999 Fourth Annual International Sea-Bean Symposium, October 22 -24.

Travel and hotel information on pages 13 and 14.

page 2: From Cathie Katz
page 3: Book Review by Bob Gunn
pages 4-5: Johan Ernst Gunnerus (2nd of 3 parts), Bob Gunn
page 6: A Pitch and a Swing by Pete Zies
page 7: Just How Big is Big? by Pete Zies
pages 8-9: The Lucky Bean by John Dennis

page 9: *World Guide* reprint information
pages 10-11: Ed's Beach Bytes by Ed Perry
page 12: One Sea-Bean: A Gift from the Sea
by Charlie Kouns
pages 13-14: 1999 Sea-Bean Symposium
page 15: News and Notes

For seed identification, contact
Pete Zies (Tel: 407 260-6887)
613 Rodney Drive
Altamonte Springs, FL 32701
e.mail: bazil1@juno.com

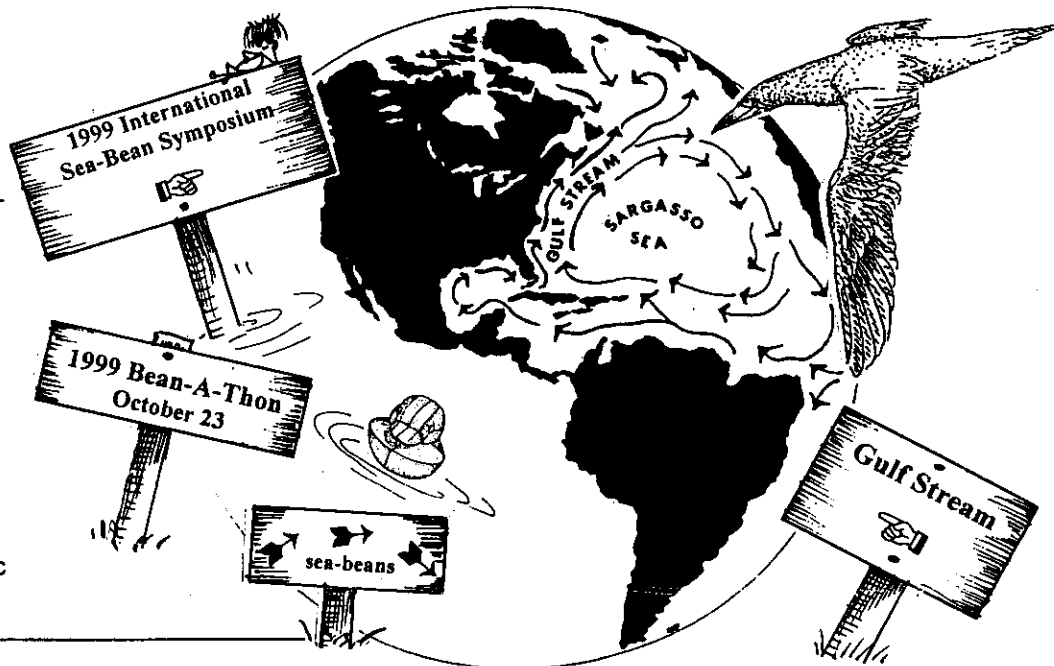
Cathie Katz
P.O. Box 510366
Melbourne Beach, FL 32951 USA
e.mail: seabean@castlegate.net

From Cathie

Riddle: How long does it take a sea-bean to travel from Central America to England?
(Answer: As long as it wants.)

Oh, those crazy sea-beans. The riddle, as silly as it seems, is one of the toughest questions to answer. But we've been receiving clues from several beachwalkers in England, most notably Jane and Nick Darke of Cornwall, reporting unusual amounts and types of drift material on their north beaches this past year — very similar to Florida's last bulge of beans from Central America. This opens up all kinds of other sea-bean questions: Are the Cornwall sea-beans from a "bulge" originating in Central America? Why did they bypass the U.S. east coast? How fast do they travel? Do they always drift with a current? Which ones? How do they get into the Sargasso Sea? How long can a sea-bean live? Do we get sea-beans from Africa? What's a gyre? What's a bulge? Why are sea-beans so mysterious? When will the famous LEGO® toys arrive in Florida?

Some of these questions are addressed in this issue in columns by sea-bean experts John Dennis, Ed Perry, and Pete Zies. The articles will be the focus of the 1999 Sea-Bean Symposium and the topic for the October 23 panel discussion, with their authors. Adding the latest Gulf Stream and world current information to the panel will be Dr. Curt Ebbesmeyer, oceanographer from Seattle and Dr. George Maul, director of the division of marine and environmental systems and professor of oceanography at Florida Tech in Melbourne. Cathy Yow, medical researcher from Houston, Texas will contribute her knowledge of the erratic nature of marine drift.



"Sea-Bean Symposium" or "Sea-Bean and Beach Symposium?"

Last year we asked readers if we should expand our group and symposium to include aspects of beachcombing other than sea-beans. The response was passionate and strong — both *for* and *against* expansion:

The purists argued that our group is the *only one in the world* to study ~~sea-beans~~, and we have a responsibility to maintain the integrity of our unique nature (without the risk of dilution). The purists also pointed out that our group has more than we can handle in organizing community projects and publishing information *just about sea-beans*; if we increased our interests, we would become overwhelmed and ineffective.

On the flip side of the bean, the expansionists stated that we need support (in time, talent, and money) to research and reach more beaners. If we include other interests, we would gain exposure — hence, we could contact more sea-bean enthusiasts and collect more data from around the world. Adding more volunteers to our wholly volunteer effort could only help.

Every truth has two sides; it is well to look at both, before we commit ourselves to either.
- Aesop

Both sides are convincing enough for me. So, as is *my* nature, and with the responsibility and authority that Dr. Gunn has blessed me with, I choose not to make a decision. Let the beans speak for themselves — sea-beans on their own turf can't be separated from their traveling companions of sargassum weed, bryozoans, bottles, and spirula — any more than we could say "Whoa, we'll have no Lego talk at *this* symposium." But, as "the most unexplored area of botany," sea-bean research is now receiving worldwide recognition and attention — particularly in the rain forests — so the spotlight is falling on them naturally. The magic of sea-beans continues in its own way and its own time.

If one way be better than another, that you may be sure is Nature's way.
Aristotle

FROM BOB

We regret that a travel conflict will prevent us from attending the 1999 Symposium. This Fall it is Betty's turn to go West for her long desired tour. We hope that you have a successful meeting at the Cocoa Beach Public Library. Cathie and company have made excellent plans. While we are very sorry to miss the meeting, but we hope you can attend.

Some of you know that I have given up much of my work with drift disseminules, but perhaps you do not know why. The Notice after the Book Review (this issue) contains a partial explanation. Joe Kirkbride has taken my legume seed and fruit morphology data and created a CD-ROM for general distribution. This is an example of what I am currently doing at home. I have been assembling and recording data about seed and fruit characters of the 411 plant families recognized by the USDAVARS GRIN program. Each family currently has up to 342 characters. I do not want to know how many character states (observations) I deal with on a day to day basis: This datum would surely give me a headache. I have gone through all of the families once: now I am checking and correcting the first 53 characters and solving at least some of the problems. After this fall, I will have to start visiting selected herbaria and libraries to check and enlarge my data base.

Book Review by Bob Gunn

Cathy Yow. 1999. *Jewelry from Nature: 45 Great Projects Using Sticks & Stones & Seeds & Bones*. Pp. 128.

ISBN 1-57990-107-7. Lark Books, 50 College St., Asheville, NC 28801

USA. US\$18.95, CAN\$27.95, for other countries contact publisher.

Usually a review starts with the text, but this time it is the people who created the book who must come first. First is the author, Cathy Yow, but right along side are the Lark employees: Editor, Jane LaFerla; Art Director, Kathleen Holmes; Photographer, Evan Bracken; and Production Assistant, Hannes Charen. Each of these has every right to be very proud of this book. I have seldom seen a book with as beautiful a layout, design, and colored photographs. And we all know that Hannes had to handle lots of seeds and fruits and other miscellany. The pictures are so beautiful that quite frankly it is hard to start on the text. It really does not matter which page you turn to and even considering the variety of photographs, each page is a joy to behold. Evan does not have a poor or low quality photograph. Even the very soft shadows of the unadorned seed clusters complement these photographs.

When Cathy was visiting us and going to Lark (in Asheville), I doubt that she knew what a beautiful book was to be published — no wonder it is a Book of the Month selection. Cathy and her editor have created a neat contents page. I had to force my attention from the background photograph that clearly summarizes the contents to the table of contents. The sections are: Introduction, Getting Started, Materials, Projects, Packaging and Presentation, Tools and Materials Sources, Further Reading, Contributing Artists, Acknowledgments, and Index. Cathy explains how she got started and where she finds the raw materials in her neighborhood. She then turns to discussions of the history, fables, and lore of the seeds. In the section on "How to Use This Book," there is a remarkable photograph of a collection of Tagua nut buttons and miniature vases and plates. There follows discussions of collecting etiquette, cleaning and preparation, raising your own seeds (with data and instructions about the different genera and warning about poisonous (albeit beautiful) material.

This book is a MUST for your library. Even if you never make a necklace, you will be overwhelmed by its unsurpassed beauty. My words are inadequate about the value of this book and about my unreserved pleasure in reviewing this book: A home run Cathy.

Notice by Bob Gunn

J.K. Kirbride, Jr., C.R. Gunn, A.L. Weitzman, and M.J. Dallwitz. 1999. Legume (Fabaceae) Fruits and Seeds. Parkway Publishers, Inc. Box 3678, Boone, NC 28607. A CD-ROM. Before Oct. 1, 1999 US\$60.00 postpaid; after Oct.1 US\$80.00 postpaid. For multiple order contact the publisher. System Requirements: Windows95 or Windows98 [Windows is a trademark of Microsoft Corp.] Description: DELTA formatted for interactive access of seed-fruit characters of legume genera; 1,300 fruit and seed images; 150 character images; and INKEY Retrieval software. This database contains 91,874 pieces of fruit data, 87,492 pieces of seed data, and 3,425 pieces of distributional data. For each genus: 1) photographs or drawings of fruits, 2) seed photographs, 3) SEM images of testa at 50 and 1000X, 4) drawings of cotyledons and embryos. This is a computer assisted legume seed and fruit identifications program (not a book) and databank. The computer also refers you to the illustrations so that you can see your identification. The bases of these data are derived from USDAVARS Technical Bulletins 1681, 1755, and an in press one.

Author Cathy Yow from Houston, Texas



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

This part includes the middle portion of the article with Literature Cited in its entirety.

Part three will be in the December issue of The Drifting Seed and will conclude the text of Johan Ernst Gunnerus]

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

Worm-stone, *Mucuna* spp., Sea-beans

Another kind [species] of West Indian bean also often is found along our beaches. This is known in our country as the Worm-stone. They often are included in the family [legume family] of the Confinement-stone [Sea Heart, *Entada gigas*], but in Sunnmoere they go under the common name of Shed Stone as can be read in Stroem ([1762], Part 1, 139). Pontoppidan ([1753], volume 1, chapter 6, section 3, page 254) called them sea beans or *Fabas marinas* or *Fabae indica* (Worm [1751], 1:99, 37, 345). They are about as large as [a] silver coin, in other words, smaller than the other form [*Entada gigas*] described above, rounder and rarely as flat. Their color is reddish- or brown-yellow with a black ring [hilum] around the rim. The latter never makes a complete circle [hilum], but leaves an opening of about one-half of an inch. This [black] circle looks as though it were cut and moulded into the rim where the half shells [seed coat] meet. It is, in addition, often accompanied by a yellowish stripe [the faboid split]. The peasants make snuff boxes out of these beans. There is no reason to doubt they are West Indian beans [legume seeds], because they also are found in Clusi ([1605], book 3, chapter 9, page 66) under the name of *Lobus peregrinus cartilagineus* and also in Worm ([1655], Chapter 26, 198) as *Fabas indicas et americanus*.

An Unknown Tropical Drift Disseminule

I shall not overlook the fact that one occasionally finds others seeds, some coal black and shiny stones like a chestnut, although they have a harder and thicker skin and are larger. They have been found along the beaches and in my opinion belong to Worm's records [Worm, 1655], and he called them *Fabas indicas*. In Linnaeus ([1752]), I do not find any plant that resembles these or any of the fruits described before like *Faba purgatrix* Bauhin *latissima ex insula* D. Thomae and *Faba lobi cartilaginei* [in] Clusi and Worm. I have search in vain on among the Papilionaceas or Leguminosas [both Fabaceae] as well as among the lomentaceas [lomentaceous legumes].

Coconut, *Cocos nucifera*, Coconut

Among the foreign fruits that the ocean throws up on our beaches you also find a kind of very large nut at Sunnmoere. Stroem ([1762], 1:39, Number 2) called them Egg Nuts. These are found with and without their tops. It is obvious that they are a kind of [the] Coconut. This is proven by Rochefort ([1667], 82, 84); ([unknown] General Travels on Sea and Land, volume 14, book 2, chapter 3, page 445 and plate 6, figure 6 & 7); and [unknown] (1754, Travels to and from Guinea, 8 page 56, published at Tromhiem [Trondheim] in 1754). The tree itself is a palm tree and one of the most useful in the world. Linnaeus ([1752], 2:1188) called it *Cocos nucifera*.

Literature Cited

Bauhin, Caspar. 1671. Pinax theatri botanici. (cf. pp. 138, 511) Joannis Regis, Basil, Switzerland.

Bohadsch, Joannis Baptista. 1761. De quibusdam animalibus marimas eorumque. (cf. p. 138, plate 11, figure 2). Dresden, Germany.

Clusi, Caroli A. 1605. Exoticorum libri decem. (cf. pp. 29-30; book 3, Chapter 8, pp. 65-66; chapter 29, p. 197 (aroma historia); book 9, Chapter 49, p. 335-336). Rapheleng, Leiden, The Netherlands.

Claussen, Peter. 1632. Norriges oc omliggende oers sandfaerdige. (History of Norway). (cf. 32:124). P.J. Moltken, Copenhagen, Denmark.

Debes, Lucas J. 1673. Descriptions of the Faroe Islands (cf. p. 169, footnote b, fig. 3d, 171). Original short title: Faeroae [or Faerooe] & Faeroa reserata. A reduced facsimile edition was published in Copenhagen in 1963. Translated into English by J.S. Doctor of Physick [i.e. John Sterpin], 1676, pp.408, published by William Iles, London.

Gouan, Antoine. 1765. Flora Monspeliaca. (cf. p. 497, number 1). B. Duplain, Lyon, France.

Journal of Botany. Unknown. (cf. 2:216, plate 36, lit. D)

Kalm, Peter. 1966. The America of 1750: Peter Kalm's travels in North America. (cf. 2:440). Reprinted: A.B. Benson, ed., Dover Press, New York, New York, USA.

A JOURNAL ARTICLE BY JOHAN ERNST GUNNERUS
Literature Cited (continued)

- Kraft, Jens. 1760. Kort fortaelning af de vilde folks fornemmeste. (cf. 317). Jonas Lindgren, Soroe, Norway.
- Linnaeus, Carl von. 1745. Hortus Upsaliensis. (cf. p. 291). Samuel Naucler, Upsala, Sweden. [Also in Linnaeus' *Amoenitates academicae*, ed. 1, vol. 1, 1749, pp. 20-68; and ed. 3, 1787, pp. 172-210].
- Linnaeus, Carl von. 1749. *Materia medica*. (cf. p. 14, number 42; p. 68, number 199; p. 68, number 442). L. Salvii, Stockholm, Sweden.
- Linnaeus, Carl von. 1753. *Species plantarum*. Vol. 1:1-560; Vol. 2:561-1200, (cf. 110 (*Avicennia*), 626 (*Crescentia*), p. 1188, and plate II (*Coconut*). L. Salvii, Stockholm, Sweden.
- [Note: "Princeps Botanicorum" in text is a very flowery way to say "The Prince of Botany" and apparently refers to this entry.]
- Linnaeus, Carl von. Unknown. No citation. P. 23 for *Faba purgatrix Bauhin latissima ex insula D. Thomae*. (*Entada gigas*)
- Miller, P. 1763 is date for the 5th edition, but could be an earlier edition. *Gardener's Dictionary*. Author, London, England.
- Molinet, Claude du. 1692. *Le cabinet de la Bibliotheque de Sainte Genevieve*. (cf. pp. 7-8; 2: 208, numbers 4 and 11). A. Dezallier, Paris, France.
- Monardes, Nicolas. ca. 1574. *Primera y segunda y tercera partes de la historia medicinal de las Cosas*. (cf. pp. 7-8). Diaz, Seville, Spain.
- Plukenet, Leonard. 1691-1696. *Phytographia*, (cf. plate 211). Author, London, England.
- Plumier, Charles. 1693. *Description des Plantes de l' Amerique*. D. L'Impr. Royale, Paris, France.
- Pontoppidan, Erich. 1755. *Versuch einer natuerlichen Historie von Norwegen*. F.C. Mumme, Copenhagen, Denmark. (cf. volume 1, chapter 6, section 3, page 254).
- Rast, Johannes. Unknown. *Trip to and from Guinea* (cf. p. 72-73).
- Rocheport, Charles-Cesar de. 1667. *Histoire naturelle et Morale des iles Antilles de l' Amerique*. (cf. pages 72, 82 and 84 and 101-102, 112). C. Fourmy, Lyon, France.
- Rocheport, Cesar de. Unknown. *Umindelige Reisser til Lands og Bands* (cf. volume 14, plate 5, figures 3,4, volume 2, Chapter 3, page 24, page 445; plate 6, figures 6 & 7) [JEG - p. 24 (*Cocos nucifera*)].
- Royen, Adrianus van. 1740. *Florae Leydensis Prodrromus*. (cf. p. 263). Author. Leiden, The Netherlands.
- Rzaezynski, Unknown. Unknown. *Auctario Hist. Nat. Polon.* (cf. p. 140).
- Stroem, Hans. 1762. *Description of Sunnmoere*. (cf. Part 1, p. 39 number 2; 138-140; and 388).
- Theodorus, Jacobus. 1590. *Neuw Kreuterbuch*. (cf. p. 877-878 fig. F & G). Frankfurt am Main, Germany. Cited in Gunnerus as *Tabernaemontanum*.
- Tournefort, Joseph Pitton de. 1700. *Institutiones rei herbariae*. Editio altera. *Typographia Regio*, Paris, France.
- Valentini, Michaelis Bernhardi. 1714. *Museum museorum*, 2. ed. J.D. Zunner und J.A. Jungen, Frankfurt am Main, Germany. (cf. volume 1, book, 2, section 5, chapter 25, page 341-345).
- Worm, Ole. 1655. *Museum Wormianum; seu, Historia rerum rariorum*, (cf. 192, 197-198). L. D. Elzevirios, Amsterdam, The Netherlands.
- Worm, Ole. 1751 *Epistolis*. (cf. 1:99, 337, 345), Havniae, Copenhagen, Denamrk.
- *Travel to and from Guinea*. 1754. Published in Trondheim. (cf. 8:56)

A Pitch and a Swing
by Pete Zies
613 Rodney Drive
Altamonte Springs, FL 32701
e.mail: basil1@juno.com

We all have learned that sea-beans can be found on the beach, and we all have observed that some times are simply better for finding them than others, but is there any rhyme or reason to this variation? After years of pondering this mystery, I believe the major factors in determining where and when sea-beans arrive can be identified.

First let us examine what we know. Sea-beans are most common between October and April, arrive in large numbers when the waves are stronger, and are found with lots of seaweed, floating human refuse, and other debris from the sea. When the seas are calm you can't find them, don't bother looking between May and September, and if you don't see a significant wrack line, you won't find them. What does this tell us?

It is clear that the sea-beans must wash in from the sargassum seaweed accumulations that float off the Florida coast, based on the items that accompany them when they are found. Sea turtle biologist Blair Witherington has conducted a study of the waters off the Florida Atlantic coast, and says "the most important feature of the area is the continental edge of the Gulf Stream where a persistent front occurs in an area where water depth increases sharply from approximately 50 to 200 meters offshore within a distance of 5 nautical miles ... The debris collected at these downwelling areas appears to originate from both land and sea and was transported by movements of both water and air. Terrestrial plants likely originated from continental or island sources and were a small fraction of the debris lines sampled.... Inscriptions on many plastic items collected from debris lines indicated that they had a distant origin (Arabia, Asia, Europe, Latin America, etc.) and may have been discarded from ships." This description is consistent with what we find washed up on shore, but how does it get to us?

I initially theorized that the sea-beans were cast ashore by variations of the Gulf Stream, but soon learned otherwise. Dr. Tom Lee of the University of Miami, a recognized Gulf Stream expert, explained that the Gulf Stream can meander a bit, but not significantly, and certainly not enough to push our seeds directly on shore. Eddies that break off from the main current might periodically bring things in closer, but they are sporadic and not seasonal. The fluctuations of the Gulf Stream alone won't explain the cyclical nature of the sea-bean armadas.

What then happens on an annual basis that coincides with the beaching of our seeds? Dr. Stephen Leatherman wrote an article on east coast storm surges in 1997 in which he explained, "There are two major types of storms on the U.S. Atlantic Coast: hurricanes and northeasters. Hurricanes influence a small area of about 150 kilometers, while northeasters can effect coastlines over very large distances (more than 1,000 kilometers). Generally, most hurricanes occur from June to September, and northeasters prevail from October to May in the mid latitudes." The winter storm activity coincides perfectly with our sea-bean season, and thus is the likely agent that pushes them ashore.

The puzzle has one final piece missing however. Many of us can recall storm weather during summer months that may have brought seaweed but no seeds. How can this be explained? I believe the answer lies in the life cycle of the sea-bean producing plants of the tropics. With the onset of the rainy season, many jungle plants bloom and set seed in near unison. Much of this multitude of seeds is washed into streams and eventually out into the ocean and then the Gulf Stream. Dr. Gunn has previously noted that it takes about 3 months for seeds to float from South America to Florida. We receive our bumper crop of sea-beans when the mass of freshly produced seeds floating in the Gulf Stream crosses paths with a winter storm.

The simplest analogy is baseball. The sea-beans are "thrown" down the Gulf Stream, and if a northeaster "swings" when they are in its path, they are "knocked out of the park" and on shore. Thus if a hurricane swings through after the batch of new seeds has floated past, nothing is in its path to be washed on shore. Conversely, if the seeds are out there, but no winter storm swings at them, they will float right by us without beaching. Timing is the key to our armadas. Let's hope it all falls into place this year! Take me out to the ball game.

REFERENCES

Leatherman, Dr. Stephen et. al., *East Coast Storm Surges Provide Unique Climate Record*, EOS Transactions, American Geophysical Union, Vol. 78, No 37, Sept. 16, 1997.

Lee, Dr. Tom, personal communication, April 1997.

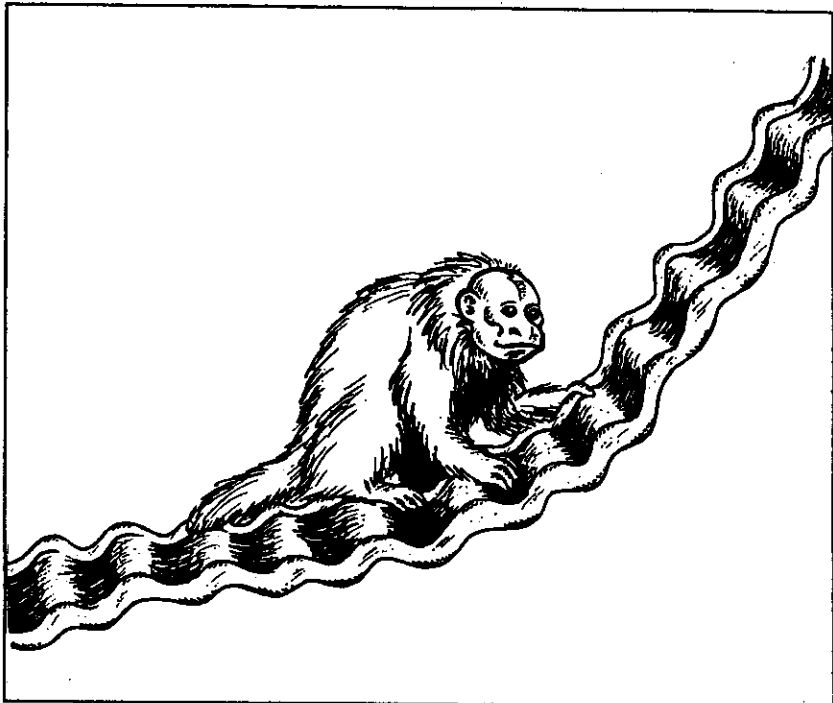
Witherington, Dr. Blair E., "Ecology of Neonate Sea Turtles Inhabiting Debris Lines Near the Florida Current" Unpublished Research, 1998.

Just How Big is Big?

By Pete Zies

In previous articles we have learned that our beach-collected seeds can be grown successfully, and some of us have even been lucky enough to see Cathie's young vines in small pots at the symposiums, but how many of us really comprehend what these seeds can become? "Big" is a very subjective term. When we say "A rat is bigger than a mouse" the difference is minimal, but for our purpose the comparison would be closer to "The Empire State Building is bigger than an outhouse." Any common vines we may be familiar with pale in comparison to our tropical seed treasures.

Our first hints that these vines are out of the ordinary come from their common names. In *Amazon Wildlife* (1994) it is explained that "The name *escada-de-jabuti*, or 'turtle ladder,' as it is called in Brazil, is given to a number of species of *Bauhinia* (Leguminosae, Caesalpinioidea) with an unusual type of stem growth. It is a common plant in all the tropical forests of South America and various areas have different vernacular names for it. In Venezuela it is called *bejuco de cadena*, or 'chain liana,' and in Guyana it is known as 'monkey ladder.' In fact, these names all refer to the irregular growth of the liana trunk in a ribbon-like 'S' or scalariform pattern ... The liana climbs to the top of the tallest trees and flowers in the crown of the forest. The unusual stem of *escada-de-jabuti* is always one of the growth forms to attract the interest of botanists making their first trip to tropical South America." (Id. at 51). The illustration to the left shows the unusual size of this *Entada* vine, as well as how it acquired one of its common names.



Red Uakari Monkey (*Cacajao calvus rubicundus*)
on a Monkey Ladder Vine (or Sea Heart Vine) (*Entada gigas*)
(Illustration by Pete Zies ©99)

Dr. David Fairchild traveled the globe for decades collecting plants from every corner of the world, and he had this to say about jungle vines: "Treub took me to see one of the 'sights' of the garden, a proper liana in the shape of a gigantic vine over a foot through at the ground, which had climbed up and spread itself over eight of the magnificent *Canarium* trees ... It was for all the world like a gigantic grape vine ... Of this gigantic liana, *Entada scandens*, I did succeed in getting some seeds. They grew; in fact they grew too much!"

Another well respected botanist, E. A. Menninger, in his *Flowering Vines of the World* (1970), states that "Woody climbers generally require a long growing period before they will flower. When they are brought into the garden, therefore they are apt to be ungainly, requiring too much room in which to grow. The ideal setting is a long arbor or pergola ... Many fine leguminous climbers need 50 to 100 feet of growth before they come into full flower. The genus *Entada* comprises one group of enormous climbers. In 18 months one of these vines will grow 100 feet and develop a stem bigger than a man's wrist, just getting ready to flower." (Id. At 21).

The Sea Heart isn't the only giant vine producer. Geoffrey Herklots, in his *Flowering Tropical Climbers* (1976), states that "Many [jungle vines] cannot flower unless they attain the canopy ... The largest lianes are in general not suited to cultivation, though some grown against low trees will flower when they reach the top; these include *Mucuna*..." (Id. At 13). He also discusses how *Mucuna rostrata* vine segments that had fallen and rooted in mud were planted at the base of a large pergola, and two years later, large vines had developed that were covered with inflorescences in all bearing thousands of flowers. (Id. At 124).

Menninger seems to have shared Herklots' conclusion that our jungle giants are unsuitable for gardens. In discussing them he says "Some climbers can become enormous, both in length that may exceed 500 feet, and in thickness and viciousness." (Id. At 21). The final chapter in his book is "Vines left out of this book," and the first category is "Vines of excessive size" where he states, "In the tropical jungles, lianas (also spelled lianes) are enormous climbers that put their foliage and flowers among the treetops, often 200 feet in the air. They are of no interest whatever to the ordinary gardener." Our readers are far from ordinary however, and so I hope you all have found these jungle giants as intriguing as I have!

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

Normally when tropical drift seeds and fruits strand on a beach, they are fairly evenly distributed, not clustered close together. However, there are exceptions to this rule. Both on this side of the Atlantic and along the shores of Western Europe, one can find examples of tropical debris piling up on relatively short stretches of a beach. This puzzling phenomenon is presently being examined by *The Drifting Seed* columnists. In seeking an answer, I have gone back to a paper by Bob Gunn and I published in the *Cape Naturalist* (1976) and called "Anatomy of a Stranding."

Between May 25 and 27, 1976 unprecedented numbers of temperate seeds and fruits, along with other debris, came ashore on the south shores of Nantucket and Martha's Vineyard islands off the south coast of Cape Cod, Massachusetts. Looking at weather reports and current patterns during this period, the writers discovered that a deep low-pressure trough remained nearly stationary over New England through May 18-23. The Cape and Islands, during this period, were dominated by blustery southwest winds. A second strong low-pressure trough passed far out to sea off New England on May 26. As a result of this movement, there was a two-day period (May 25-26) of northwest winds. By the 27th, the date when most of the debris was believed to have come ashore, the wind was back in the southwest and with gusts up to 50 knots.

Current patterns during late May were favorable for bringing floating debris in the Gulf Stream, which flows at a distance of between 190 and 240 km off the southeastern coast of Nantucket, ashore. However, only very exceptionally does any Gulf Stream debris reach the southeastern coast of New England. It was thought that near hurricane force winds would be required to move debris from the Gulf Stream closer to the shore. But research underway at the Woods Hole Oceanographic Institution on Cape Cod showed that as the Gulf Stream takes a circuitous course, as it moves to the northeast off New England, meanders, known as rings, break off. Those that break off to the east of the Gulf Stream entrap water of the Sargasso Sea and hence are known as warm core rings. Those that break off to the north or west of the Gulf Stream entrap water of the continental shelf and are known as cold core rings. The rings have a circulation of their own — the warm core rings have a clockwise rotation and cold core rings a counterclockwise rotation. Cold rings have a life span of somewhere between one and two years; warm core rings, about six months. The rings do not continue in the same direction as the Gulf Stream, but tend to drift off in a southwesterly direction.

According to Peter Wiebe of the Oceanographic Institution, a large warm core ring was situated off George's Bank during the first half of 1976. Chances of drift from this ring reaching waters off Nantucket and Martha's Vineyard seemed reasonably good. Wind conditions were favorable.

Twenty-five temperate seeds and fruits were identified down to genus level. Among the most common were butternut (*Juglans cinerea* L.), about 200, pignut (*Carya glabra* (Mill.) Sweet, 46, and beach pea (*Lathyrus japonicus* Willd. var. *glaber* (Ser) Fern., 35. Along with the seeds and fruits were tree bark, wood, pieces of cork, egg cases of skates and dogfish, seaweed, plant galls, garbage, plastic jars and bottles, light bulbs, and oil and tar from shipping.

A message bottle picked up during the period on a Nantucket beach had been released on April 16 of the same year from a fishing vessel off the north coast of New Jersey. The bottle furnished a probable indicator of where some of the drift debris reaching Nantucket and Martha's Vineyard came from.

The only tropical component in the drift was the spiral-shaped internal skeleton of a common spirula (*Spirula spirula*). It was picked up on a beach on the south side of Nantucket.

The writers concluded that a combination of favorable factors was responsible for the mass strandings that took place between May 25 and 27, 1976. They stated, "Whether waters of rings, such as this one, still convey tropical surface drift, we do not know. But that they might is an intriguing possibility that deserves investigation."

The question has not yet been resolved. The rings, which are eddies with circulations of their own, carry floating debris primarily in their mid-portions. A ring that comes ashore under the influence of strong onshore winds would therefore deposit whatever was in the mid-portion of the ring. The amount might be only enough to be present on a limited stretch of beach. This is what happened in the case of the Martha's Vineyard and Nantucket strandings. Could similar meteorological and ocean circulation events account for mass strandings of tropical drift seeds and fruits on European beaches?

This is something that needs to be considered. The Gulf Stream, however, extends only half way across the North Atlantic, turning toward the south at a longitude approximately the same as that of extreme southern Greenland. But surface waters peel off at this point and head toward northwestern Europe in the form of the Northeast Atlantic Current. The relatively mild climate that exists in northwestern Europe and which brings Gulf Stream debris to the beaches can be accounted for by this warm flow.

Whether rings, such as those that exist in the western Atlantic continue toward Europe, is not known. But this is a possibility and may account for mass stranding of tropical drift seeds and fruits along limited stretches of beaches. Recent examples are available for western Ireland and Cornwall in southwestern England.

On April 5, 1983, I had the good fortune to happen upon a mass stranding of tropical drift seeds and fruits on Castle Gregory Beach, the Dingle Peninsula in County Kerry in western Ireland. Along a stretch of beach no more than 5 meters in length, I found four *Entadas*, four *Caesalpinias*, three *Ipomoea albas*, forty *Ipomoea pes capraes*, and a piece of pumice. In a letter of April 3, 1986, Charles Nelson, at the time, director of the National Botanic Gardens, Glasnevin, Dublin, Ireland, tells of finding around 200 drift seeds on Cornwall beaches. Besides all of the species mentioned above, he found *Lathyrus maritima*, *Erythrina* sp., and *Ricinus communis*.

Finally, in a letter of 19 April 1999, Curt Ebbesmeyer of Seattle, Washington and who publishes the newsletter *Beachcombers' Alert!*, reported the discovery by Jane and Nick Darke of 131 specimens of tropical drift seeds, representing a dozen species, on Cornwall beaches. Since the seeds were found on a number of beaches, it sounds like there had been a wide dispersal of the voyagers that had made it all the way from the New World side of the Atlantic Ocean.

I am indebted to Curt for supplying me with this information.

Literature cited

Dennis, John V. and Charles R. Gunn. 1976. Anatomy of a stranding. *Cape Naturalist*, 5(2): 30-35.

☆ GREAT NEWS ☆

We are proud to announce the reprint of the most comprehensive guide to sea-beans

World Guide to Tropical Drift Seeds and Fruits

by Charles R. Gunn and John V. Dennis

and illustrated by Pamela J. Paradine.

Krieger Publishing, Inc announces the long-awaited reprint of *World Guide to Tropical Drift Seeds and Fruits*

which will be available throughout the symposium.

or

you can also order directly from Krieger Publishing Company:

Krieger Publishing Company

P.O. Box 9542

Melbourne, FL 32902-9542 USA

1-800-724-0025

info@krieger-pub.com

(407) 724-9542 or Fax (407) 951-3671

List price \$28.50.

US and Canada shipping via UPS @ \$5.00 per copy
and \$1.50 for each additional copy.

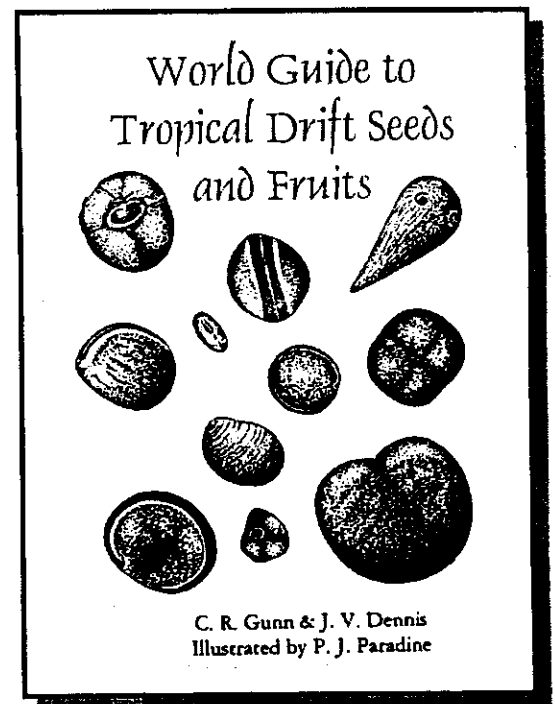
Florida residents please add sales tax of 6%.

Foreign order shipping costs \$10.00 per copy via USPS Global or surface mail
depending on geographic location.

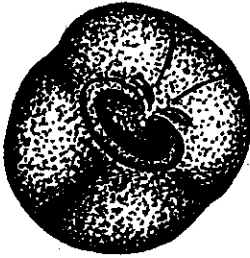
Payment must be received in advance.

Checks should be drawn on a U.S. bank in U.S. funds.

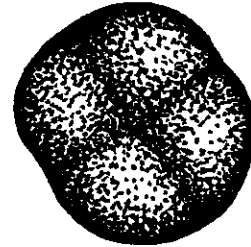
VISA, MasterCard, and Discover accepted.



New cover design by Ed Perry



BEACH BYTES
Text and illustrations by Ed Perry
1763 Bruman Terrace
Melbourne, Florida 32935 USA
(407) 253-2753
e-mail: BEReptiles@juno.com



THE LIFE OF A SEA-BEAN AND THE BEAN BULGE HYPOTHESIS

Food for Thought

Have you ever wondered how that sea-bean at your feet on the beach made its way there? Where did its parents grow? How did it make it to the ocean? How did it get to you? What stories could it tell if it could see and speak? Might it still be able to sprout into a plant? I believe the life story behind each sea-bean is as interesting as it is scientifically valuable. We still have much to learn in this least studied area of botany. As I comb the Florida east coast beaches in hopes of finding these drifting treasures, my thoughts turn to questions.

In the Beginning.....

Unlike their northern counterparts, tropical plants enjoy an almost year-round growing season. Space and sunlight are often the only limiting factors of growth for the woody vines, called lianas, that produce some of our beautiful beach treasures. Deep in a thick forest, the lives of many of our sea-beans begin far away from the ocean or a coastal beach. Seeds that rest on a forest floor could be there for years before they might eventually be picked up by water and transported to the sea.

"Weather, or not"

Some seeds may fall directly from their pods into the waters below when the trees and vines that produce them border rivers, streams, and tributaries which filter through the tropical forests. Other seeds that later become sea-beans may be carried from a forest floor to such a stream by the "normal" rains and downpours that occur in the tropical summers. Differences in river heights between the wet and dry seasons in the tropics can be 60 feet or more in some localities. These high waters no doubt float many seeds from their resting places on the forest carpet. But what happens when a weather event of catastrophic proportions hits an area in the tropics? Persistent heavy rains and high winds are sure to "release" more seeds from the overlying canopy and forest floors than normal. Could this be why we see mass strandings of beans on our beaches at times, compared to little or nothing at other times?

"Bulges of Beans"

I believe these catastrophic weather events do release abnormally high numbers of drift seeds into adjacent coastal waters. These seeds float the currents of the oceans in large congregations. I call this phenomenon a "bulge of beans." On the east coast of Florida, during our last "beaning" season, we received incredibly high numbers of drift seeds from late October, 1998, to April of 1999. When beach finds began to show unusually high numbers of rare Central American species like Mary's-beans (I found 20 myself), brown nickarnuts, and rare *Mucunas* (*nigricans*), I began to think of the past summer's weather and how it might have affected what we were experiencing on the beach. Major weather events like Hurricane Mitch and Hurricane Georges passed through the tropics and affected the Caribbean, South Florida, and especially Central America. But how could I credit this "bulge of beans" on Florida's east coast to any particular weather event in the tropics? Unfortunately, we cannot put radio transmitters on beans that will tell us where they came from and how long they have traveled. An answer appeared to me in the very seaweed that came in with the sea-beans.

Crustacean Tags

You might wonder what a lobster trap I.D. tag has to do with the life of a sea-bean? In fact, it can act as a marker, of sorts, of a particular time, place, and event which released it to drift the oceans with the sea-beans it accompanies. Much like a message in a bottle, plastic "crustacean tags" carry enough information on them to enable beachcombers to trace them back to a time and location of their use, and often the event that released them to drift the ocean. Catastrophic weather events that produce rough seas and high winds move and destroy lobster pots in their watery homes, releasing large numbers of their I.D. tags all at once to drift the ocean. Indeed, great numbers of 1997-1998, orange lobster pot tags appeared on our beaches with the bulge of beans we experienced this season. These tags were released into the Atlantic with the passing of Hurricane Georges and Hurricane Mitch over the Florida Keys in the early fall of last year.



Crustacean Tags (continued)



Commercial fishing license numbers on the tags verified this. Also arriving with the 1997-1998 tags, were older and fewer tags marked F.D.N.R. 1991-1992. I believe these tags were released from the same waters in the summer of 1992 when Hurricane Andrew devastated south Florida. The six-year period between the two types of tags merging together in the Atlantic currents could signify a double trip around the Atlantic for the older tags, which is approximately a three-year voyage per trip. In the last decade, only tag year classes which also represented hurricane events in south Florida have been found in drift along Florida's east coast. With Hurricane Mitch's impact on Central America, and Hurricane Georges' pass over the Florida Keys, it appears that hordes of beans and other drift material became merged with lobster pot tags from the commercial fishing industry. Now, together, this bulge of beans and crustacean tags is making its way northward in the Atlantic. Later in the season, when the correct winds blew in both May and June on our coast, hardly any tropical drift and no tags were found. The bulge of beans appeared to have finally passed us by. I will be very interested to know when and where any of these tags might be found in the future.

The North Atlantic Gyre as a Timetable of Events

If, indeed, bulges of beans and crustacean tags do move through the currents of the Atlantic, which collectively become the North Atlantic Gyre, then this system could be viewed as a "timetable of events." Distance from the tropics for bulges could be measured in weeks, months, and years from their release dates. Catastrophic weather events in the tropics would be the releasing agents that incorporate large numbers of seeds into the timeline. Periods of stable weather in the tropics might produce "void" spots in the timeline that produce little drift material for beachcombers when these spots happen to be situated off a particular coast. This hypothesis offers another reason why mass strandings of drift seeds appear from time to time along North American and European coasts.

"I'll Huff and I'll Puff....."

Bulges of beans would drift the timeline gyre much like a train travels on its track. It would take the correct winds to "de-rail" the cargo and blow it shoreward. On my coast, we need at least two days of strong east winds to begin to push in the sargassum weed and the sea-beans with it. *Is this the End or just the Beginning?* Many of the sea-beans of the world that become stranded are never seen by human eyes. Some may be lucky enough to strand and sprout under the right conditions. Observations by Cathie Katz and myself indicate that many stranded seeds are "swept clean" from beaches, only to begin their ocean journey once more. Many could be blown deep into the heart of the Sargasso Sea, or be caught up into breakaway currents and eddies and never reach a coastal beach, endlessly drifting the Atlantic. Some will sink at sea. Others will strand and may be picked up by lucky beachcombers and fashioned into necklaces or key rings. But some of the luckiest of lucky beans will get a chance to grow and mature right here in my vine garden in Melbourne, Florida.



In June I was lucky enough to find a *Mucuna fawcetti* on the Sebastian Inlet beach. It blew in with some sargassum weed and very little other tropical drift material. It is a large, lozenge-shaped hamburger with a thick black hilum (10mm) that protrudes out farther than any other *Mucuna* I have seen (see page 9 of this newsletter, bottom left sea-bean in book cover layout). It is described to be from Jamaica, however, in a letter of January 21st, 1980 to Charles Nelson in Ireland, George R. Proctor, a botanist with The Institute of Jamaica writes that this species is very rare in Jamaica and is probably extinct. He adds that "the common drift seed from Jamaica of this affinity is undoubtedly *Mucuna sloanei*." Sounds to me like we have yet another sea-bean mystery to solve!

ONE SEA-BEAN: A GIFT FROM THE SEA
by Charlie Kouns

2104 Battlefield Run Court
Richmond, VA 23231
email: CKouns@opus3d.com

A small patch of beach in Delray Beach, Florida has always held a special place in my heart. As a child, it was the romping ground just out front of my grandfather's condominium. It was the hallowed place where my father taught me to love the sea and to forage among the seaweed for all of the amazing finds. We had a contest every year to see who could find the most "hamburgers." It was the place where my grandfather, father and I all celebrated the glory of the wind, water and sand.



Charlie Kouns from Richmond Virginia

Many years later, as the father of three youngsters, I realized why our sojourns to this small patch of beach made my father the happiest. No troubles and worries, just bliss and delight in watching them run and jump and hunt amongst the debris. I now was the teacher and they tried their best to top me in our annual contest.

As the years passed, the ashtrays and the buckets in my grandfather's place filled with all sorts of unusual beans and every year, we happily added to the stash. Occasionally, I got the opportunity to go down by myself and enjoy writing and reflecting as only a beach can inspire. Still, I kept the tradition alive, as I would walk the beach for hours searching and hoping to break my old records.

One tradition that I maintained was walking down to the beach on the first day before I even unpacked my bags. I would take off my shoes and socks and wiggle my

toes deep into the sand and throw my arms out wide and welcome the wind and the sun. Then I would bow most reverently to the sea, my respect and love deep and full.

One year, I walked down, took off my shoes and headed for the sand. As I paid my customary respects, I looked and saw that a lone hamburger bean was lying on the beach all alone, in the middle of nothing. Completely alone – no seaweed within a hundred feet – and looking as if the sea had placed it there just for me. Wow! What a way to start my vacation. Realizing this was an auspicious sign, I thanked the ocean, pocketed the sea-bean and went on with my December vacation. The bean quickly passed from memory.

Three weeks later, I received a call in the middle of the night from my mother. My father had died instantly when he had risen from his bed. Stunned and utterly grief stricken, I went downstairs to my briefcase to get my address book and begin to make flight reservations.

As I opened my briefcase I started in surprise ... for there, sitting on top of all of my papers, as alone as the day I found it on the beach, was the sea-bean. My hand trembled as I picked it up. My heart rejoiced at this mystical wonder. The sea had known! It had known, as sure as I was standing there looking at that neglected bean, that my father was going to leave this beloved patch of sand. The sea had offered a gift for the journey. A gift that spoke of its love for him and of its pride in how he had taught others of her magnificence. I held it close and my relationship with that place deepened beyond measure.

Two things were placed in my father's pocket before he was cremated. A Porsche key chain, which stood for his racing championship that year, and the sea-bean. Reminders of his two most prized possessions accompanied him in spirit to his new life.

Two years later my mother sold the condominium, but to this day, whenever I am within 100 miles of Delray Beach, you will find me walking along that small patch of sand looking intently through the seaweed for those precious gifts that the sea has brought so far from their homes for my wonderment and surprise. There is no other place on earth I would rather be.

The 1999 Fourth Annual International Sea-Bean Symposium

at The Cocoa Beach Public Library, 550 N. Brevard Avenue, Cocoa Beach, Florida 32931



Library open for symposium events*:
Friday October 22: 10 am to 5 pm
Saturday October 23: 10 am to 9 pm
Sunday October 24: 10 am to 5 pm



Through the weekend: The Bean-O-Matic, sea-bean collections, displays, experts, sea-bean polishing, sea-bean jewelry from around the world, sea-bean posters, wildlife photographs, T-shirts, ocean books and authors available for signing.

Available through the weekend: the reprint of the *World Guide to Tropical Drift Seeds and Fruits*

by Charles R. Gunn and John V. Dennis

Thursday, October 21 (CLOSED TO THE PUBLIC)

Drifters gather at the Sea Aire Motel. Informal get-together to discuss symposium plans and exchange sea-bean news. (Business meeting will be held Friday night for all The Drifters.)

Friday October 22

Displays and collections open to the public all day 10 am to 5 pm

Pick up schedule and handouts for The Bean-A-Thon and The Sea-Bean Jewelry Contest

11 to 11:30 am: **Beginners' Beachwalking** (slide show) by Sebastian Inlet Park Ranger Ed Perry

3 to 4 pm: **Sea-Bean Identification** (slide show) by Sea-Bean Expert Pete Zies.

Bean-A-Thon Director Pete Zies will be available at The Bean-o-Matic to answer questions and explain Saturday's Bean-A-Thon.

Saturday October 23

Displays and collections open to the public all day 10 am to 9 pm:

8 - 10:00 am: **1999 BEAN-A-THON**: Collect the most, rarest, and best sea-beans, or LEGO® toys on any beach between Canaveral National Seashore and Sebastian Inlet. You must have your beans/toys at the library by 10:30.

Everyone who enters will receive an Official 1999 Bean-A-Thon Certificate.

10:30 - noon: Judges will record BEAN-A-THON results at the library (awards at 6:30 pm tonight)

KEYNOTE SPEAKER:

3 to 4 pm: **Dr. Curtis Ebbesmeyer** from Seattle, Washington will present

"**BEACHCOMBERS' ALERT**" (Where are the beans? The LEGO® toys? What else is drifting with the currents?)

6:30 - 7:30 pm: **BEAN-A-THON** awards and certificates presented. Raffle winners chosen.

7:30 - 8:45 pm: **Panel discussion** with John Dennis, Curtis Ebbesmeyer, Cathie Katz (moderator), George Maul, Ed Perry, Cathy Yow, and Pete Zies. The panel will discuss the journey of a sea-bean and the quirky nature of the Gulf Stream.

The panel will answer as many questions as time permits.

Sunday October 24

ALL DAY 10 am to 5 pm: Displays, discussion, sea-bean experts

11 -12 am: **Sea-Bean Jewelry Contest: Judging** by Cecelia Abbott and Cathy Yow.

2 - 4 pm :**Ocean authors book signing** beginning at ...

2 pm with "Ocean Life" 1/2-hour presentation by **Debra Frasier**, author of *Out of the Ocean ...* and ending at

3:30 with a 1/2-hour presentation by **Cathy Yow**, author of *Jewelry From Nature*

*October is still HURRICANE SEASON in Florida, so our schedule is at the mercy of powers beyond our control. Hurricanes are wonderful for beaning but can be dangerous for beachwalkers. Our beachcombing activities may be cancelled because of severe weather, in which case we'll follow evacuation procedures to the mainland. Hurricane information will be available at your hotel and at the library.

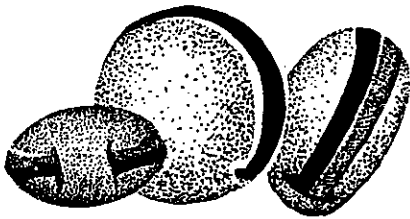
Travel and Hotel Information to Symposium in Cocoa Beach, Florida

For hotel information/directions, call 1-800-319-9637 (toll free)
For symposium information call Sue Bradley at 1-877-OCEAN99 (toll free)

Orlando International Airport is about an hour drive to Cocoa Beach.

The Sea-Aire Motel will host the Drifters at the 1999 Sea-Bean Symposium with a generous discount for the weekend. Room rates vary between \$45 and \$65. For those planning to stay longer, weekly rates are also available at a discount.

The Sea-Air Motel is directly on the ocean and less than ½ mile from the Cocoa Beach Public Library
SEA-AIRE MOTEL 1-800-319-9637
181 N. Atlantic Avenue, Cocoa Beach, FL 32931



1999 Sea-Bean Symposium

T-shirts will be available through the weekend:

blue design on white
100% cotton shirt (pre-shrunk)
\$15. (S, M, L, XL)
\$17. (XX large and XXX large)

Tax is included, but add \$2. per item to cover mailing costs.
(Overseas add \$6. per item.)

Make checks payable to Atlantic Press, Inc.

Let Sue know how many shirts and what sizes you'd like before **September 6** otherwise T-shirts will be sold "first-come-first-get."



If anyone would like to reserve a specific size T-shirt (or would like one by mail), please write or call **Sue Bradley** at Atlantic Press, Inc.
PO Box 510366
Melbourne Beach, FL 32951
407-723-5888

World Guide to Tropical Drift Seeds and Fruits

by Charles R. Gunn and John V. Dennis

illustrated by Pamela J. Paradine

Now available! See page 9 of this newsletter for ordering information.

LEGO® TOY UPDATE:

The dragon on the front cover of this newsletter and the toys on the back cover are illustrations of some of the now-famous LEGO® toys from a ship spill off the coast of England in February 1997. The cargo ship *Tokio Express* ran into rough seas and lost 5 million toys including spear guns, sea grass, flippers, dragons, and life rafts. The pieces are still lost, but the irony is not — The LEGO Company also makes Wild West, Motorcycle, and Pizza Delivery characters ... but none of *those* pieces went overboard. Ed Perry has been in contact with the LEGO Company and received samples and a list of the tiny drifters (to be displayed at the symposium). Since the spill, beachwalkers in England have reported finding many of the toys, but millions of them are still in the Atlantic, drifting with the currents. Dr. Curt Ebbesmeyer from Seattle has created computer drift simulations which predicted the arrival on U.S. beaches this year. **Curt will be our keynote speaker at the 1999 Sea-Bean Symposium and will give us a current toy update.**

➔ Anyone finding one of these LEGO® toys at the **Bean-A-Thon** will win a special certificate and a **BIG prize**. ←

In the meantime, anyone finding these LEGO® pieces *anywhere in the world*, please contact
Cathie Katz in Florida (1-877-OCEAN99) or Curt Ebbesmeyer in Seattle (1-206-527-4807).

Mark Bartlett from **Sarasota, Florida** and his fiancée **Laura** reported that several trips to the Florida Keys resulted in unusual drift material, although not the usual bounty of seeds ... *until* a trip in mid-July to **Big Pine Key** where they collected 30 sea hearts, 73 hamburger beans, 7 sea purses, 9 country almonds, 10 nickernuts, and a long list of various other keepers and several unknowns. "A wealth of fresh seeds continued to wash up every day ... The beaning this summer was the best I can ever remember on Long Beach..." Mark and Laura will be at the symposium with photos of their success with growing various sea-beans to canopy-size.

Richard The Sea-Hearted Buckman from **Quebec, Canada** "just returned from the jungles with thousands of sea-hearts." Richard will share his heart collecting experiences with us this year at the symposium. (Meet him now at www.seaheart.com.)

Welcome new contributor **Penny Hill**, Librarian at the **Bermuda Aquarium and Natural History Museum, Bermuda**.

Our Tasmanian connection, **Professor Robert Hill**, has relocated to the **University of Adelaide** in **South Australia** and lives near the beach where he has already founds plenty of drift material. We look forward to hearing his drift seed news.

Another Texas connection, **Dale The-Bean-Seeker Janik** from **Sugar Land, Texas**, found Mary's beans, sea hearts, and hamburger beans at **Matagorda Beach, Texas**.

New contributor **Maribeth Jennings** from **San Antonio, Texas** added to the reports of abundant sea-beans found this year on the Texas coast and islands. In three trips to **St. Joseph's Island** this past spring, Maribeth found 25 sea hearts, 25 hamburgers, 3 sea purses, 4 brown nickernuts, several sea coconuts, and a dozen other species.

FLORIDA TODAY newspaper, August 4, 1999, reported that **Ian McGee** of **Titusville, Florida** dropped a message in a Gatorade™ bottle into the Gulf Stream while vacationing in the **Bahamas** last summer. **Campbell Edgar** from **Australia** found the bottle on the **Canary Islands** 11 months later while collecting volcanic debris for a thesis for his Ph.D. (More to follow in the next newsletter.)

Cathy Nist with the **Oregon Department of Fish and Wildlife, Marine Resources Division** wrote to us about beachwalking in Oregon, but "in order to get at seeds on Oregon beaches, one must play log soccer!" (More to follow about these Oregon seeds.)

Jenni Otto from **New Philadelphia, Ohio** reported that she found hamburger beans while vacationing on the island of **Kauai** in **Hawaii**. That hooked her on sea-beans and she is now planning to go to **Madagascar** for her next vacation.

Thanks for the good information, and a big welcome to new Drifter **Barry Patrick** from **KwaZulu-Natal, South Africa**.

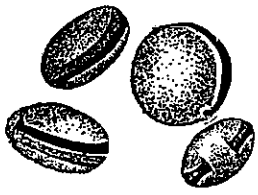
Our long-time Drifters **Ann and Ian Robertson** returned to **Malindi, Kenya** in May after a two-month vacation in the US and UK.

Thanks to **Mike Stewart** of **Melbourne, Florida** for contributing some of his beautiful sea-bean creations to The Drifters. Mike has created a beautiful sea-bean jewelry collection which he'll have on view at this year's symposium.

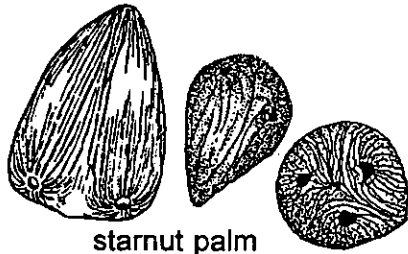
Stan Zerkowski of **Reading, Pennsylvania** has written to *The Drifting Seed* about his success in finding and growing sea-beans. Stan belongs to a club called **The Pits**. "We plant seeds we find or from fruit we've eaten, for a hobby." We look forward to meeting Stan and hearing more about The Pits in October.

Simple Guide to Common Drift Seeds

(Illustrations by Cathie Katz and Pamela J. Paradine)



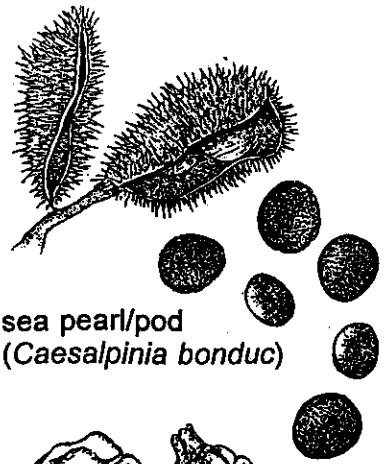
hamburger bean
(*Mucuna* spp.)



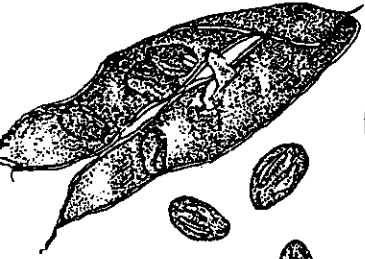
starnut palm
(*Astrocaryum* spp.)



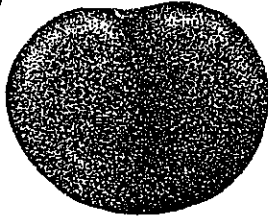
country almond
(*Terminalia catappa*)



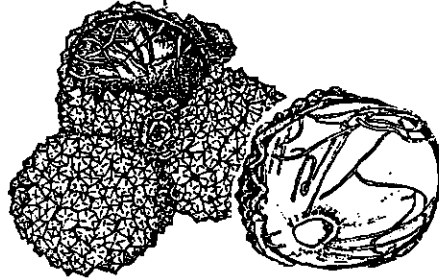
sea pearl/pod
(*Caesalpinia bonduc*)



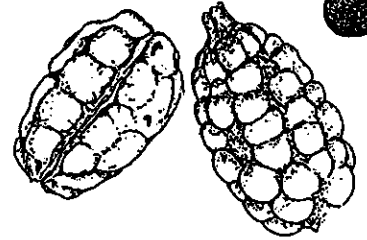
bay bean/pod
(*Canavalia rosea*)



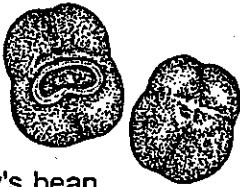
sea heart
(*Entada gigas*)



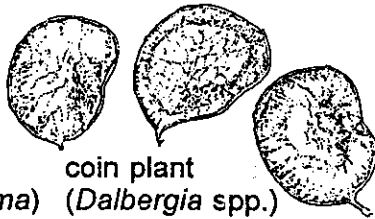
golfball/pod
(*Manicaria saccifera*)



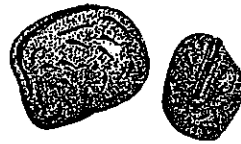
hand grenade
(*Sacoglottis amazonica*)



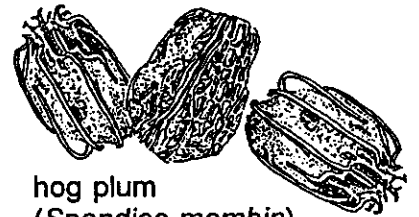
Mary's bean
(*Merremia discoidesperma*)



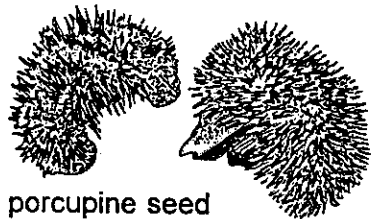
coin plant
(*Dalbergia* spp.)



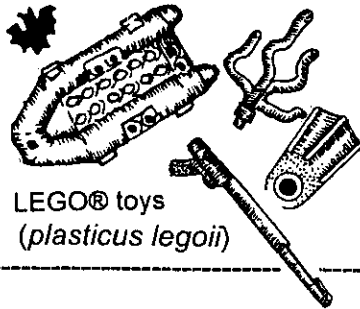
sea purse
(*Dioclea reflexa*)



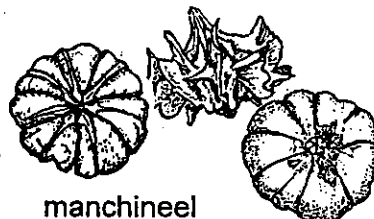
hog plum
(*Spondias mombin*)



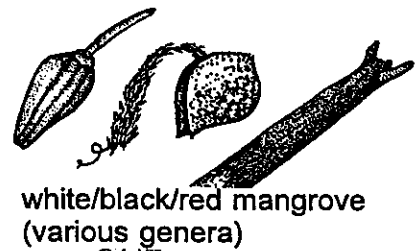
porcupine seed
(*Caryocar microcarpum*)



LEGO® toys
(*plasticus legoii*)



manchineel
(*Hippomane mancinella*)



white/black/red mangrove
(various genera)



The Drifting Seed

PO Box 510366
Melbourne Beach, FL 32951



I sea beans

