

ORCHIDS IN ETHNOBOTANY AND ETHNOMEDICINE



If you had been around some 80 to a hundred years ago, though, you might well have had the chance to drink an aromatic tea created from the leaves of an unusual orchid. The name is *Jumellea fragrans* also known as *Angraecum fragrans*. *Jumellea fragrans* is an epiphytic orchid of the islands Reunion, former called Bourbon and Mauritius and has up to 18 cm (ca 7 in) long, linear, three nerved leaves. The locals know the species as “Faham”, which use the leaves as tea. The leaves of *Jumellea fragrans* have a strong and delicious aroma and a sharp, aromatic taste. France and China were the first in the early decades of the 20th century to use this tea a substitute for ordinary tea and called Bourbon tea or Faham tea. It takes fifteen grains for one cup of cold water, brought to boil for 10 minutes, poured into a closed container and sweetened. A circular from the 1920s promoting Faham tea states that it is a substitute for tea on all occasions as it combines its tonic and digestive qualities free from the sleepless effect. It possesses an aroma of great delicacy depending on the quantity used and it gives forth a most agreeable perfume, recognizing indoor in a closed room long after. After drinking, it leaves a lasting fragrance in the mouth. Reserved for a future occasion and taken cold or made hot again is a further advantage of the tea. Milk or spirits in small quantities, especially rum, add delicacy and greater strength. Lastly, this valuable plant flavours custards and ices to which it communicates its delicate fragrance. The orchid

grows high on the slopes of the island, in the middle of virtually unreachable forests. The problems to collect a large supply of this plant meant that Faham tea, as a viable commercial item, was practically doomed to fail. Despite general agreement as to the taste of the tea, nobody used it anymore by mid-20th century. A story in a horticultural journal of 1924 stated that so-called Faham tea introduced into France replaced the regular Chinese tea. “Every work on botany of any importance similarly places it in the foremost rank of the beneficial productions of this favoured clime (Reunion)”, the author says. One of the most illustrious writers George Sand praises it in the midst of the fine description of the Island of Bourbon. The writer George Sand was infamous in her time for wearing men clothes and her numerous love affairs, many with famous artists like Musset and Chopin, the brilliant composer and pianist. The writer changed her name to George Sand from Amandine Lucia Aurore Dupin, Baronne Dudevant. The decade-long affair between Sand and Chopin reveals a great deal more than just the love of two people and the joys and challenged of real love. Nonetheless, their union inspired productive work periods for both of them. Both Chopin and Sand were able to work well. They spent a long time together and when Chopin’s lung disease progressed, coughing up blood, Sand found herself as caretaker. At that time, George Sand gave Faham tea to Chopin in an attempt to cure him. It has a sedating effect on the nervous system

and used as a medicinal plant. The leaves of *Jumellea fragrans* contain coumarin, which has a mild anti-inflammatory and antimicrobial effect.

Traditional knowledge, used for centuries by indigenous and local communities played a vital role in the area of medical treatment. The indigenous remedies originated directly or indirectly from the folklore rituals, magic and superstitions. They inherited their knowledge from their previous generations. Over the years, people have developed a great deal of traditional knowledge on the use of plants and plant products on curing various ailments. That kind of traditional medicine is a living medicine that actualizes new information about indications and applications influenced by new knowledge and experience and changes in evolution and social system. The natural medicinal plants provide a major part of the medicines for treatment of different diseases and until now, tribal people living in poor communities in remote areas depend on the plant-based medicines largely.



Fig. 8: *Jumellea fragrans*

Today, the local people of different regions throughout the world use many orchids for a variety of folk medicines and cures, which suggests a wealth of knowledge on herbal healthcare and orchid diversity. Whether there is any scientific support for such claims has yet to be determined. Today scientists are looking for possible cures in

traditional herbs and are painstakingly collecting, studying and analyzing ancient recipes in an effort to identify the active ingredients. Many other plants used in traditional medicine show that they contain various chemical compounds responsible for their curative properties. On the other hand, in their search for answers for ancient cures, scientists often do not find any scientific basis for their beneficial value, but this does not deter traditional medicine from dispersing them or the public from accepting them as a possible cure. Orchids have since time immemorial, a great reputé as a medicine since antiquity in the traditional system of medicine.

Folk medicine uses many orchid genera such as *Acampe*, *Geodorum*, *Bletilla*, *Bulbophyllum*, *Calanthe*, *Coelogyne*, *Cymbidium*, *Cypripedium*, *Dactylorhiza*, *Dendrobium*, *Epipactis*, *Eria*, *Eulophia*, *Flickingeria*, *Habenaria*, *Liparis*, *Lusia*, *Malaxis*, *Pecteilis*, *Pholidota*, *Rhynchostylis*, *Vanda* and many others. They play their role in curing various diseases like arthritis, tumours, fever, malaria, snakebite, scorpion bite, depression, tuberculosis, indigestion etc. Many tribes like Kopsas, Kondareddies, Yandis, Valmiki, Nukadoras etc., used these orchids for maintaining good health. The Yi ethnic group in central Yunnan uses 116 plant species for medicinal purposes. The species represented 58 families. Orchidaceae, Liliaceae and Papilionaceae hold the third rank of the number of species with five species of each family. The

Yi ethnic group practices their traditional Yi medicine, which has its root in the Dali medicine of the Nanshao Kingdom for more than 3000 years. The assimilation of the best of local, Indian and Persian medicine lead to its own medicinal system, which is recorded in books such as *Yian Yao Jing*, *Shun* or in *Shuangbai* medicinal book of Yi Nationality, which is the earliest book of Yi medicine, older than 150 years. The famous Yi doctor, Huan-Zhang Qu, researched and developed the outstanding Yunnan Bai Medicine. The three most common conditions treated with Yi plants were trauma, gastrointestinal disorders and common cold. They use from the orchid family *Eria pannea* Lindley, *Pholidota articulata* Lindley, *Pholidota chinensis* Lindley and *Pleione yunnanensis* Rolfe. The use of the roots of *Pholidota chinensis* is to create a formula for external use. Yi healers prefer to use a single herb instead of multi species compounds. Decoction is the most common preparing method of traditional Yi medicine. They mostly use the whole plant for their decoction like *Eria pannea* together with a big red ginseng to treat chronic bronchitis, medicinal poisoning and wounds. Combining plants and alcohol is the second method frequently used to prepare plant medicine. It has a long history because Yi healer believed that alcohol extracts create more active components than water does, thus being more active in curing diseases. The extracted liquid serves as tonic or applied external. An example is the one-month-old alcohol extract of the whole plant of *Pholidota articulata*,



Fig. 9: *Acampe praemorsa*



Fig. 10: *Rhynchostylis retusa* (L.)

which treats headache, leucorrhoea or cough. Yi medicine is effective in treating pyretic toxicity, rheumatic diseases and others.

Leaves and roots of many orchids treat rheumatism and rheumatic pains as the roots of *Acampe papillosa* and *Acampe praemorsa*. The last is a robust plant with stout stem, about 30 cm (1 ft) long, covered by sheathing bases of leaves and yellow mildly sweet scented flowers. Nuka Doras of Vishakhapatnam district in India use pseudobulbs of *Pholidota imbricata* as a paste for external application for rheumatic swelling and Konda Reddis of Khammam district in India use the roots and leaves of *Vanda tessellata* against rheumatic pains applied external daily once for 5-6 days. *Vanda tessellata* is an orchid marked through scented large yellowish green flowers with bluish tinge. Kopsas of Khammam district use the crushed tubers of *Malaxis rheedii* external for rheumatism in cattle's. The recipe calls for a mix with jag gory in castor oil. *Malaxis rheedii* is a terrestrial tuberous herb, up to 30 cm (1 ft) high with yellow flowers. A decoction of the boiled orchid *Spathoglottis plicata*, common called "The Pleated Leaf", served against rheumatism and the hot fomentation pressed on to an infected part draw out pus, relieved pain and encouraged blood circulation. A fomentation is a compress made of hot water and flour paste or other substances. Today *Spathoglottis plicata* is the most frequently cultivated and popular *Spathoglottis* orchid, not only in collection but also in

gardens and parks in the tropical regions around the world. The colour of its flower varies; they can be white, pink or purple. The narrow lip broadens on the end and is yellow in the middle.



Fig. 11: *Grammatophyllum scriptum* and *Aerides multiflora*

Native Americans the Cherokee used *Platanthera leucostachy* called “Bog Orchid”, as a pain-relieving plant for rheumatism, sprains stiff and various joint and muscle aches. Either a sweat bath or decoction of the plant served external as a wash. *Vanda tessellata*, *Rhynchostylis retusa*, *Cymbidium aloifolium*, *Cymbidium canaliculatum*, *Satyrium nepalense*, *Paphiopedilum insigne*, *Platanthera ciliaris*, *Arpophyllum spicatum*, *Bletia catenulate*, *Cranichis speciosa* and *Epidendrum pastoris* served against infection and inflammation of the colon (dysentery). Konda Reddis of East Godāvari district in India prescribed the extract of the white roots of *Vanda tessellata* once a day for three days for dysentery. The fumes of burning dried stems spread out in homes, freed children from fever. Systematic ethnobotanical studies reported that an infusion of roots of *Platanthera ciliaris*, “Yellow Finger Orchid”, cures headache and has antidiarrheal activity if taken every hour for flux. The whole plant of *Paphiopedilum insigne* is very useful for stomach trouble such as amoebic dysentery. *Phragmipedium Rolfe* is a special tropical South

American genus of a dozen terrestrial species. A decoction of *Phragmipedium ecuadorensis* relieves stomach trouble. Charaka Samhita, the ancient Ayurvedic text mentions *Rhynchostylis retusa*, commonly known as “Foftail Orchid”, as a medical cure, whereby the roots, called “Rasna”, treated rheumatism. Other indications were asthma, tuberculosis, nervous twitching, cramps, infantile epilepsy and dizziness, abnormal beating of the heart caused by stress or disease, kidney stone and menstrual disorders. Valmiki of East Godāvari district use the orchid as remedy for sore eyes and the fresh plant extract as an external application for inflammation of wounds and centipede bite. The juice of the leaves of *Rhynchostylis retusa* served for diarrhoea and dysentery. Studies confirm the antimicrobiological activities. The Indian book “Medicinal Plants of Meghalaya” lists this plant together with other orchids like *Dendrobium densiflorum*, *Dendrobium macraei*, *Dendrobium moschatum*, *Dendrobium nobile*, *Cymbidium aloifolium* and *Cymbidium rhynchostylis*.

There are 40 species of *Dichaea* Lindley in the West Indies and tropical Central and South American; all are epiphytic herbs. The Kofans valued a wash prepared from *Dichaea muricata* for treating eye infections, probably conjunctivitis, which is very common in the region. The tribal people of Eastern Himalaya extensively used *Vanda coerulea* for eye diseases. They believed that the juice of its flowers used as eye drop cures glaucoma, cataract and even blindness. Natives use *Encyclia citrina* on infected wounds and *Stanhopea hernandezii* for sunstroke. The Kopsas of East Godāvari district use the whole plant of *Acampe praemorsa* crushed with egg albumin and calcium paste to apply and tie with bandage for setting of fractures. Same purpose serves the leaves of *Vanda testacea* prepared as paste with other ingredients, applied and tied with bandage in cattle's. The Minpa tribes used even leaves to heal bone fractures and stems of *Cleisostoma williamsonii*. Applied seeds of *Dendrobium nobili* stopped bleeding of fresh cut wounds and *Phaius tancarvilleae* healed swelling of hands and legs. Native Americans used leaves of "Large Round Leaved Orchids", *Platanthera orbiculata*, as a poultice applied to sores, cuts and blisters on hand or feet and even scrofula. Scrofula is a form of tuberculosis in the lymph nodes in the neck, formerly caused by unpasteurized milk, but now rare.

India classify species of the genera *Aerides* like *Aerides multiflora*, *Aerides odorata*, *Aerides rosea*

and *Aerides crispum* as medicinal orchids. The use of juice of leaves of *Aerides odorata* was to heal boils in ears and nose and the grounded seeds speeded up the healing of wounds. Twenty species belong to this genus. The highly perfumed flowers from *Aerides odorata* form a dense hanging group variable in colour but mostly white with purple patches; sometimes more yellow or even purple. It grows widely throughout Southeast Asia. *Aerides crispum*, formerly known as *Aerides fieldingii* in Thailand, has long, pendent inflorescences of light-pink flowers, with some darker spotting on the petals. The plants powdered, boiled in neem oil and filtered served as ear tonic. Neem oil is the famous filtered extract of the seeds of *Melia azadirach* L. or "Persian Lilac". Two to three drops of oil into the ear once at night served as a cure for ear-ache. Interestingly the plant contains a phenanthropyran derivative, called aeridin, which is abundant in a few genera of Orchidaceae. Preclinical studies of an extract from the tubers of *Aerides multiflora* show antibacterial activity.

Grammatophyllum scriptum is a large giant, epiphyte from Indonesia. The orchid carries 5-8 broad leather-like, linear-ligulate, dull green leaves and many waxy, flowered, inflorescence arising on a mature pseudobulb that has many, waxy, colour variable, heavy textured flowers. The name refers to the pattern of flowers, which resemble Hebrew or Yiddish letters. The use of a decoction of the whole plant in Indonesia was to expel worms and