

## Herb Travels in China: October 2014. Part 1: Sichuan

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*This is the first part of an account of a herb trip which began in Sichuan, continued in Chongqing and then in Inner Mongolia. The story of the latter part of the trip will be in the next issue of the Journal (Spring 2016) Eds*



Early October can be quite wet in Chengdu, southwestern China. Finally, after the usual long and winding trip from the small town of Zurich in the middle of Europe, having used buses, trains, planes and again buses, skipped a night and floated through the following day I was sitting in the calm, damp but not yet cold night air of my hotel room. Listening to the crickets and the rain outside felt comforting. This was my first TCM Herb trip in the fall.

My group this time consisted of three German agrospecialists, specialists in the cultivation of medicinal plants, including Chinese herbs, who were on their first visit to China. I am excited to be part of the development of new ties between modern science and traditional knowledge, as well as ties between European and Chinese specialists in medicinal herb cultivation. My agricultural and agrotechnical vocabulary challengingly increased day by day. Now at the end of our trip I am ready to specialize in translation for Chinese medicinal herb cultivators, though regretfully there are not yet enough such cultivators in non-Chinese speaking areas to produce such a need. But back to the beginning:

### Getting to the Roots

The reason we were travelling in the fall was because the main goal this time was to see how medicinal roots are cultivated and specially how they are harvested. Root harvest mostly happens in the fall or whenever the plant's energy returns to its root in a particular climate area.

A little TCM-oriented sightseeing on the first two days got my group used to the setting. It included several pharmacies in and outside the TCM University hospital, a visit to the Xin Hehua Company, one of the leading producers of prepared Chinese herb slices (so called raw drugs), a tour of the large Chengdu bulk TCM Herb Market (both these on the outskirts of town), and dinner at a brand new „nourishing life hotpot“ restaurant with a choice of spirulina or long-life-mushroom broth, honored by the presence of Professor Zhang Hao, long time director of the pharmacognosy research institute at Huaxi medical university. We departed early on the third morning towards the sun, leaving the metropolis behind us. As soon as we had picked

up our specialists, Dr Chen the pharmacognosist and Dr Li the agronomist and local medicinal herb cultivation counselor, and had travelled the first few blocks I relaxed, appreciating their company and the safety of our excellent driver Mr Zhong.



(4) Tour at Xin He Hua Company



(5) Wholesale TCM market, Hehua Chi, Chengdu

### Zhongjiang: Daodi Danshen

We were on the way to Zhongjiang county, a center for cultivation of Danshen/*Salvia miltiorrhiza* and Baishaoyao/*Paeonia lactiflora* products. While looking for a loo along the way we happened to stop near a small distillery and, attracted by the sweet scent of the fermenting sorghum and rice we walked straight into their workshop like mice after cheese. They were surprised but very generous and showed us around, answered our spontaneous questions, gave us a taste right from the distillery-tap as well as a tour through their cellars and another taste of their aged „Baijiu“ brand. [1]



(11) Baijiu distillery cave near Santai



(12) Baiju distillery cave near Santai

Relieved and spirited we continued up into the mountain range, the roads narrowing and becoming part of the villages, no longer reserved for cars, with us slowing down, closing up to local life as it took place. Driver Zhong carefully steered us through markets and funerals into the heart of Danshen (and to a slightly lesser extent Baishaoyao) cultivation. The area is hilly and the parcels are small, which has favored the cultivation of many local variants. Now that worldwide science is demanding identical species, these local variants are kept as „resources in reserve“ in small beds on the sides. There are two main kinds that are being cultivated for production. Zhongjiang is one of the „Daodi“[2] areas for Danshen, which means that there is written proof that the plant in question has been produced in this area in superior quality for several hundred years. The concept resembles, for example, our modern AOP (Appellation d’Origine Protégé, for local specialities like wine, cheese and other things in France and Switzerland).



(15) Danshen bed, Santai area



(16) Danshen roots, Santai area



(17) Baishao collection centre, Santai area



(19) Baishao mother roots, to be replanted

Since herbs from their Daodi region are regarded as premium quality medicinals, demand for such herbs is ever-growing, challenging the small scale farming tradition of areas like this one. Crop-alternation is done during the course of the year, danshen alternating with rice or soya beans. Even though Danshen, like many medicinal herbs, is naturally quite robust, the danger of development of specific diseases increases with more intensive cultivation. So far though, and that is after at least three to four hundred years of continuous production of Danshen in the area, plants remain quite healthy. Maybe the many local variants help to keep resistance strong? Also, Danshen beds are regularly flooded during the rotation with rice, thereby flushing out some of the disease causing agents, but in addition to that insecticides or fungicides are used, when necessary.

### Harvesting, Fermenting, Drying

Here the Danshen roots are harvested in early spring (March), when the weather is less wet. In the course of the natural drying process in this climate, the roots will undergo a fermentation process before drying all the way, specially while they are covered during rainy days, before being spread out again to continue drying in the sun. This process, known as „sweating“, has over time become an integral part of the drying process in several TCM root medicinals grown in the moist climate of southern China. In other words, a Danshen root that is dried by modern agronomical

standards which is a controlled, steady drying process in an oven at 40 degrees Celsius temperature yields a different product and will be regarded as inferior by the more tradition-oriented portion of TCM pharmacists and practitioners. A study to compare constituents of both types of crude drugs has been conducted by Chongqing Academy of Materia Medica on the change of constituents in different phases of the drying process, using Xuanshen/*Scrofularia ningpoensis* which also traditionally undergoes a „sweating process“. It is expected to appear by end 2015.[3]

**Hua Yuan Zhen: Daodi Maimendong**

A bit late in our schedule, due to our spontaneous visit to the distillery, we arrived at our next destination in Hua Yuan Zhen, part of Santai county, the Daodi region for Maimendong/*Ophiopogon* in Sichuan, where the whole town is involved in its production. Cultivation of Maimendong has a reported history of 800 years in this area, it is the largest area in China and its quality is considered the best. The local „*Ophiopogon* Cultivation Interest Group“, initiated by the mayor of the town, gives advice and supports farmers who are interested in participating. The problem is that, as with many other herbs, market prices for Maimendong are fluctuating on a mostly very low level, while the cost of cultivation has steadily risen over the past years mainly due to higher cost of labor (wages). Young people therefore are looking for other, more lucrative crops to cultivate. We met one of the larger cultivators and one of the few who owns drying ovens. Up until last spring he used the local model where roots are basically dry roasted in hot air above glowing coals. After the visit of a journalist from the national TV Station who broadcast a report saying people in Hua Yuan Zhen were producing Maimendong medicine polluted by coal smoke and ashes, thereby endangering public safety, he stopped using the old model and built new ones, with two completely separate air circuits.



(22) Maimendong field, Huanyuan Zhen



(21) Examining a maimendong plant, Huayuan Zhen area

**Pengzhou: Daodi Chuanxiong**

The next day was devoted to two more of the many Daodi medicinal herb-areas of Sichuan, west of Chengdu this time to Pengzhou for Chuanxiong and then to Chongzhou home of Curcuma, for all three of our Curcuma-medicinals: E Zhu, Jiang Huang and Yu Jin.

The Chuanxiong plantation we visited in Pengzhou is one of the very first plantations in all of China to get GAP certification. When I first visited 11 years ago, they had been right in the certification process. The company has developed well since and was able to lease more land from local farmers. Most of the land in this community is used to grow Chuanxiong, again in rotation with rice. Usually people will lease their land to the company and then get a job with the company, though some farmers grow their chuanxiong independently and sell their crops to the company if they are willing to work according to GAP guidelines. The two young men in charge of these plantations are very engaged and professional and have been able to convince a large part of the locals about their cultivation project. The small Chuanxiong plants we see growing to yield next years crop look healthy, and have good advance on weeds, again thanks to flooding of the fields during the alternation with rice and the use of rice straw as a weed suppressant mulch. This is significant since herbicide use has become increasingly common in agriculture in China including medicinal herb production in the past years, specially with increasing labor costs.



(25) Chuanxiong field, Pengzhou



(20) Explanation of GAP rules for interested farmers

### Chongzhou: Daodi Curcuma

After a wonderful lunch in a huge, cool and calm Ginkgo tree park, we drove on to Chongzhou, a place full of curcuma fields as far as the horizon. Leaves are still a juicy green here in October. In winter the withered leaves will be used as fuel.

The curcuma here is very sturdy, even though curcuma has been grown continuously on these fields for at least 500 years. The only occasional problem, says the local plantation manager, is once again a root nematode. Amazing! Just like in the Danshen/Salvia miltt. area, there are many local variants and they are obviously very well adjusted to the climate, all looking very healthy, especially compared to the few examples from other areas in Asia that are growing on a small trial field that Dr Li has set up in the local curcuma manager's back yard.



(24) Curcuma field, Chongzhou

What they grow here is local variants of *Curcuma phaeocaulis* and *Curcuma longa*. The rhizome of the main root of the former is used to produce our medicinal E Zhu, the rhizome of the latter is used to produce our Jiang Huang, as well as the spice turmeric and the dye with the same name. The tubers of both of these curcuma species as well as the tubers of yet another one (*Curcuma sichuanensis*) can be used to produce our Yu Jin. And to make matters more confusing, up until about 400 years ago what we now call Jiang Huang was described as Yu Jin...

Upon our return to the chaos of motorized traffic during rush hour in Chengdu we enjoyed a really wonderful dinner in my favorite restaurant, of

course it is one of those 药饭 that cook with medicinal herbs. The perfect evening programme before we would leave for the Qiang and Tibetan high plateau the next day.

### Tibetan Highlands

A beautiful night sky full of stars was gleaming down on us when we arrived in the little Tibetan village near Songpan where we would stay with one of the families whom I had met two years before when they were installing the required bathroom facilities so that they could register as a Family-Hotel. By the time we came, they had already gone into business, with a lot of hospitality but not yet so much practice. That of course was something we were able to help a bit with by staying with them and explaining how we would like our beds and bathrooms to be, and almost everything was put in what we would consider perfect order.

In the late afternoon we had admired the old town of Songpan on the edge of the Tibetan Grasslands, with its two mosques and mostly Muslim Hui population in the midst of an area of predominantly Tibetan villages. We had had lunch outside in a parlor fenced with interwoven living willows and had picked sweet small Huahong apples in the court garden of one old doctor.



(29) In the old doctor's garden, Songpan town

We had been interviewed by two reporters from the local TV Station looking for good news and had eaten a totally overpriced dinner which reminded us of the fact that we were close to a very famous UNESCO world heritage site. The restaurant itself was in one of those depopulated villages made into a tourist spot by some investor, but now there was an off-season emptiness with just us huddling around our hotpot and somewhere far away the employees shouting something every now and then.

### Research Plantations

Nights can be cold up here. On the following days rain and fog were not willing to dissipate so we put on all our garment and got going. We visited two large trial and production plantations for medicinal herbs a bit further up at 3300-3400 meters above sea level, reachable only by driving up and down

muddy roads and crossing larger and smaller rivulets. There were many medicinal herbs including Dahuang, Danggui, Qianghuo, Duhuo, Qingjiao, Hongjingtian and others that were being pre-grown up here to make them more sturdy, grown to produce seeds or to observe and research their quality. One of the main projects in both these plantations is to meet the challenge of Chuan Beimu cultivation. One 82 year old Professor of Sichuan University has spent 50 years of his life mainly up here working on this. The teams of botanists, pharmacognosists, agronomists and local farmers showed us how they prepare the seeds by bedding them softly, moistening them properly, warming them, cooling them and maybe more to coax them into opening up into a seedling the following year. With our clambering fingers we dug in the black high bog-earth to admire the little rootlets that last years Song Beimu Seedlings have grown. It seems that the project is close to reaching its goal!



(43) Our hostess in her kitchen

Here in the village the sound of Tibetan circle dance music starts swaying across from the newly paved dance square nearby all the way into my bedroom. Some of the inhabitants earn good money by performing those dances for tourists passing by on their way home from beautiful Jiuzai Valley, the UNESCO natural world Heritage nearby. Even though an electric beat has been added to the music as usual nowadays, I still like listening to it, as long as it is not played too loud, as it is here. Which is probably to compete with the voices of tour guides introducing local customs, religion, history, architecture, agriculture at breathtaking speed to tourists after they have taken breakfast in the large food tent across from the dance square.



(36) Chuan Beimu varieties preserved and dried at research plantation



(37) Chuan Beimu moist seeds

### Back in the Village

Impressed by the stillness of this far out place and by the friendliness and the perseverance of the people working up here, we descend back into the world of society, which for now is the kitchen stove of our kind hostess. There we warm up, drink salty tea and eat nibbles, write and talk about what we have just experienced.



(35) Circle dance performance

No time is to be lost. Since we are at around 3000 meters above sea level, some of the participants start panting. They have booked such a tour because they would like to see and hear something authentic about the local Tibetan culture, as opposed to being taken to fake villages built for tourists. But even here, where villagers have taken to their own marketing and the money they earn stays mostly with them, the whole enterprise is quite a mass process. How else could it be? On the large parking lot below the village I can already see about 20 big buses waiting this early morning.

I am glad that we were- compared to them- able to take a bit more time for our souls (and lungs) to expand into the thin air. After our breakfast of buttertea, with tsampa and dried yoghurt, fresh flat bread and some spicy fried vegetables (we decided not to go over into the food hall for breakfast), we

leave the Songpan area, drive through massive mountains back down into the lowlands, the metropolis, the world of multi-storied Sichuan Hotpot restaurants and teahouses, of ringroads stuffed with traffic, the city expressway on three or four levels and of cash machines on every other corner where I can retrieve money with my swiss post bankcard 24 hours a day. From the back of our car I could smell the scent of the freshly dug Danggui roots we were given by a friend. It carries the memory of Songpan.



(46) Fresh dang gui roots



(28) Our group

The story of our herb travels will be continued in the next issue of the Journal.

### Notes

[1] Baijiu 白酒 is a strong distilled spirit, generally 40–60% alcohol by volume, usually distilled from fermented sorghum, although other grains may be used; southern China versions typically use sorghum, northern varieties may use eg wheat, barley, millet.

[2] „Daodi Yaocai“ 道地药材 literally meaning medicinal material from their (specific) region was first used in the „xin xiu bencao“ Materia Medica of 659 (Tang Dynasty) to designate which regions produced which herbs of superior Quality (The Tang

government divided the Country in Zhou and below that in Dao). Later on the word stayed in use but regions for specific herbs varied over time.

[3] We were given advance information on some results showing that roots which have undergone a „sweating“ phase contain a different mix of constituents from those that have not, but in clinical function both have their strong points.

### About the Author

Nina Zhao-Seiler was born in 1965. She is a qualified naturopath. Starting in 1985, she studied TCM for 6 years in private schools in Europe, followed by 3 years of internship and further study in Chengdu. Since 1998 she has had a private practice in Zurich, Switzerland. She speaks German, Chinese and English fluently. She has travelled extensively in Sichuan and made the personal acquaintance of local specialists. During the trips that she organises she leads her groups and translates for them throughout the journey.

*Further information about Nina's herb tours can be found at [www.tcmherbs.org](http://www.tcmherbs.org)*