

Cyperus papyrus

[Synonyms : *Cyperus antiquorum*]

PAPYRUS (English, French, German, Swedish) is a sedge. Native to central Africa (particularly the swamps of northern Uganda and the lower Nile Valley where they are as yet undrained), it has spikelets of small, greenish-brown flowers.

It is also known as Bulrushes, *Burdi* (Arabic), Egyptian paper plant, Egyptian paper reed, Egyptian paper rush, Egyptian papyrus, Giant Egyptian papyrus, *Guda mothe* (Nepalese), Indian matting plant, *Jonc du Nil* (French), *Kagat mothe* (Nepalese), *Marura* (Kikuyu), Mediterranean sedge, Moses grass, Paper plant, Paper reed, *Papiro* (Italian, Portuguese, Spanish), *Papiros* (Portuguese), *Papyrus* (Dutch), *Papiruscipero* (Esperanto), *Pa p 'i ru seu* (Korean), *Pa pi ru su* (Korean), *Papirusu* (Japanese), *Papperssäv* (Swedish), *Papyrusfladaks* (Danish), *Papyruskaisla* (Finnish), *Papyrusplante* (Danish), *Papyrusstaude* (German), *Papyrus-Zypergras* (German), *Plante à papier du Nil* (French), Rush plant, *Šáchor papírodárný* (Czech), *Šáchor papyrusový* (Slovak), *Souchet à papier* (French), and *Souchet du Nil* (French).

Papyrus is derived from Greek *papyro-* (paper) component and is the name given to the material made from the stem fibres.

An indication of the importance of papyrus to ancient Egypt is that it was the emblem of Lower Egypt and here at least under the papyrus was held in such high regard that it was recognized as a symbol that would give protection from crocodiles. Then, when Lower and Upper Egypt united in about 2950 BC, it was retained in the new emblem intertwining the lotus (*Nelumbo nucifera*, previously the emblem for Upper Egypt) and decorating temples and every other conceivable object. By the time of the 18th Dynasty, when Tut'ankhamun (died c. 1340 BC) was alive, this symbol had become stylized.. The ancient Egyptians called papyrus *djet* or *tjufi*.

Its stems were used to make one of the earliest forms of paper (possibly from as far back as 4000 BC) as an alternative to, say, rock or stone. The papyrus (or 'paper') became a major export commodity for ancient Egypt, from about 1000 BC, particularly into western Asia and to Greece and Rome. She created a monopoly for papyrus by jealously guarding the details of the method by which the papyri were made and never recording the process in script (although authorities note that Pliny the Elder, the Roman natural historian (23-79) did leave reference to papyrus making in his writings). Some authorities suggest this monopoly was the prime reason behind the considerable power and dominance of the ancient Egyptian civilisation. The papyrus was produced in a standard sized sheet and the sheets were joined to form rolls or scrolls. Compared with other materials of that time the papyri were thin, lightweight, strong, and durable (particularly in Egyptian climates with low humidity) and they were easily portable. The only real drawback, which became more obvious towards the end of the 5000 odd years in which the papyri were used, was the papyrus-making process itself. Ultimately it would give way to paper which, although much less durable, was far easier to make and offered a much smoother surface. Papyri sheets and rolls were still being used in the 8th Century although, by then, they were gradually being replaced by parchment (a sheepskin vellum) and other substitutes that had begun to gain temporary acceptance by about the 5th or 6th

Centuries. (Elsewhere other materials were being used and experimented with. However of greatest importance, in 105 AD a Chinese court official, Ts'ai Lun, had invented paper, probably from hemp (*Cannabis sativa*), rags and mulberry bark (*Morus*). From the 3rd Century China's new paper-making process would spread to many other Asian nations and after the battle in 751 AD between the Chinese Tang Dynasty and the Islamic world papermaking reached the Arabs (among their prisoners the Arabs had found some papermakers) who introduced it to Europe and the West from the 12th Century.) Archaeologists have discovered examples of papyrus going back to at least 3500 BC. A younger well known example, the *Ebers* papyrus, is said at the beginning of the 21st Century to be the oldest preserved medical document. It is made up of 110 scrolled pages and is believed to date back to about 1552 BC. (The papyrus is claimed to have been discovered in about 1862 and bought in Thebes in 1873 by the German egyptologist, Georg Moritz Ebers (1837-1898). Today Professor Ebers (professor of egyptology at Leipzig from 1875-1889) is said to be best known for his novels set in ancient Egypt.) Roman dependence upon the papyri is well illustrated by the Roman natural historian, Pliny (23-79). He noted that the papyrus crop failed during the reign of Tiberius (42 BC-37 AD) and the soaring price of writing material had a significant impact upon the Country's business as a whole. By then papyri rolls had not only long been relied upon for religious (many of the books in the Bible were written on papyrus scrolls) and magical texts, literature, business records and even music but also for legal documents and correspondence. The method of making papyri was only re-discovered in the mid-to late 1960s. It was then that Dr. Hassan Ragab (1911-2004), previously an Egyptian ambassador in China, not only re-introduced papyrus from Sudan to the Nile delta in Egypt (it had died out there as silting increased and its cultivation disappeared) but also experimented with papyrus fibres until he replicated existing papyri successfully. The process involves steeping waferlike cut strips of the inner fibre repeatedly in water to remove the salt, starch and sugar and soften the cellulose, repeatedly pressing or pounding out the liquid. Eventually the processed long strips are placed alongside each other and are pressed together into sheets or 'papyri rolls'. The sheets can be impregnated with various plant juices to protect them from insects and fungus.

Without taking into account any other demands, it is hardly surprising that the ancient Egyptians cultivated papyrus in large plantations in the Nile delta (in what was initially Lower Egypt). However apart from the papyri rolls (which in addition to writing material were also needed for other purposes including mummifying bodies) the plant was extremely valuable in many other ways.

Not least the lower stems and underground stems were a source of food eaten raw, boiled or roasted; the stem pith was eaten too and the stems were also chewed (they contain sweet juice) like sugar cane (*Saccharum officinarum*). Stem pulp is still used for preparing a potent alcoholic drink that is illicit in some areas – no doubt because it conflicts with religious strictures.

The fibrous stems were used to make waterproof rope and sailcloth, matting (often used for building huts and making fences), fans, boxes, material for clothing, utensils and also sandals. In addition the stems were used for caulking seams in wooden ships. The plant was an ingredient in formal bouquets in ancient Egypt, and also in funeral garlands –and the flowering stems were used to decorate the heads of statues of Egyptian gods. It also served as inspiration for designs on various artefacts including furniture. The roots were an ingredient in perfumes and medicines.

It is believed that the 'ark of bulrushes' in which the baby Moses (who lived in the 13th Century and early part of the 12th Century BC) was said to have been hidden, as described in the Old Testament of the *Bible*, was made of papyrus. Apparently the stems had been used

for lightweight boats that had plied the Nile long before 4500 BC – and were still being plied 5,000 years later. According to one of the earliest romantic Greek novelists, Heliiodorus (3rd or 4th Century), the Abyssinians (now Ethiopians) used papyrus (and still do on Lake Tana) to make fast sailing vessels that were able to carry 2 or 3 men – an application which more recent travellers had reported as well. In the 20th Century Thor Heyerdahl (1914-2002), the Norwegian anthropologist, decided to prove that these light craft could have reached the American Continents (despite disparagement from some of his peers) as some authorities believed that evidence existed suggesting that the ancient Egyptians could have accomplished such a journey. The *Ra* expeditions, using papyrus-reed boats, first got under way from Morocco (bound for the West Indies) in 1969. Sadly after 2,800 miles *Ra* broke up in a heavy storm. Undaunted he set out again in May 1970 and made successful landfall at Barbados after 57 days at sea in which time his boat had covered over 3,700 miles. In a similar vessel, named the *Tigris*, Thor Heyerdahl was also to demonstrate the manoeuvrability of such vessels. In 1977-1978 he sailed against the wind on two-way journeys via the Persian Gulf and the Arabian Sea. Unfortunately though he became entangled in local politics and the *Tigris* was burnt in protests.

Today papyrus is familiar locally as a fuel. Although it will not burn well alone it is an ingredient in compressed papyrus logs, and these burn satisfactorily as an alternative to briquettes manufactured from wood chippings and waste straw.