



Antillean Heliconias: Some Thoughts and Ideas

By Robert R. Lankford, Member HSPR

There are three native heliconias in the Antilles, two of which most workers accept as valid species. They are *Heliconia bihai* and *Heliconia caribaea*. Each species is composed of several or many varieties.

A third heliconia in the region is more controversial: it has been named by Berry and Kress, who designate it as a natural hybrid of *H. bihai* x *H. caribaea*. Unfortunately, they provide no evidence of its hybrid status. Gary Stiles states that, for hybrids to be formed, both parent species must be present in the same area to achieve cross pollination. Moreover, Fred Berry once admitted to me that when he and Kress were finalizing the taxonomy, they really didn't know what they had on hand, so they rather arbitrarily decided to call this enigmatic plant a natural hybrid.

On the other hand, Howard's publication, "Flora of the Lesser Antilles", recognized that some plants in Grenada had similarities to both *H. bihai* and *H. caribaea*. Howard clearly stated, however, that these heliconias probably represented a new species.

Further to this point, when we consider geographic distributions of the proposed parent species, and accept Stiles' criteria for hybridization, the case for the Berry and Kress hybrid is weakened. Specifically, the demonstrated abundance and diversity of this plant is in Grenada, which also appears to lack one needed parent species, *H. caribaea*. A point raised in this context is that *H. caribaea* may have been present in Grenada in the past but has since disappeared. The counterpoint is the often stated dogma that heliconia hybrids are sexually sterile and can not reproduce themselves. Although the arguments for or against the status of *H. bihai* x *H. caribaea* is unclear, I favor Howard's new species idea. Some much needed DNA work would be welcome.

In addition to the native Antillean heliconias, exotics are often a source of misunderstanding in compiled floral lists. By exotic heliconias, I mean that they are almost always the result of human interventions in natural systems. Most heliconia exotics appear mainly to be the result of European newcomers rather than to native Americans in

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Dates to Remember

- HSPR Meeting, 9:30 am, Sunday, December 7, 2003. Finca de Héctor Méndez Caratini, Aibonito, PR.
- Heliconia Society International Conference, August 3-7, 2004, San Juan, PR.

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pre-Hispanic times. Certainly the native Indians moved food crops as they expanded over the Caribbean basin, but probably not ornamentals such as heliconias.

The principal exotic heliconias in the Antilles which are now strongly naturalized are *H.*

psittacorum,

H. wagneriana, *H. rostrata* and *H. stricta*.

There is an additional class of exotics, better called “semi-exotics”. These include various varieties of the three specified native species which have been moved beyond their natural geographic distributions in the Antilles. Many are now naturalized. Some of these “semi-exotics” are red *H. caribaea*, which now exists in the Dominican Republic, Puerto Rico and Grenada, and varieties of *H. bihai*, now established in Puerto Rico, and possibly in Guadalupe and Martinique.

Finally, it is becoming increasingly clear that as the explosion of heliconia collecting progresses, more species will undoubtedly escape cultivation and apply for their “Green Cards”. A potential side effect of this bringing together will be the creation of intra-varietal forms from parents which originally had been widely separated varieties of the same species. This unnatural system might just be in danger of looked like a messed up painter’s palette.



Heliconia caribaea 'Flash'

Geographic Ranges of Native Species and Varieties

This section pertains principally to *H. caribaea*, *H. bihai* and the so-called hybrid, *H. bihai* x *H. caribaea*. *Heliconia caribaea* seems to be strictly endemic to only a portion of the Antilles. It ranges from eastern Hispaniola (Dominican Republic) to Puerto Rico, being relatively rare in both places, and around the Lesser Antillean arc to St. Lucia, and possibly into St. Vincent only 12 miles to the south. Although we have no good information, my strong guess is that *H. caribaea* is not present in Cuba or Jamaica, and I feel even more strongly that it is not native to Grenada or Trinidad. Paul Yoshioka and I diligently searched for natural populations in Grenada. All we found were two demonstrably introduced populations of the red variety; in one case, accompanied by *H. wagneriana* and *H. stricta* in a nutmeg plantation.

Further, and this applies to all the native Antillean species, many of the Lesser Antilles lack suitable environments for heliconias. These are primarily the low elevation islands such as the Bahamas, the Virgin Islands, Antigua-Barbuda, the Grenadines and even Barbados. The principal islands which do have suitable habitats but where I lack any specific information are St. Kitts-Nevis, Montserrat, Guadalupe and Martinique.

Varieties of *H. caribaea* demonstrate a pronounced series of basic color changes along their distribution. Starting in the north, in the Dominican Republic and Puerto Rico, yellow and somewhat greenish yellow forms are the rule. In the southern end of the distribution, in St.



Heliconia bihai 'Granny Smith'

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Lucia, however, various tones of red are all we find. But in the middle of the arc, in Dominica, just about any color or mix that is imaginable can be found. Chartreuse and slightly greenish yellow forms are common, as are forms with distinct yellow and green patches. And there are some pure reds and forms with distinct red and yellow combinations (for example, 'Flash'). And I saw one clump with a "blender mix" of yellow, green and red, resulting in a color best described as "yucky mud". Although I have no information from Guadalupe and Martinique, located just north and south of Dominica, my hunch is that mixed colors are also to be found.

In the trend of color variation in *H. caribaea*, it seems clear: yellow in the north, red in the south, and a delightful mix in the middle.

Heliconia bihai is primarily a South American species with a penetration northward into the lower Antillean arc. It has been well reported in Colombia, northern Venezuela, the Guyanas, and may well be found in Brazil. In the eastern Caribbean, it is abundant in Trinidad and Tobago, Grenada and St. Vincent. I feel sure it occurs in Martinique, to the south of Dominica, but may or may not extend north into Guadalupe. In general, it seems safe to say that the Dominica-Guadalupe latitude may make the northern limit of natural stands of *H. bihai*. Reports of *H. bihai* in Puerto Rico, according to my strong guess, are surely exotic occurrences.

Varieties of *H. bihai* throughout its range seem almost to be innumerable. In the Antilles, the proliferation of color is most noticeable in Trinidad and especially in Grenada. But variation seems to diminish somewhat in St. Vincent and definitely in St. Lucia and Dominica. Pure reds and a staggering variety of red-yellow combinations are typical of Grenada. St. Vincent retains the reds and red-yellows and also has some pure or predominately yellow forms ('Yellow Dancer', for example). In St. Lucia there are two pure green forms reported, although I think the two are only normal environmental differences in the same beast. Finally, in Dominica, there is only a red-yellow form ('Arawak', for example).

A varietal trend of *H. bihai* in the lower Antilles parallels the species abundance and vigor distribution: abundant and vigorous in the south with many color combinations, but diminishing in abundance and variations in the north at the species distributional limit.

Heliconia bihai x *H. caribaea*, or whatever it really may be (hybrid or new species), is definitely part of our heliconia flora. The major information on its geographic range is from Berry and Kress, and is reported to be Grenada, St. Vincent, West Indies and "uncertain". I collected a solid red form in St. Lucia, and Paul Yoshioka and I saw a clump in the zoological garden in Roseau, Dominica, which most likely is not a native. Grenada seems to be the center of reported abundance and is supported by our field notes. I am not aware of any reports of this heliconia in Trinidad or in South America, although it certainly may occur in these localities. My tentative conclusion is that this form, whether hybrid or species, is limited in our area to Grenada, St. Vincent and St. Lucia. Any extension further north or south is a matter of pure conjecture at this time.

Color varieties of *H. bihai* x *H. caribaea*, like its geographic range, are given in Berry and Kress. Add the pure red form in St. Lucia. Grenada undoubtedly has more color variants than St. Vincent. These range from tones of pure red to varying proportions and blends of red and yellow.



Heliconia bihai x *H. caribaea* 'Jacquini'

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*Promoting Zingiberales in
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The Heliconia Society of Puerto Rico, Inc. was founded in 1996. The objectives of the society are to stimulate and promote the enjoyment and understanding of Heliconia and related plants of the order Zingiberales through education, research and communication, and to interact with the Heliconia Society International and other institutions which share similar interests, purposes or objectives.

From Our Last Meeting

We had an excellent meeting last September 2003 at Hacienda La Delfina in Maricao. Guillermo Oliver and his daughter María Adela welcomed us at this historic site and their beautiful house, home of our late friend and HSPR member Bonnie Kline. María Adela told us about her mother's love for orchids and heliconias, and we were later impressed by the beautiful collection established close to the house. Most of these heliconias were planted by Dr. Germán Charrón in his visits to the property over the years. We sincerely thank the Oliver family for their hospitality and generosity.

Arnaldo Astacio's lecture on the new laws and regulations of the Dept. of Agriculture concerning ornamentals was very educational. He brought us copies of the laws, and explained many important concepts, most new to some of us. We deeply thank Arnaldo for his time and effort.



Heliconia caribaea 'Prince of Darkness'

President's Corner

Our Christmas meeting will be at 9:30am on Sunday, **Dec. 7, 2003**, at the country home of **Héctor Méndez-Caratini**. A map is included. Héctor requested the change in date (meetings are usually on the **second** Sunday of the month) due to an important business trip he has to take to New York around the 14th. Parking at Héctor's place is VERY limited, and we're strongly suggesting car pooling. Some parking will be available at a close neighbor's place. If you have any difficulty finding the farm, please call Mr. Rubén Pedrego, Héctor's farm manager, at (787)857-4234. Please bring adequate shoes for walking, and even a light sweater (it gets cool up there in December).

We will have a typical Puerto Rican Christmas lunch, care of the Society, but we need a bit of help with desserts and refreshments. So, any of you who can bring any of our very famous Christmas desserts (tembleque, arroz con dulce, etc.) please feel free to do so. And we will also appreciate anyone bringing refreshments.

Agronomist Carmen I. Ruiz will lecture on "Heliconias as Cut Flowers", and we look forward to it, as Carmen has many years of experience in the cut flower business.

We will elect our new board members at this meeting. This is OUR Society, and we want it to continue growing strong.

Remember! We need lots of nice plants for the RAFFLE!