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Medicinal Herbs Cultivation, Trade and Consumption in Colonia del Sacramento, Uruguay

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Introduction

For years there was an extensive scientific discussion on the issue of the rights of colonisation of the River Plate shoreline, both by Portugal and Spain, as stated by a renowned cosmographer in a letter dated the 3rd October 1680 (PASTELLS, 1918: 327-329). Colonia del Sacramento is now part of Uruguay; the town was founded by the Portuguese Manuel Lobo, in January 1680, and seven times occupied by the Spanish, under the command of the Buenos Aires governor. The dispute over the River Plate shores is part of the history of three major Mercosur countries, Brazil, Argentina and Uruguay, and turned into a good reason to stimulate strong touristic flows in our days (over a million per year), because the idyllic landscape and the fortress still feed the imaginary of most South Americans.

In 2011 a Portuguese Tropical Research Institute (IICT) team completed a scientific mission to the Northern margin of the River Plate, in order to conduct research on the issue of the production, trade and consumption of medicinal herbs in Colonia del Sacramento, both in the beginning of the European colonisation and at present. The extensive area irrigated by the Paraguay, Parana, Uruguay to the River Plate and the Atlantic Ocean coastal areas was mostly colonised by Spanish nationals, with a notable presence of Jesuit priests, responsible for vast mate tea plantations, as well as for cattle farms, where the local Indian populations, (formerly nomads), were settled. As far as the Portuguese Colonia del Sacramento (literally, the Holy Sacrament Colony) is concerned, the most remarkable presence was that of the Franciscan priests, being the Company of Jesus only responsible for education, after 1717.

Nevertheless, back in 1630, the Jesuits were already responsible for fifteen farms (reductions) settled on the basin of the river Uruguay, possessing “around 1,500 to 5,000 cows” (ASSUNCAO, 1972: 5). The relevance of the Jesuit reductions stems from the fact that they gave key significance to the *Ilex paraguariensis*, an *Aquifoliaceae* largely consumed by local Indian populations, which soon became the coin for trade, as salaries were paid with the species (CABRERA, 1933). The IICT team research objectives were to gather data about the cultivation of medicinal species within city limits and in peri-urban areas, as well as to collect the associated traditional medicinal knowledge, using the same sample techniques of previous investigations, in order to make information comparable for all Latin American countries. The culturally bounded space promised fertile group discussions because, despite the diversity of ethnic influences, the interviewed participants had a common colonisation history. So far, the IICT has collected data about 9 cities and metropolitan areas. Current paper will only focus the Uruguayan city of Colonia del Sacramento, which has 15,934 residents (INE 2011).

Material and Methods

The fieldwork used techniques common to similar single-site ethno-geographic research (SEALE, 2004). Because of the specificity of the tiny Uruguayan city, stemming from the fact of being a small touristic town with well-known consumption of mate, the IICT decided to add another type of actor to the surveys. In fact, the usual format of the fieldwork included interviews to three types of actors, using the same questionnaire: 1. Urban gardeners and farmers; 2. Herb traders and pharmacists devoted to plant retail; 3. Traditional healers, plant therapists, herb collectors and natural medicine doctors (MADALENO, 2010).

In Colonia del Sacramento, the IICT also interviewed the consumers, in a face-to-face and door-to-door sample research. The qualitative study included photographs, in line with the sources common to other ethnographic work (COLLIER & COLLIER, 2004). A total of fifty urban gardeners, herb collectors and traders were interviewed as to their preferences in terms of medicinal plants, teas and cataplasms. The material collected further included archival research and bibliographical information, because the colonisation process, which involved both Iberian Peninsula peoples, the Portuguese and the Spanish, as the omnipresence of Catholic congregations, such as the Jesuits and the Franciscans, explain the singularity of this location in terms of therapeutic species cultivated, trade and consumed.

Results and Discussion

In times of crisis there is growing food insecurity and malnutrition (COFIE ET AL., 2010). The need to decrease national deficits is destroying most national health care systems worldwide. Consequently, urban agriculture is one of the responses that the urban poor find to meet their household needs, to cure mild diseases and mitigate health troubles. Farming within the city would be paradoxical in a wealthy economy. Unfortunately that's not the case these days, due to the ongoing economic crisis, which ravaged Argentina and Uruguay in 2001 (SANTANDREU, ET AL., 2009), provoked the collapse of the banking system in the USA, in 2008 and the ongoing speculative attack to the European Union countries sovereign debt, from 2010 onwards (KRUGMAN, 2012).

Farming in city areas is at present a survival strategy for most unemployed and underemployed citizens worldwide, moreover because the sub prime crisis (2007) gave way to the devaluation of most properties and ended up the funding systems used to finance home loans. The corrosive effect of the long-term unemployment, as Paul Krugman termed the phenomenon, has placed most ordinary citizens on the shadow of economic catastrophe (KRUGMAN, 2012). New and innovative planning initiatives, conducted by national and municipal governments, are including urban and peri-urban agriculture, associated with policies of climate change mitigation (PEDUTO & SADTIKOVA, 2009). Table 1 presents several examples gathered in Latin America over the years that exemplify success stories. Hope is they might be helpful contributions to the European and North-American cities now under hazard.

Regarding fieldwork conducted in Colonia del Sacramento, results show that the first preference is constituted by herbs of European origin, followed by Native Americans (see table 2). Contrarily to the previous Latin American cities and metropolitan areas researched, no Pacific plants were recorded in Uruguay. The universal species were for instance *Mentha x rotundifolia* Hudson, *M. x piperita* L., a couple of hybrid species very common to other front and backyards, tended by gardeners that the author is interviewing from 1998 onwards. It was the first time that the European influence was singled out in all Latin American sites, though. So far I have interviewed 1,129 people from other eight Latin American cities and metropolis (Santiago, Chile; Belem and St. Louis, Brazil; Lima, Peru; Habana, Cuba; Central Mexican Region, Mexico; Rio Cuarto, Argentina; San Jose, Costa Rica), and the local medicinal species were always preferred (MADALENO, 2012).

A total of thirty one medicinal plant families were recorded in Colonia del Sacramento, Uruguay. The first preference was *Asteraceae*, with eleven vernacular plant species gardened or traded,

following nine *Lamiaceae* (15%). It is not surprising that these herbs and small bushes are tended in the gardens, in detriment of trees, for the spaces are rather small (less than 250 m²). It is curious to emphasize, however, that the most cultivated species was an African *Xanthorrhoeaceae*, three species of *Aloe*: *A. vera* (L.) Burm. F; *Aloe barbadensis* Mill.; *A. arborescens* Mill., corresponding to 62.5% of the interviewed gardeners. The sap is ingested against gastritis or applied to the skin as antiseptic.

| Organizations | Countries | Years | Action Plan |
|--------------------|-----------|-------|---|
| Central Government | Cuba | 2009 | Organic Gardens, in La Habana |
| Central Government | Argentina | 2011 | Seed distribution, solar energy medicinal herb drier units attribution, natural herbicides distribution, fair promotion intended for medicinal flora production trade, in the city of Río Cuarto |
| Municipality | Chile | 2003 | Seed distribution, compost tanks attribution, with ringworms. Biologic agriculture courses, recycling training, La Pintana, Santiago. |
| Water Associations | Chile | 2012 | Organic cultivation and hydroponics courses. Organization of the Maipo River basin water rights, for farmers settled in the agro-residential development of La Pintana, Santiago |
| Municipality | Mexico | 2004 | Traditional knowledge and cultivation of the <i>chinampas</i> , Mexico City |
| Municipality | Brazil | 1998 | Green belt programme, including animal farming (ducks) in the fluvial islands of Belem. Fruit culture and horticulture promotion in the islands of Caratateua and Mosqueiro, Para state. |
| Municipality | Brazil | 1999 | “Feed Prudente” programme, ranging from technical assistance to seeds distribution to gardeners and farmers interested in cleaning and cultivating vacant plots, Presidente Prudente, S. Paulo state. |

Table 1: Urban agriculture promotion initiatives in Latin America

The second cultivated species was *Verbenaceae*, two species of *Aloysia*, respectively *triphylla* Royle and *citrodora* Paláu. A good digestive and mild tranquiliser, the infusion of the leaf ingested together with the native *Achyrocline satureioides* or the Asian *Camellia sinensis* L. was recommended to lower the cholesterol. With a similar percentage to the lemon verbena (33%), was then a European *Lamiaceae*, the Mediterranean *Rosmarinus officinalis* L.. The leaves were consumed in infusions or applied externally in anti-inflammatory and anti-rheumatic frictions, macerated in alcohol, but sometimes together with an Asian species, *Cinnamomum camphora* (L.) J. Presl, surprisingly well adapted to the Uruguayan climate.

| Origin | Therapeutic plant species (n.) | % |
|--------------------|--------------------------------|-------|
| American Continent | 23 | 32.9 |
| European Continent | 27 | 38.6 |
| Asian Continent | 12 | 17.1 |
| African Continent | 4 | 5.7 |
| Universal species | 4 | 5.7 |
| Total | 70 | 100.0 |

Table 2: Geographic origin of the plant species collected in Colonia del Sacramento

Overall, the obvious preference was *Ilex paraguariensis* A. St.-Hil., usually known as mate tea, in the past also farmed in Uruguay but not in Colonia del Sacramento. The species is traded in local supermarkets, herb trading posts and pharmacies, alone or in association with such species as *Peumus boldus* Molina, *Passiflora caerulea* L., and *Eugenia uniflora* L., particularly consumed

by the liver distressed Uruguayans interviewed. Other brands, national or imported from Argentina, Paraguay and Brazil, included *Baccharis trimera* (Less.) DC., *Achyrocline satureioides* and *Pimpinella anisum* L., consumed for their carminative power. Again, the mixture of herbs ingested twice a day, had a predominance of Native American and European plant species.

Less abundant were trees, as said, such as *Persea americana* Mill., *Tilia europaea* L., the mentioned *Cinnamomum camphora* (L.) J. Presl, and *Bauhinia forficata* Link. “The trees can recycle the soil phosphorus (P), calcium (Ca), magnesium (Mg) and potassium (K)”, but all the micronutrients are sourced externally when scarce trees are available (AJAYI ET AL, 2011: 130). In the home gardens of Colonia del Sacramento (24), 1/3 of the interviewed herb growers applied organic fertilisation, ranging from compost tanks with ringworms (8.3%), horse and cow manure (12.5%), leaf and branches (8.3%), to the organic soil traded in nurseries (4.2%). A total of 3 gardeners used chemical fertilisers (12.5%), and the majority (54.2%) didn’t fertilise their plots at all, because the River Plate shore city has adequate alluvial soils.

Conclusions and Outlook

In Colonia del Sacramento, the IICT mission collected data about twenty-four urban and peri-urban gardens, small in size but quite productive. They produced thirty-three different medicinal species (47%). Uruguayans resident in Colonia del Sacramento consumed a total of seventy plants. No herb healer was interviewed in this South American city, for herb consumers preferred to treat serious diseases with conventional medicinal practitioners and only reserved the herbal remedies for mild and chronic health troubles, as arthritis, rheumatism, asthma, gastritis. European medicinal flora is preferred to the Native American species, as an output of both the Iberian Peninsula nations colonisation and the Catholic religious orders pastoral developments.

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