



RIVER CANE

Cultural Workhorse and Ecological
Powerhouse

RTCAR

Revitalization of Traditional Cherokee Artisan Resources



Mission Statement

“The Mission of the RTCAR is to preserve, protect, and teach the heritage of Cherokee traditional resources, land care, and culture.”

River Cane

(*Arundinaria gigantea*)



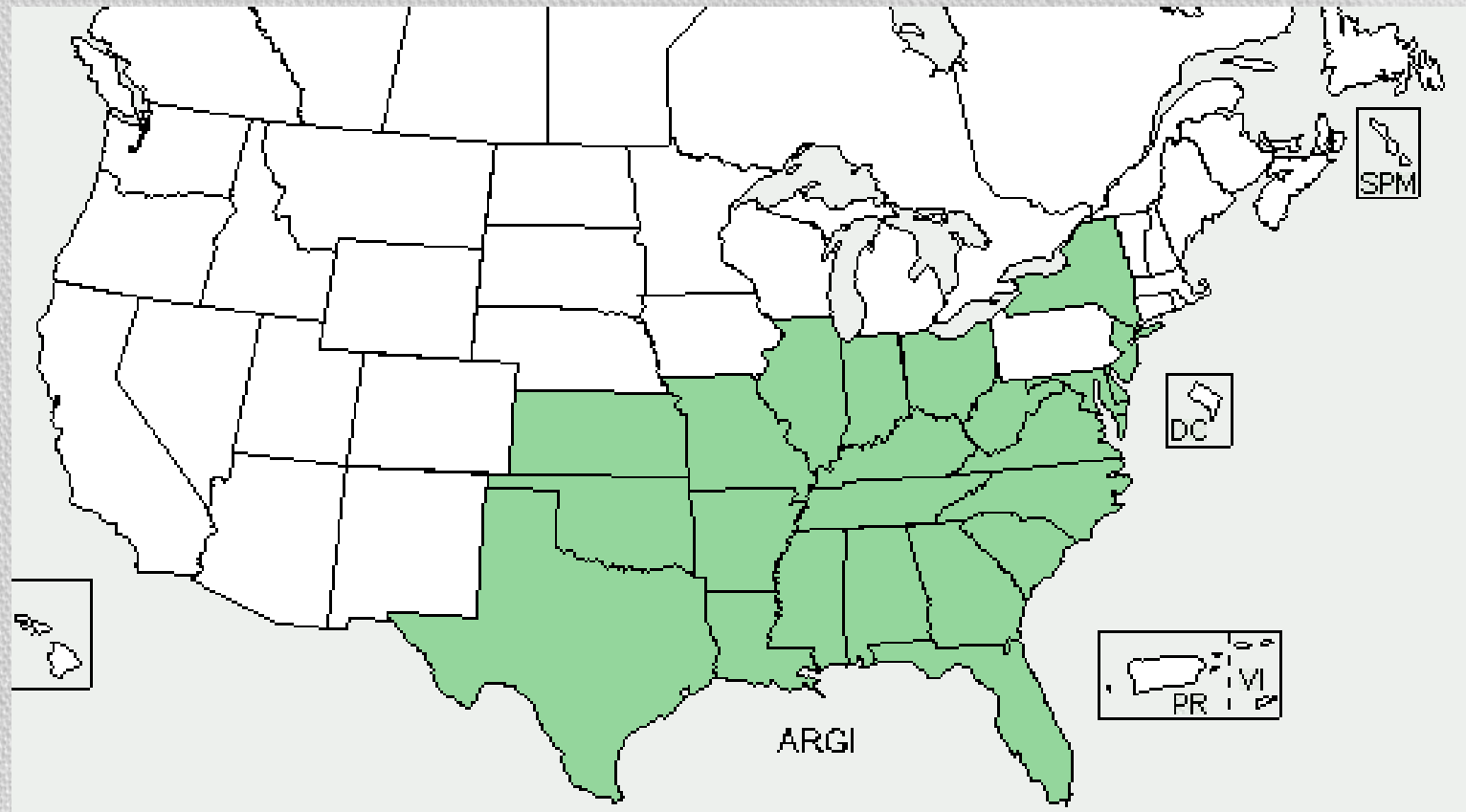
What is River Cane?



River Cane Facts

- *Arundinaria gigantea* is the largest species of *Arundinaria*, our only native North American genus of bamboo, historically reaching as much as 40 feet in height
- The largest canebrakes occur on alluvial flood plains, where it tolerates inundation but not prolonged submergence (no “wet feet”)
- Canebrakes were often rejuvenated by burning every 7 to 10 years (more frequent burning was detrimental)
- Canebrakes once covered large areas of the Southeastern United States, but it is estimated that less than 2% of the original cover remains today in this critically endangered ecosystem

Distribution of River Cane



- River cane was once an essential material in the lives of Southeastern Native Americans
- It was so ubiquitous in their lives that Dr. Charles Hudson referred to river cane as “the plastic of the Southeastern Indians”

- “Cane supplied one of the most important of all raw materials. Besides the use of its seeds (for food), it was employed in making baskets and mats; as building materials; in making fishing crails and traps, spears and arrows; backing for wattle walls; in making beds in houses and in the construction of corn cribs; as a substitute for the shuttle in weaving; as knives and torches; in the ‘spiral fire’ at Creek councils; in making boxes and cradles, sieves, fanners, hampers, blowguns, blowgun arrows, shields, stockades and fences, rafts, litters, flageolets, counters, drills, and tubes through which to blow into the medicines; as pipes to blow the fire in burning out mortars and in smoking; and sometimes a section was employed to hold braids of the hair.”

- John Swanton, *The Indians of the Southeastern United States*. 1947

Processing Cane



River Cane Introduced Back into High School Art Classes



Cane Mats

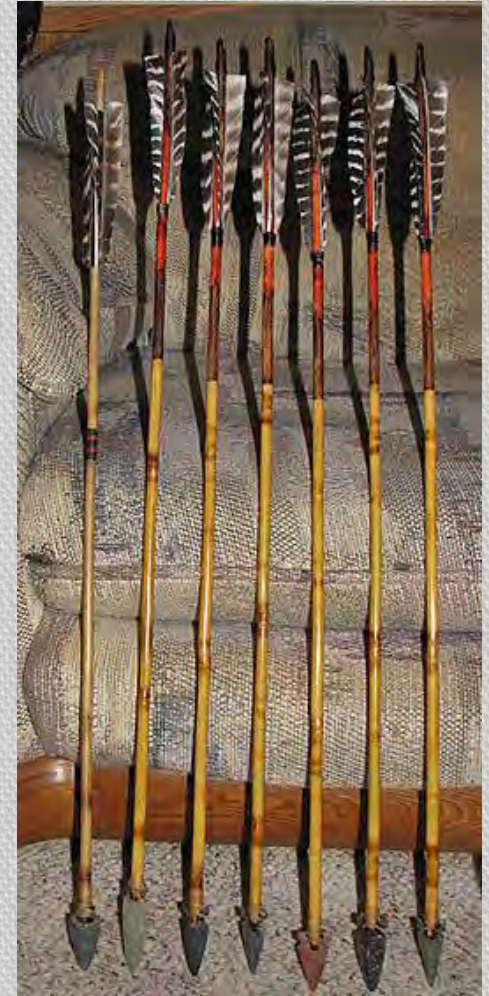


- “The women wove mats ordinarily six feet long by four feet broad and they were woven in designs. Mats were used in every day life in the home for sitting, sleeping and flooring....Mats were woven to wrap the bodies of the deceased. Priests stood on mats while preparing medicine with herbs. In council meetings clan members sat on mats on benches and under hanging mats woven with their clan designs.”
- One Spaniard noted: “With these materials these Indians make neat and well woven mats.... and by throwing four, five, or six of them on top of each other, they fashion a roof which is useful as well as beautiful...neither sun nor water could penetrate (these mats)”

Blowguns



Arrow Shafts



Fish Traps



Warfare

- When the de Soto expedition traveled down the Mississippi River, they encountered warriors carrying cane shields that were resistant to crossbow arrows
- de Soto's men also observed that the canebrakes provided superior cover for small raiding parties. The raiders disappeared into the cane after each attack and could not be followed. (Hudson)

Flutes



Housing

- Summer houses were of wattle and daub construction; posts were set in the ground and river cane was woven basket-style between the posts; mud or clay was used to plaster the walls
- Cane benches lined the walls of the winter houses



Food



River Cane Seed

Rye

Oats



- “There is some evidence that the Indians by burning the canebrakes were able to make them bear more regularly than they do naturally. The young shoots of the cane were used much as asparagus is now.”

- Carrier, 1927, *Beginnings of Agriculture in America*



Observations from EuroAmericans

- John Filson (1784), on Kentucky canebrakes: “many... so thick and tall that it is difficult to pass through them.”
- William Bartram (1770s): a canebrake in Florida rolled out to the horizon “like the ocean” and was “alive with cattle, deer, and turkeys”
- Henry Hammond (1860s) in North Carolina later observed, “vast brakes of cane... often stretching in unbroken lines of evergreen for hundreds of miles”

- Edmund Ruffin (1859) on the prairie lands of Alabama: “when the first settlements of Alabama were begun, in 1817, nearly all this broad space was covered by a thick under-growth of cane.”
- John Drayton (1802), upcountry South Carolina: “At the first settlement of this state, the vallies of the middle and upper country , then in the possession of Indians, encouraged plentiful growth of cane.”
- Benjamin Hawkins (late 1700s), in his evaluation of poorer Creek lands in Georgia, was excited about cane lands, indicating good rangeland and fertile soils

- Estimates of cane growth at this time were as high as 10 million acres
- Today, estimates that 2% still exist appear to be quite optimistic. The figure is probably well below 1%.



WHY DID THE CANEBRAKES DISAPPEAR?

Canebrake – dense, monotypic
stands of *Arundinaria* spp.

Grazing

- Cane is sensitive to moderate grazing and continuous grazing causes rapid stand decline
- Destroying the rhizomes stops regeneration of stands
- Fires were ignited to encourage the growth of new foliage, which was rapidly consumed and expedited decline

- Cane was an indicator of soil fertility, the tallest cane growing on the best soils
- While the rhizomes made it difficult to plow, the quality of soil beneath in the canebrake made the effort worthwhile



Development

- Flood control projects reduced the natural flooding cycle and reduced disturbance that maintained canebrakes in bottomland areas
- Today, especially in the mountainous regions of the South, prime cane growing areas are also the flat areas that saw the first and continued development





WHY GROW RIVER CANE?



WILDLIFE HABITAT

“... great *sanctum sanctorum*; the inner chamber of the great hunting ground”

Frontier Naturalist

Dr. Gideon Lincecum (1793-1874)

Large Animals



Smaller Animals



Canebrake Specialists





DOMESTICATED ANIMALS

Goats



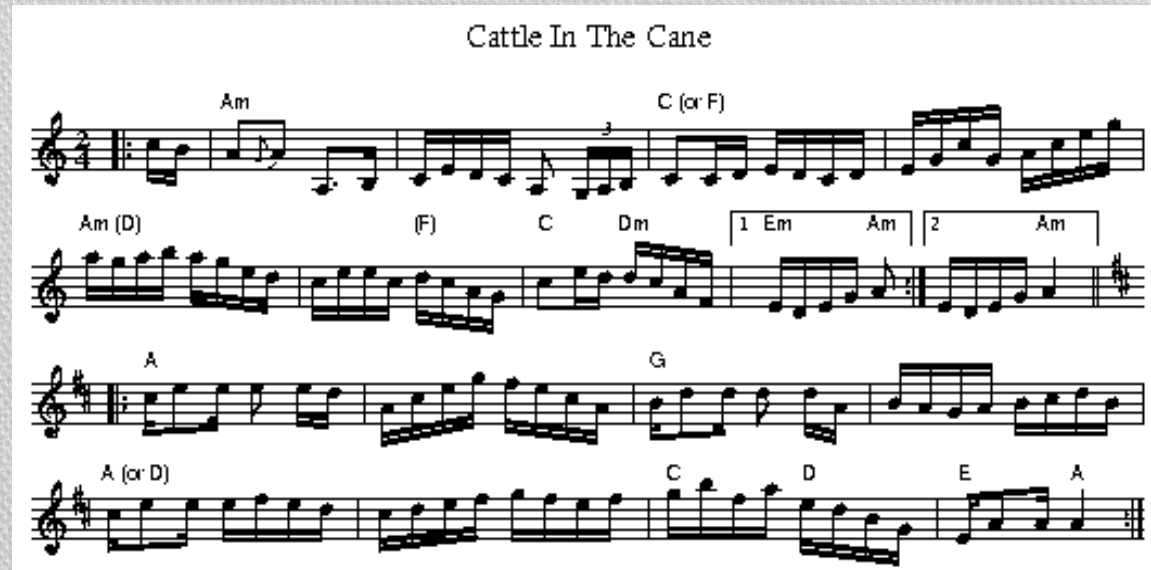
- Evergreen habit of river cane provides nutritious forage all winter
- Protein content was constant from its peak in late summer
- Goats are susceptible to parasites in low browse, not a problem with cane

Horses and Hogs

- Horses fed on cane were said to work as well as corn-fed horses
- Hogs avidly sought out and devoured the cane rhizomes



Cattle



- Canebrakes gave cattle year-round cover and continuous grazing
- Cattle fed on cane showed significant weight gain, produced a 95% calf crop, and gave excellent quality milk and butter



PROTECTING OUR STREAMS

- Preliminary studies indicate that a 10 m river cane riparian buffer can reduce dissolved nutrients and sediment from agricultural runoff more effectively than a similar 10m forest buffer
 - Nitrogen Compounds: 100%
 - Phosphate Compounds: 28-100%
 - Sediment: 100%



- River cane enhances streambank stabilization, protecting riparian areas during a flood event
- Sediment, trapped by water slowed as it passes through river cane, will create natural levees that help contain high-water events

River Cane and Hill Cane

A. gigantea



A. appalachiana (2006)

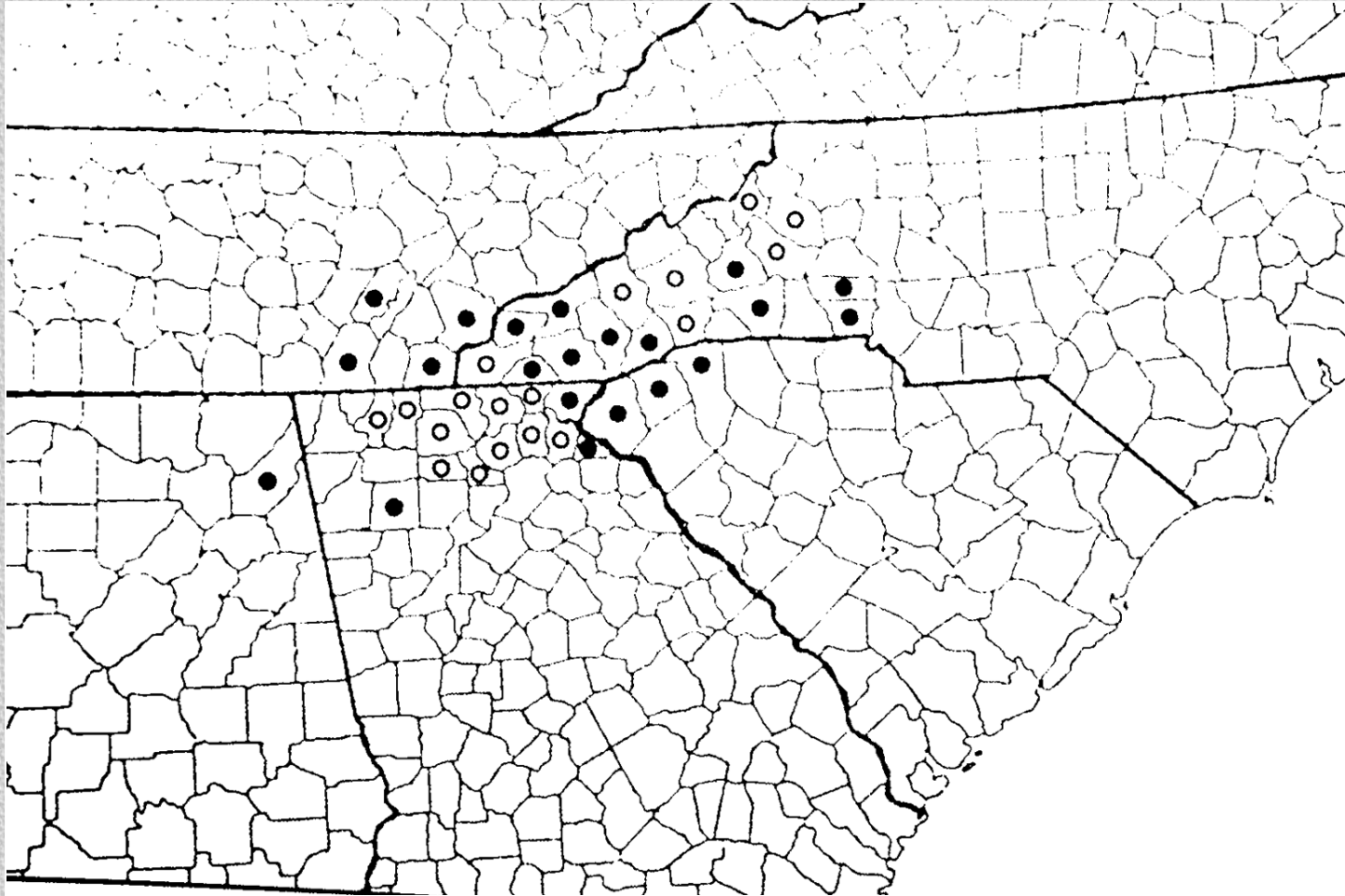




Payne/Butrick Papers, 1820s – 30s

- There is a kind of small cane growing in the mountains, heavy and hard of texture called *kv ni*; and as arrows generally were made of this, they also were called by the same name. On becoming acquainted with lead, they also gave balls the same name, as they were heavy and used in shooting.

Distribution of *A. appalachiana*



General Differences Between Cane and Bamboo

- Cane culms (stems) are round with no sulcus (groove); bamboo has a sulcus
- Cane is generally under 20 feet tall and usually around an inch in diameter; bamboo can be up to 70 feet tall and 6 inches in diameter
- Cane has a stiff, straight shape with short branches; bamboo has long, slender branches with a wispy look to it, will lean with prevailing winds
- Cane has a persistent culm leaf sheath (± 3 years); bamboo sheaths are deciduous and fall off as it grows
- River cane has deep, strong roots that stabilize stream beds; bamboo roots are weak and shallow by comparison with taller above-ground portions, leading to more erosion

Additional Information

USDA NRCIS
National Resources Conservation Service

Plant Guide

GIANT CANE

Arundo donax gigantea Mill.
Plant Symbol = ARGE

Contributed by USDA-NRCS National Plant Data Team, Greensboro, NC



Figure 1. Giant cane (*Arundo donax gigantea*). Photo courtesy of the Agricultural Research Station, University of Maryland, MD.

Minimum Names:
Cane, Flaming reed Cane, Moser Cane, Sparrow, Sparrow, Sparrow, W&B Cane

Date:
Giant cane made of cane, known as *Arundo donax*, has been listed as a "noxious weed" of many states (Figure 2) (Kilgus et al. 1987). *Cane paniculata* (L.) Gauss. & Link. is the most common of the two, with *Arundo donax* being more common in the United States (Kilgus et al. 1987). The *Arundo donax* (L.) Gauss. & Link. is the most common of the two, with *Arundo donax* being more common in the United States (Kilgus et al. 1987). The *Arundo donax* (L.) Gauss. & Link. is the most common of the two, with *Arundo donax* being more common in the United States (Kilgus et al. 1987).

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Figure 2. A Giant cane (*Arundo donax gigantea*) field in Maryland. Photo courtesy of the Agricultural Research Station, University of Maryland, MD.

- Search: “USDA Giant Cane Plant Guide” for a free copy