



Pha Tad Ke Botanical Garden

Newsletter Nr. 16 - October 2015

Pha Tad Ke - The Cliff to Untie and Resolve

We are enjoying the first cool weather of the season and the end of the rains, which were late but eventually heavy, and the garden is green and lush. This edition of the newsletter brings news of projects, workshops and trainings focussing on everything from capacity building to cultural awareness. We delve into ethno-botany for a look at the rural customs and medicinal plants for women as they move from puberty to young motherhood. And we'll have a look at the loveliest festival of the year, Boun Ok Phan Sa when villages and towns all over Laos gleam with light and hope.

RIK GADELLA, GENERAL DIRECTOR - PHA TAD KE

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The Pha Tad Ke Newsletter is distributed 3 times a year via e-mail.

Big thanks to our volunteer collaborators, and if anyone is interested to writing articles or help us with occasional translations please let us know.

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Friends of Pha Tad Ke Botanical Garden

In January 2010 the Friends of Pha Tad Ke Association was created in France followed in July 2011 in the Netherlands and September 2011 in Laos. Each of these non-profit associations helps the creation of the Pha Tad Ke Botanical Garden with scientific support, fund raising efforts and educational projects. In addition the Luang Prabang Fund for Culture and Conservation that was created in 2011 in the USA accepts donations that are tax-deductible for the benefit of Pha Tad Ke Botanical Garden or other cultural and conservation projects in the Lao PDR.

Helping the Friends of Pha Tad Ke will allow you to follow the day-to-day evolution of the garden, look behind the scenes of its operations and participate in the Pha Tad Ke adventure !

Information: www.friends-pha-tad-ke.com

In 2015 - 16 we are running a grant in the framework of the CEPF (Critical Ecosystem Partnership Fund). Among the important aims of that grant are capacity building and field botany work. In the beginning of September we did a fieldtrip in Phieng and Botaen districts, Xayaboury province with botanists from QSBG and students from NUoL.

CRITICAL ECOSYSTEM
PARTNERSHIP FUND



May 18 / 2015

Paul Mitchell and Angela Mateo from Sydney, Australia, organized a training for PTK staff and 18 students and teachers from Northern Agriculture and Forestry College on horticulture and plant care. This training was also part of a grant program from the Critical Ecosystem Partnership Fund that we are running this year.

CRITICAL ECOSYSTEM
PARTNERSHIP FUND





June 09 -14 / 2015

Also in the framework of the Critical Ecosystem Partnership Fund grant, we organized training on the use of our new IRIS BG Database system with Dr. Nura Abdul Karim from Singapore Botanic Garden. This system which is now used by many botanic gardens will allow us to better organize our data and communicate with partner institutions and the public.





June 1 - 3 / 2015

AnneMarie Buscher from the PUM experts from Holland organized a one-week management coaching session for PTK staff and managers on how to work more efficiently, to encourage teamwork and better social skills. All participants were very active and shared their own experiences and ideas.





June 06 / 2015

Thirty staff from the French Development Agency Head Quarters in Paris and the new regional director Philippe Steinmetz visited PTK to learn more about our project and about the everyday reality of working in the field.



June 15-18 / 2015

Field trip with Dr. Nura Abdul Karim and Sihui Chen from Singapore Botanic Garden in Nanh district, Luang Prabang, to collect living and herbarium specimen.





June 19 / 2015

Insavai, (Office Manager), hosted a visit of more than 50 people from Laos Educational Opportunities Trust (LEOT), including the director, teachers and students. Insavai took them for a garden tour and explained the importance of plant diversity.





July 16 / 2015

Somdy Oudomsack (Head Gardener) and nursery staff from PTK Botanical Garden in charge of a visit from NAFC teachers with interns from Maejo University, Chiang Mai, Thailand. Somdy and his team took them on a garden tour that focused on medicinal plants and ethno-botanic information.





On July 22nd we attended the signing ceremony in Vientiane for the Lao Cultural Challenge Fund grant we received from SDC for the second year. Some exciting workshop and festivals we will organize the coming months with this support:

- Junior Photo Workshop - *In collaboration with @My Library and teacher Ka Xiong*

- “Plant the Seeds” *in collaboration with Vikate Phannaeth we organize a series of cultural and educational excursions in Luang Prabang for students from Souphanouvong University*

- Lao Cultural Festival “Understanding Diversity” *with 60 performers/students of Faculty of Education of Souphanouvong University. Festival on December 19 will be open to the public*

- “Music Festival” *in collaboration with Music for Everyone School. A series of workshops to bring together traditional musicians with young students with performances on February 28.*



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August 11 / 2015
Insavai (Office Manager) and Sith Nitaphone (Garden Manager) hosted a visit of government staff from Luang Prabang Provincial Information and Culture division at PTK for a garden tour with explanations about the importance of plant biodiversity, conservation and the work process at PTK.



August 15 - 19 / 2015

Mr Simma Singsuaysanga from the Institute of Traditional Medicine from Vientiane was invited to give a training on the use and evaluation of medicinal plants with Kittisack Phoutthavong (Botanist) and Beesong Philakhone (Senior Gardener) in the installation, development and future uses of the medicinal plant gardens at PTK.





August 05 - 06 / 2015

PTK with support from the Lao Culture Challenge Fund through SDC organised a Journalism Workshop with Patithin Phetmouangphoune from the Vientiane Times. The group discussed and learned about how to gather, edit and present relevant and correct information effectively to a target audience.



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September 17 / 2015
Insavai (Office Manager) and Somdy (Head Garden) welcomed Dr. Khongmany Director of the Institute of Traditional Medicine from Vientiane and senior staff from Luang Prabang Province Public Health Division who visited PTK to discuss future collaborations.





September 22 / 2015
Insavai (Office Manager) and Somdy (Head Gardener) were invited to the Labour Market at Northern Agriculture and Forestry College to present PTK work to graduate students.



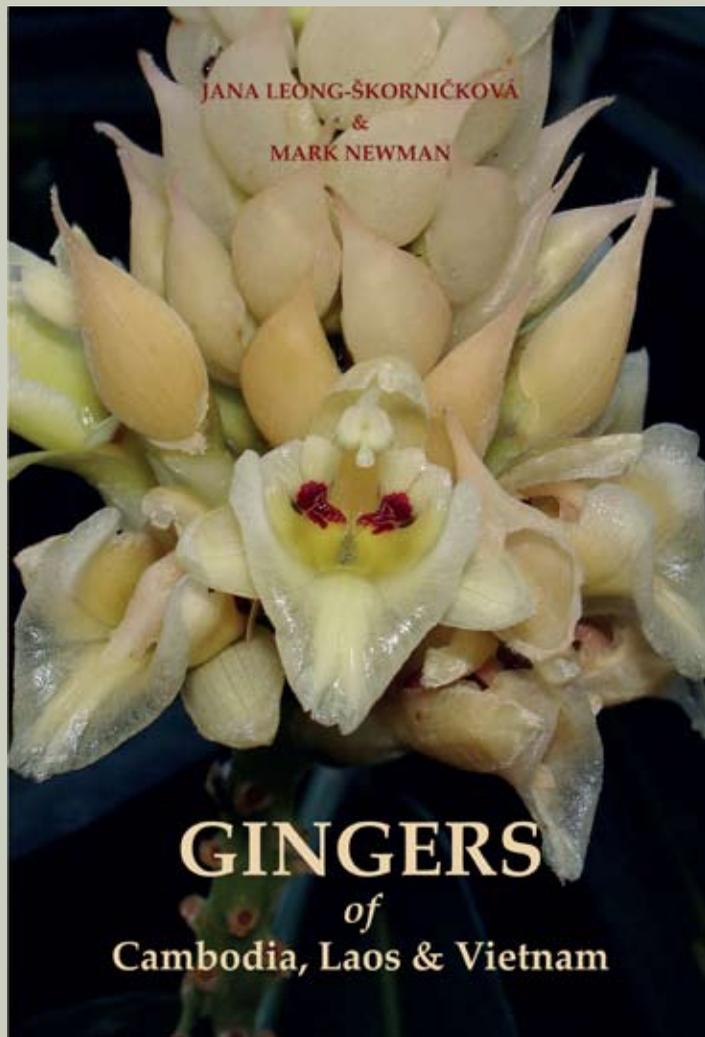
October 06 / 2015

Mr. khamchanh Khodxai (Head of Organising and Inspection section), Mr. Soulaphone Philakhoun (Head of Environment section), Mr. Khattiya Vannasack (Head of Forestry Resouce Management section), Mr. Vilaphong Khanyasone and Mr. Touy Phommachanh (Senior staff) from Luang Prabang Province Department of Natural Resource and Environment were invited to listen to a presentation of work process by Rik Gadella the director of PTK. After the presentation, Insavai (Office Manager), Somdy (Head Gardener) and Sith (Garden Manager) took them for a garden tour and to discuss future collaborations.





*From 17 to 20 August the Botanical Garden Organization of Thailand organized the 7th International Symposium on the Family Zingiberaceae 'Gingers for Life', in Chiang Mai. Besides the pleasure of participating and of attending all the interesting lectures PTK was particularly proud to present in co-publication with Singapore Botanic Garden and Royal Botanic Garden Edinburgh our latest book: **Gingers of Cambodia, Laos and Vietnam** by Dr. Jana Skornickova and Dr. Mark Newman, a co-publication with Singapore Botanic Garden and Royal Botanic Garden Edinburgh.*



We are very proud to announce our first field guide co-published with Singapore Botanic Garden, Royal Botanic Garden Edinburgh & Pha Tad Ke Botanical Garden

Gingers of Cambodia, Laos & Vietnam

Dr. Jana Skornickova and Dr. Mark Newman

“This book is a much-welcomed addition to information on the gingers of Southeast Asia. The authors, both world-recognized authorities on these glorious plants, combine their wealth of knowledge about gingers and their relatives in a highly accessible book that should prove useful to all interested in the natural history of this region. I will use it often.”

W. John Kress, Ph.D.

Distinguished Scientist & Curator of Botany
National Museum of Natural History
Smithsonian Institution

Printed in Singapore in 2.000 copies, size 176 x 250mm, English, 232 pages with more than 420 illustrations
Order via: contact@pha-tad-ke.com - or online on Price 25\$ plus postage

Gingers of Cambodia, Laos & Vietnam, written by ginger experts Dr Jana Leong-Škornicková of Singapore Botanic Gardens and Dr Mark Newman of the Royal Botanic Garden Edinburgh, is the first guide showcasing the beauty and diversity of this economically and ecologically important plant family in these countries. Based on extensive fieldwork with local experts in Cambodia, Laos and Vietnam from 1999 to 2014, this easy-to-use guide covers a wide range of topics, and devotes a chapter to each of the 18 ginger genera so far recorded in Indochina.

Diagnostic characters, a description and notes on habitat, distribution and uses of each genus are provided. Over 420 illustrations with a wealth of authoritative information make this guide the must-have practical reference work for everyone from amateurs to experts who is interested in these beautiful lush plants.

JANA LEONG-ŠKORNICKOVÁ

Jana's love affair with gingers began in her childhood. As part of her PhD at Charles University, Prague, she spent almost five years in India working mainly in the field and focusing on *Curcuma*. Since 2006, Jana has worked at the Herbarium of Singapore Botanic Gardens, currently being principal researcher and managing editor of the Gardens' Bulletin Singapore. In the past decade, Jana has worked extensively in forests across SE Asia and published more than 40 research papers mainly on taxonomy and nomenclature of gingers. Her interest also extends to other families of herbaceous monocotyledons.

MARK NEWMAN

Mark Newman first encountered gingers as a PhD student at the University of Aberdeen. He spent two years at the Department of Biology, Prince of Songkla University carrying out field and laboratory studies on the gingers of southern Thailand. After three years as Seed Collector for Latin America, based at the Seed Bank at Wakehurst Place (part of RBG, Kew), Mark wrote a series of Manuals of Dipterocarps for Foresters before returning to research on gingers at the Royal Botanic Garden Edinburgh in 1998. In addition to research on SE Asian gingers, Mark is currently editor of the Edinburgh Journal of Botany, and one of the editors of the Flora of Thailand.



Boun Ok Phan Sa - Celebration of Light



At this time of year in Laos, as the rice fields ripen from bright green to golden yellow and the fierce heat and wild storms give way to cool mornings and chilly nights, Lao people are preparing to give thanks to the mighty Mekong for the blessings of the season with a spectacular display of light and hope.

This is what some consider to be the most beautiful Lao festival of all, Boun Ok Phan Sa. The festival has many purposes. Besides showing appreciation for the river which is the traditional source of food, transport and irrigation water, the festival marks the end of Buddhist Lent, the end of the rains, and the coming rice harvest.

Buddhist Lent is roughly the period of the rains, the time for planting and weeding the yearly rice crop. Once, monks used to spend their days wandering the countryside in large numbers, offering blessings and counsel, collecting alms and visiting other monasteries. This played havoc with the rice growing so the monks were made to stay home, conducting their meditations in the confines of their temples. Lay people are expected to abstain from alcohol and celebrations, like weddings, for this time as well.

The celebrations focus on light in many forms - candles, lanterns, torches, fireworks and, nowadays, strings of coloured lights. Families prepare home-made lanterns, usually in the form of stars or boats using bamboo strips and coloured paper, which will hang from trees and doorways all over the



town. Some simply stick dozens of candles on the tops of walls or on the street. Some of the most spectacular lanterns are the large representations of boats and dragons and stars made by novices that decorate the courtyards of the temples. In Luang Prabang, there are 34 temples so the first evening of the festival is usually spent strolling the streets to admire the displays.

On the second day people throng to the banks of the Mekong with tiny 'boats' made of a slice of a banana tree stump covered with a banana leaf and studded with flowers, usually marigolds and gomphrena, and topped with a candle and a stick of incense. Each person launches a boat along with their prayers and hopes for the future. Hundreds of coconut



shells filled with oil are also lit and sent on their way from just upriver of the town and soon the river becomes a wide expanse of lights bobbing in the blackness.

But the highlight of the celebration in Luang Prabang starts in the early evening with a parade down the main street featuring huge lantern boats built by various groups in the weeks before the festival, each group trying to outdo the others with the sheer splendour of their creation. These are lit by pots of kerosene or used oil so the air is thick with smoke and the parade includes dancers and musicians with drums and cymbals so the noise is deafening as well. There used to be a free-for-all of firecrackers as well, but the indiscriminate tossing of these into the crowds has led to them being banned.

The parade of fabulous creations heads to venerable Wat Xieng Thong, considered to be the most beautiful and important temple in the World Heritage Listed town. There the boats are blessed by the monks before being carried down the steep steps to the river to be launched, usually secured to a small boat which will take them out into the river before being cut loose to drift among the smaller lights. Huge crowds line the river banks and many people go out in boats to view the sight from the water.

This pageant of light and sound goes on for hours and marks the start of the high season for tourists who flock to Luang Prabang for the cooler weather, as well as a time for family gatherings and parties.



Red and black cotton strings are tied around the child's wrist for protection

In traditional medicine, the place of women is important. Although they are no more likely to be ill than men, they must take special precautions throughout their lives for themselves and their children. There are many different precautions. There is an entire arsenal of remedies for problems linked with the menstrual cycle, fertility, conception, miscarriage, pregnancy, birth, delivery, and caring for newborns. Among these remedies, plants play an important role.

These “*simples*”, as medicines were once called, are not as simple as they might seem because they are bound up in the way of life, in philosophy, and in mysticism. In Laos, a large part of the population have no choice but plant therapies whose efficacy is linked directly to animist and Buddhist beliefs. Every village has its *mò ya*, a plant specialist, but also a *mò mòn*, who knows the mantras, and even a *mo phi*, who knows how to call the spirits. As well, in each house there is always a knowledgeable person who knows how to make a diagnosis and prescribe the right medicine. Medicinal plants can also be bought in the markets, in the form of dried leaves, brown bark and twisted roots of mysterious provenance that are difficult to identify. Our purpose here is not to evaluate this therapy but to explore the rich botanical knowledge which demonstrates how closely Lao people lived to their natural environment.



Various medicinal plants and talismans are sold in the market

In season

From the onset of puberty, a woman is subject to the forces of nature and lunar cycles, so her plants have to do with blood. Many are for the regulation of her menstrual cycles and to soothe the pains of this period. Chips of bright red wood of the *fan deng* (red flamboyant) (*Caesalpinia sappan*), are sold in the markets and are reputedly good for the blood, with their analogous colour being the likely reason for this prescription. When periods are too heavy, four or five bits of the wood are boiled in a litre of water for 30 minutes and this decoction is sipped throughout the day.



Mimosa pudica

Phouang phi deng (“a red garland for the spirits”) (*Clerodendron paniculatum*) has beautiful crimson flowers. A decoction of its leaves is recommended for painful menstruation. *Gna gnoup* (“the folding herb”) (*Mimosa pudica*) known as the sensitive plant, is used for the same symptoms.

Abortion

From the time a girl starts to menstruate, she is able to fall pregnant and several different plants are used if she wants to avoid this happening. There are not very many plants in Laos for this purpose. The distinction between contraceptive plants and those used to cause abortions is not quite clear. When a young woman does not wish to fall pregnant she consults one of the older women who will advise her to take a decoction of *dok en a* (*Melastoma malabathricum*), of *dok sa*



Melastoma malabathricum

hom (*Pseuderanthemum latifolium*) or of a tea made of the young leaves of *kok mak toum* (*Aegle marmelos*) during the time of her menses.

If she is pregnant and wants to get rid of the baby, *lou louk*, there are several plants to choose from often plants that are toxic or that act as a vermifuge. The best known, at least for its name, is *kebea tam gnè* (*Mucuna pruriens*), or ‘scratchy hair’. That is undoubtedly why the Lao call the midwife *mè tam gnè*, because like the plant of the same name she can cause the infant to be expelled. This vine has lovely purple flowers, which then become pods covered in itchy hairs. A decoction of these can be an aphrodisiac for men as well as a vermifuge and an abortifacient.

She can also take a decoction of the seeds of *mak fak* (*Cucurbita maxima*), which are both tonic and an aphrodisiac, but



Pseuderanthemum latifolium

they are also effective against intestinal worms and to prevent miscarriage. According to Hmong people, think that this Cucurbit is an anaphrodisiac, and this is why they give it to soldiers and elephants. The pretty blue flowers of *kebea nam nè* (*Thunbergia grandiflora*) have abortive properties as well, but are also used to regain strength after giving birth.

The supposed effects of another pretty flower are rather contradictory. *Pit pi deng* (*Plumbago indica*) which came originally from India, has bright red flowers and is found around villages or in open forests where they are becoming less common. It is actually a highly valued medicine and is another blood plant. The hairy, tufted roots are collected during the dry season and laid out in the sun before being used in a decoction. The tea is used to regulate the menses, but also serves to make pregnancy more likely as well as to stop miscarriage



because it causes uterine and intestinal cramping. Another frequently mentioned abortifacient is *kok lin mai* (*Oroxylum indicum*).

Having a belly

Even as our interviewees know well that it takes a man and a woman to conceive a child, they are also aware that there are other factors that play a part in the future child forming in the uterus, and that a woman must “have a belly”, *mi thong*. Many precautions are taken by the woman, her husband and her household to avoid miscarriage, twins, a deformed child, or one that is weak or colicky. She does not eat duck meat because they do not sit on their eggs to hatch them, nor does she eat misformed fruits to avoid twins, and no jackfruit, *mak mi*, (*Artocarpus integrifolia*) for fear the baby’s skin will resemble the rough skin of the fruit.

She avoids miscarriage with the help of plants like *gna kbi one* (*Urena lobata*), which means “dormouse droppings”, that is found along river banks, rice fields, waste land and places with high humidity. A tea is made from the roots of this plant to promote fertility or prevent miscarriage.

To reduce the heat of gestation, she eats foods considered to be cooling, usually grasses like sugar cane, reeds, woolly grass, millet, bamboo; fruits such as coconut, jujube, caram-

Mucuna pruriens

bola, and mangosteen. She will have a preference for acidic foods and her family can measure the progress of her pregnancy by the acidity of the things she craves. Never say to a woman who enjoys sour tamarinds that she is three months pregnant!

The delivery

When the time of birth approaches the midwife helps the soon-to-be parents to perform certain rituals. She also gives massages and applies plant-based wraps and poultices. *Kok soy pong* (*Clerodendrum serratum*) is used as a plaster on the stomach to ease the descent of the baby. On the Khone Island a monk showed us a tree which he called *tone bang* whose young shoots are used to make a decoction which is given to a pregnant woman “to make the birth go well”, he explained. The tree they use is *Couroupita guianensis*, which is an important symbol in Buddhism in Laos.

Once the child is born, (*ok louk*), the umbilical cord is traditionally cut on a plant, the rhizome of *kbimin* (*Curcuma longa*), a stem of citronella, or of bamboo (*mai khom*). A powder made plants must be used to help in the healing of the cut and is usually the bark of *sisièt* (*Pentace burmanica*), which is known for its antiseptic properties. The placenta is generally put into a trunk of bamboo and buried under the steps of the house or, more rarely, hidden in a tree in the forest.



Seclusion

After the birth of the child, the mother and child are confined in a room or a corner of the main room for between five and thirty days. They sit close to or on a brazier of smouldering embers, which is kept going day and night. This seclusion called *you kam*, signifies that the woman is both dangerous and protected. The religious, social, psychological and physiological aspects of this custom have been studied many times. We notice here that while the pregnant woman is encouraged to take in fresh, cooling foods to calm the heat of gestation, the new mother must not have any contact with anything cold. She drinks hot plant decoctions, she bathes in steam (*hom ya*), inhaling and absorbing the beneficial aromas of healing plants. Aromatic and auspicious herbs are strewn on the brazier during this time, including *bay nad* (*Blumea balsamifera*), and *bay pao* (*Croton roxburghii*). The logs for the fire have been prepared well before the event for this very special domestic situation. They are chosen for their magic properties or for their capacity to burn without smoke, like *mai tiou* (*Cratoxylum formosum*) and also *mai tiik* (*Shorea obtusa*). On the other hand, the wood of *mai peuy* (*Lagerstroemia spp*) is avoided because *peuy* means “naked” and the baby would not be able to keep his clothes on.

Clock wise:

1 *Plumbago indica*

2 *Urena lobata*

3 *Clerodendrum paniculatum*

4 *Clerodendrum serratum*



To have strength

More than half of the medicinal plants mentioned by our interviewees are for restoring the normal health of the young woman according to the sacred motto, *you di, mi heng*, “to be well is to have strength”. As well as fortifying soups made of rice, chicken, ginger and salt, she spends her days sipping drinks made from *kok dena pong* (*Ficus hispida*), *kehua ngou hao* (*Toddalia asiatica*), *ya nang* (*Tiliacora triandra*), *dok kè lao* (*Markamia stipulata*), *dok sièo* (*Bauhinia purpurea*). A tea made from the rhizome of *ka khom*, or “bitter galangal” (*Alpinia bracteata*) is strongly recommended. To return the colour to her cheeks,



Left: *Curcuma longa* is a lobster shaped rhizome
Top: *Blumea balsamifera*



she will drink a tea made of citronella, *sikhay* (*Cymbopogon citratus*). A tonic is prepared with the bark of *phak i boum* (*Moringa oleifera*) and a plaster is made from the leaves to rub on the breasts when she wants to stop her milk.

The newborn spirit

The newborn baby is not yet a person. The Lao saying is *sam van, louk phi, si van, louk khon*, which means “For three days he belongs to the spirits, at four days he becomes human.” It is through rice, the basic food of all Lao people, that the child is finally anchored as a human being. He is laid in a basket which is normally used for winnowing the grain and a ball of rice is put in his mouth. To keep away the evil spirits who want to take him back different talismans are used. An example is the necklace of red and black thread worn around the neck of mother and child. If one has had the presence of mind to tear off a few twigs of *po pan* (*Boehmeria nivea*) from the costume of the mythical ancestors known as *phon gneu gna gneu* who are represented at the New Year festival, these are tied to the wrists of the newborn. Some powerful plants are also used, like powdered ginger which is applied to the head of the baby.



The water of the breasts

But the best of the nourishments for the baby is still what flows from the breasts of the mother, *nam nom*, “the water



Top: *Croton roxburghii*. Bottom: From top to bottom rhizome of Galanga, Curcuma, Ginger

Plantes for sale for steam bath



Alpinia bracteata

of the breasts” or milk. And here again an entire panoply of plants are on offer. Very often they have a white sap like papaya, *mak boung* (*Carica papaya*) and a decoction of its roots is drunk to bring down the milk or another little euphorbia called *nom rasasi* “hermit’s milk” (*Euphorbia hirta*). Coconut milk also has this reputation or the *vine kbhuang thon* (*Smilax macrophylla*) or again, *ngouang bouang* (*Aristolochia tagala*) of which a bunch of leaves and flowers is added to traditional chicken soup. Like papaya, *kok tin phet* (*Alstonia scholaris*) contains a lot of white sap, which flows at the slightest cut. This substance is used as glue to trap birds. But in a symbolic way and by analogy, the milk of this plant is thought to bring milk to the new mother by burning the leaves near her bed while applying it to her back.



Aristolochia tagala

Coming out of seclusion

After all the excitement and exertions of the birth, after the period of seclusion, the family and the village return to normal with the ritual of *soukbouane ork kam*. Gathered around the ceremonial tray (*pha kbouane*), repeating words of comfort everyone ties a string of cotton around the wrists of the mother and child, which re-connects the souls and creates a barrier against nefarious influences. These ceremonies and the plants that go with them have tended to disappear in the towns but are much more common among villagers who are the majority of the population. In the countryside most families continue to have home births, as the national health system is not yet well developed there. But this reassuring traditional medicine plays an important part in the comfort and serenity of women and mothers.



Alstonia scholaris



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