

BOTANICAL NOTE

***Benincasa hispida* (Cucurbitaceae) the “Pumpkin” of Asian Creation Stories?**—Species of Cucurbitaceae are prominent in the creation stories of many ethnic groups in China (1, 2), Southeast Asia (3, 4, 5, 6, 7, 8) and India (9, 10, 11). Included in many of these stories is an account of a devastating flood. The sole human survivors are a brother and sister (1, 2, 3, 4, 5, 6, 7, 9, 10) who remain afloat in a drum(s) water gourd (6), bottle gourd (3), calabash (2) or giant gourd (7). The gourds are almost certainly *Lagenaria siceraria* (Molina) Standl., whose mature fruit is hollowed out and used for many purposes including as a storage or carrying container, and as a ladle. In China, written records mention *L. siceraria* at least by the first millennium B.C. (12) and archaeological remains of it date to 5200–4900 B.C. (13).

“Pumpkins” appear in some of these flood stories. Following the flood, the sister gives birth to either a son (5), a mass of flesh (2), a gourd (4, 6), or a pumpkin (3). This object is cut into pieces and each piece becomes the ancestors of different ethnic groups. In a story from Laos, three chiefs survive the flood in a floating house and the ancestors of later generations come from a pumpkin (8). Animals, seeds, and other useful items originate from a “pumpkin” (3, 8, 14) or “gourd” (4). According to the Kachin of Myanmar, the pre-flood humans came from the halves of a “pumpkin” (5). And from India, in a creation myth of the Bhils, a fish advises that the brother carry “pumpkin” seeds in the cage that he and his sister use to survive a great flood (15).

Two other stories from India include “pumpkin.” The creator gave a pumpkin seed to the Dudh-Kharias people, who planted the seed and harvested three fruits. From these fruits came upland rice, millet, and paddy rice (9). The Garo believe a sacrifice of pumpkin to the supernatural being associated with fertility resulted in the gift of rice seeds and agricultural knowledge (16, 17).

“Pumpkin” generally refers to species of *Cucurbita* including *C. pepo* L., *Cucurbita* (Duch. ex Lam.) Duch. ex Poir., and *C. maxima* Duch. ex Lam. Two other Cucurbitaceae indigenous to

Asia, *Lagenaria siceraria* and *Benincasa hispida* (Thunb.) Cogn. were earlier classified as species of *Cucurbita* (18). Because *Cucurbita* is an entirely New World genus that presumably did not reach Asia and India until post-Colombian times, its mention in these stories suggests either that the stories themselves are post-Colombian or else in earlier versions a different species was named. The occurrence of similar stories in different ethnic groups suggests that they are in fact ancient, probably pre-Columbian, and that an indigenous Asian species is more likely to be the “pumpkin,” rather than a species of *Cucurbita*.

Accounts written in English of the creation stories of Asia and India do not mention that the sister gave birth to a fruit of *B. hispida*. However, based on the story that we record below and indirect linguistic evidence, we believe that the original “pumpkin” of these stories may have been the fruit of *B. hispida*, a species that is widely cultivated in tropical Asia and India and has been cultivated in China for its large, edible fruit at least since the fifth century A.D. (12).

A middle-aged, male, government worker belonging to the Yao minority related the following account to us speaking in Mandarin. He lives in the town of Shang Yong, a few kilometers from the Laos border in Xishuangbanna Prefecture, southern Yunnan Province, China.

A CREATION MYTH OF THE YAO PEOPLE

Long time ago, human beings broke heaven’s laws. A higher deity (Tianshen) punished the people. The deity sent a lower deity (LeiGong), to investigate. One family knew of the plan to send LeiGong so they killed a dog and sprinkled its blood on the roof of the house. On the way from heaven to earth LeiGong fell down on the roof of this family’s home because the presence of the blood caused him to lose his power. The father [who actually represents all people] treated LeiGong badly, he wanted to eat LeiGong’s flesh. The parents discussed how to eat him. Finally they decided to pickle him with salt. They went to a far place to buy salt and asked their

son to take care of LeiGong. LeiGong asked the little boy for some water. The little boy refused to give him any food or water because that is what his parents had instructed him to do. LeiGong was very thirsty and asked the boy if he could have just a small amount of water, even if it was dirty. The boy relented and gave him a small amount. LeiGong asked again and again that the boy give him some water. LeiGong asked a third time and again was given water. LeiGong returned to heaven and told TianShen [the highest deity], of his experiences. TianShen was very angry at the way humans had treated LeiGong, so he decided to flood the world. The Yao believe that the ocean has a hole in the bottom, which allows the water to drain out of it, so that the land isn't drowned by water. TianShen asked a lower kind of deity, a *jūn* [demon] that is a crab, to put himself in this hole to cause the water level to rise. LeiGong warned the small boy and his sister about the coming flood and sent the small boy some *hulu* [Mandarin for *L. siceraria*] seeds to plant. He told them to get into a hulu fruit when the flood came in order to escape. The whole world was flooded. After some time, the hulu arrived at the gates of heaven because the water level was so high. LeiGong thought that everyone had died. He asked the crab to go away so the sea level dropped. The brother and sister left the hulu and looked for other people but they couldn't find any. The boy asked a turtle to look, but the turtle also reported that everyone had died. The turtle told the boy that he should marry his sister because there was no one else to marry. This made the boy angry so he struck the turtle and this is how the turtle got its pattern. The bamboo and the ant also told the boy to marry and the boy also beat them, (this is how the bamboo got its pattern and how the ant became segmented). LeiGong told the boy to plant a bamboo cutting on the top of one hill and his sister to plant one on top of an adjacent hill and that when the two grew together, they should marry. One year later, the two grew together and they got married. The girl gave birth to a *dong-gua* [Mandarin for *B. hispida*]. The sister told the brother to separate the seeds and the flesh and to cut up the flesh. He was supposed to spread the flesh in the mountains, and the seeds in the valleys. But when he was about to do this he tripped and forgot which was supposed to go where and spread the flesh in the basins and the seeds in the mountains. The Dai

and other lowland people came from the flesh and have a big population. The Yao and other ethnic groups living in the mountains came from the seeds and have a lower population.

Because the local mandarin word for pumpkin is *nan-gua* (literal meaning is southern gourd), or *mian-gua* there is little possibility that we could have confused *B. hispida* with *Cucurbita*. Two shorter stories, one told to us by the Yao and one from the Jinuo (another minority living in Xishuangbanna Prefecture) relate *B. hispida* to the origin of different ethnic groups. This second Yao story has some similarities to the first. "The sun (female) and moon (male) married. The sun gave birth to a fruit of *dong-gua* (*B. hispida*). The wife asked her husband to separate the seeds. Seeds sown in basins became the Dai people, the seeds sown in the mountains became the Yao people. So the sun and moon are the originators of all people and care for all people." (In this area, the Dai typically inhabit the basins, and the Yao and other minority groups inhabit the mountains.) In the Jinuo version of the flood story, the sister did not give birth. Instead, a goddess gave them three seeds of *B. hispida*. One germinated and produced one fruit. This fruit contained the ancestors of Jinuo and other nationalities (1).

It is uncertain why ethnographers chose to use the word "pumpkin." Was this based on their own observations (correct or incorrect), a direct translation of the word used by their informants, or did they consult botanical experts? *Cucurbita* (at least those species referred to as pumpkin) and *B. hispida* have several similarities. Both are vines bearing relatively large yellow, unisexual flowers, and are widely cultivated together in this region. Some cultivars of *B. hispida* have spherical fruit, similar in size and shape to those of *Cucurbita*. The fruit of both can be stored for many months, are somewhat hollow inside, have seeds that are easily separated from the pericarp, and include many cultivars that have a white waxy coating.

Limited linguistic observations suggest that after the introduction of *Cucurbita* into Asia, it assumed a greater importance than *B. hispida*. In some languages of southern Yunnan Province, the names used to describe *Cucurbita* (those with large spherical orange fruit) and those used to describe *B. hispida* are clearly related. In the Lahu language, *Cucurbita* is *pemexi*

(*peme/xi* = pumpkin/fruit) whereas *B. hispida* is *pemepexi* (*peme/pe/xi* = pumpkin/white/fruit) literally, white pumpkin. In some Dai villages, *fak* describes pumpkin and *fakmuén* (*fak/muén* = pumpkin/white) describes *B. hispida*. In terms of nomenclature, this appears to be an example of “marking reversal” (19) in which an object that enters into a culture relatively recently (here, *Cucurbita*), takes on greater importance than a similar object present in the culture for a longer period of time (here, *B. hispida*). In the process, the name of the introduced object acquires the name formerly given to the indigenous object. The name for the indigenous object then becomes a modification of the introduced object. Witkowski and Brown (19) gave several examples of animal names in which the native species is described by “marking” the name of the introduced species, rather than vice versa. If marking reversal has occurred because the indigenous *B. hispida* has become less important than the introduced *Cucurbita*, it could explain why *Cucurbita* appears to have also replaced *B. hispida* in the creation stories.

In Nepal and India, both “white pumpkin” (*C. maxima*) and “white gourd” (*B. hispida*) have religious significance, often for the same purpose (20), again illustrating how important the introduced *Cucurbita* has become in these cultures.

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