

# Ayahuasca

## Substance, Medicine, Sacrament and A Sacred Being

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# **What is ayahuasca?**

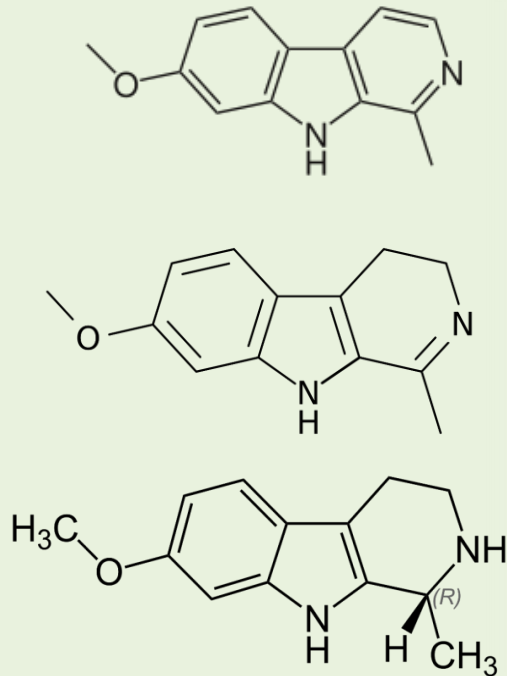
- A. Traditional medicine**
- B. Plant decoction**
- C. Controlled drug**
- D. Witchcraft potion**
- E. Religious sacrament**
- F. Don't know**



*Banisteriopsis caapi* vine stems

MAO-A inhibitors (harmine, harmaline)

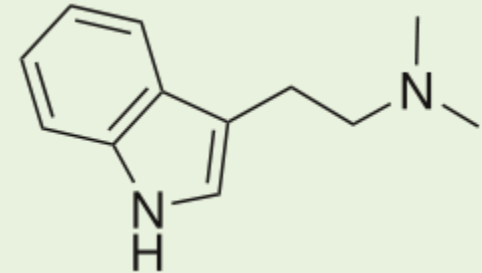
tetrahydroharmine



+

*Psychotria viridis* leaves:

N,N-dimethyltryptamine (DMT)



Psychedelic effect: visions, changed feeling and thinking , mystical experiences  
Physical effect: pulse and BP ↑, strange feelings in the body, nausea, vomiting



# Overview

- 1. Chemical composition of ayahuasca**  
chemical analyses of 102 ayahuasca samples
- 2. Psychology of ayahuasca users**  
questionnaires, psychological tests  
30 users + 30 controls
- 3. Making sense of ayahuasca: identities**  
interviews with 60 ayahuasca users



# Use of ayahuasca

- Amazonian indigenous ceremonies for healing and divination
- Sacrament for Brazilian religions *Santo Daime*, *Barquinha* and *Uniao do Vegetal*
- Ayahuasca rituals as a worldwide practice of new spirituality

# Ayahuasca analogues and additives

- Traditional admixture plants – to modify the effects
- Analogues – substitutes for the main constituents
  - “anahuasca” from other plants, e.g. *Peganum harmala*, *Mimosa tenuiflora*
  - “pharmahuasca” with extracted or synthetic MAOI + DMT



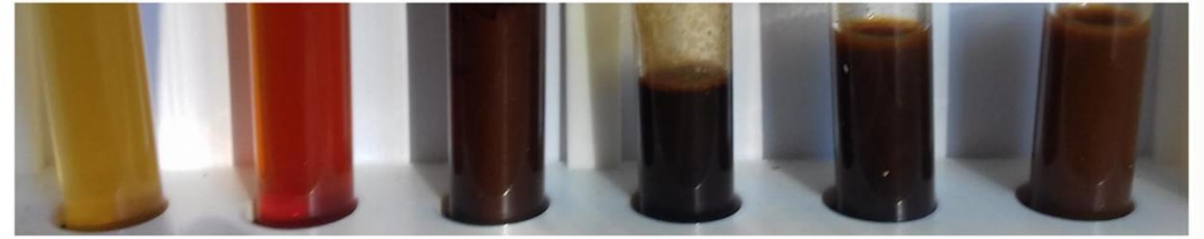


*Santo Daime feitio* – ritual cooking of the sacrament





1 2 3 4 5 6



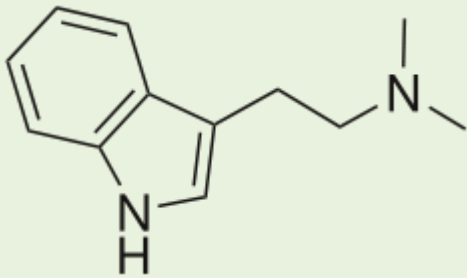
First grade Daime  
 3x1 Daime  
 4x1 Daime  
 Daime mel ("honey")  
 Daime from gel  
 Daime mixture



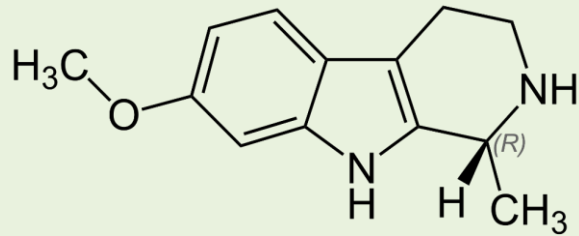
# 1. Chemical composition of ayahuasca

- we determined **concentrations** of 4 main bio- and psychoactive components of ayahuasca in 102 samples from different locations and traditions

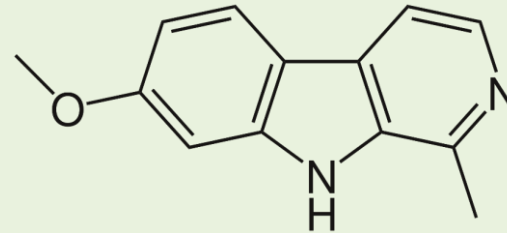
DMT



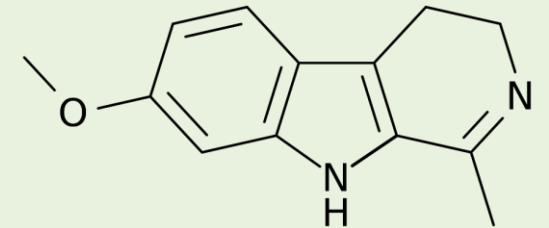
tetrahydroharmine (THH)



harmine (HME)



harmaline (HML)



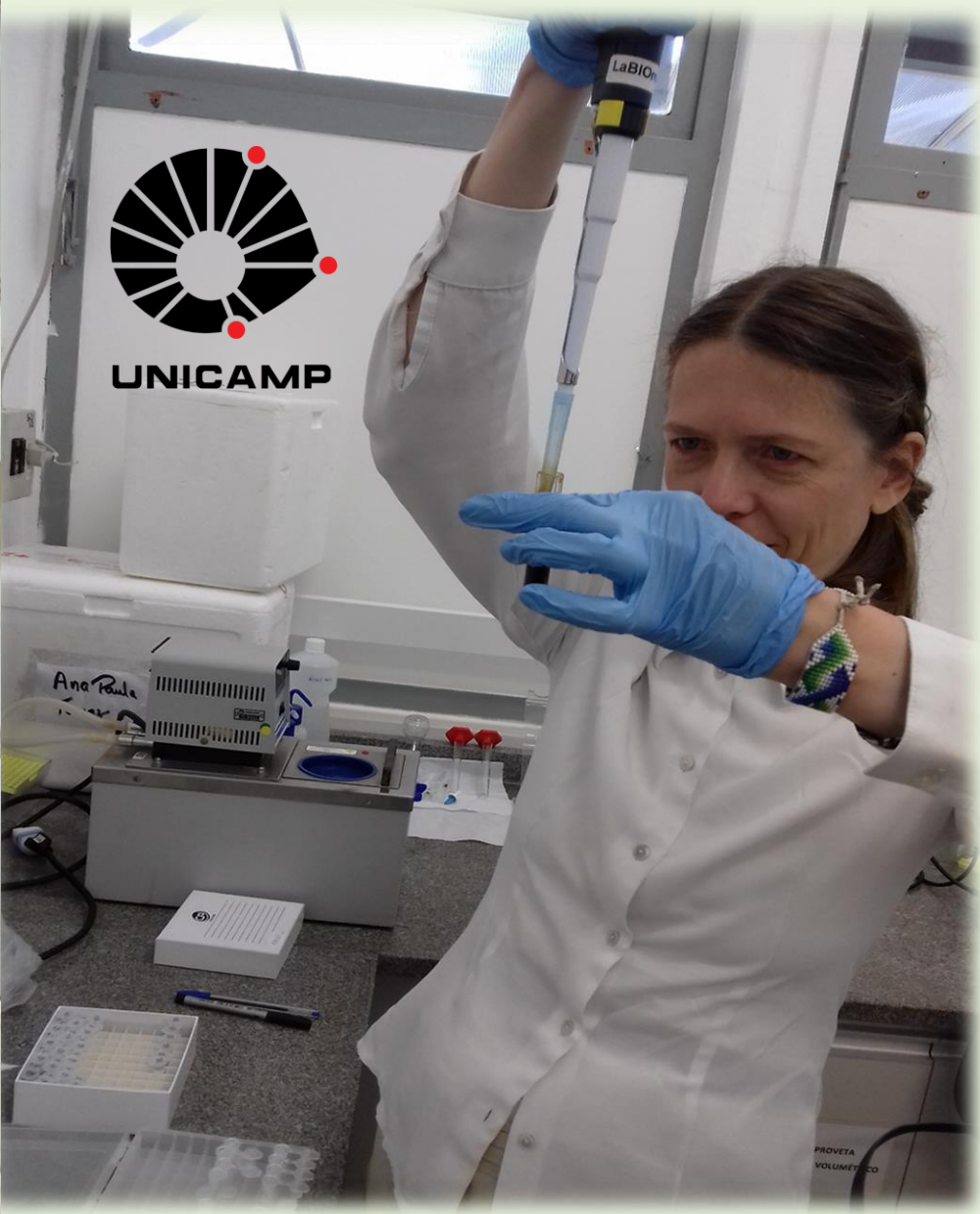
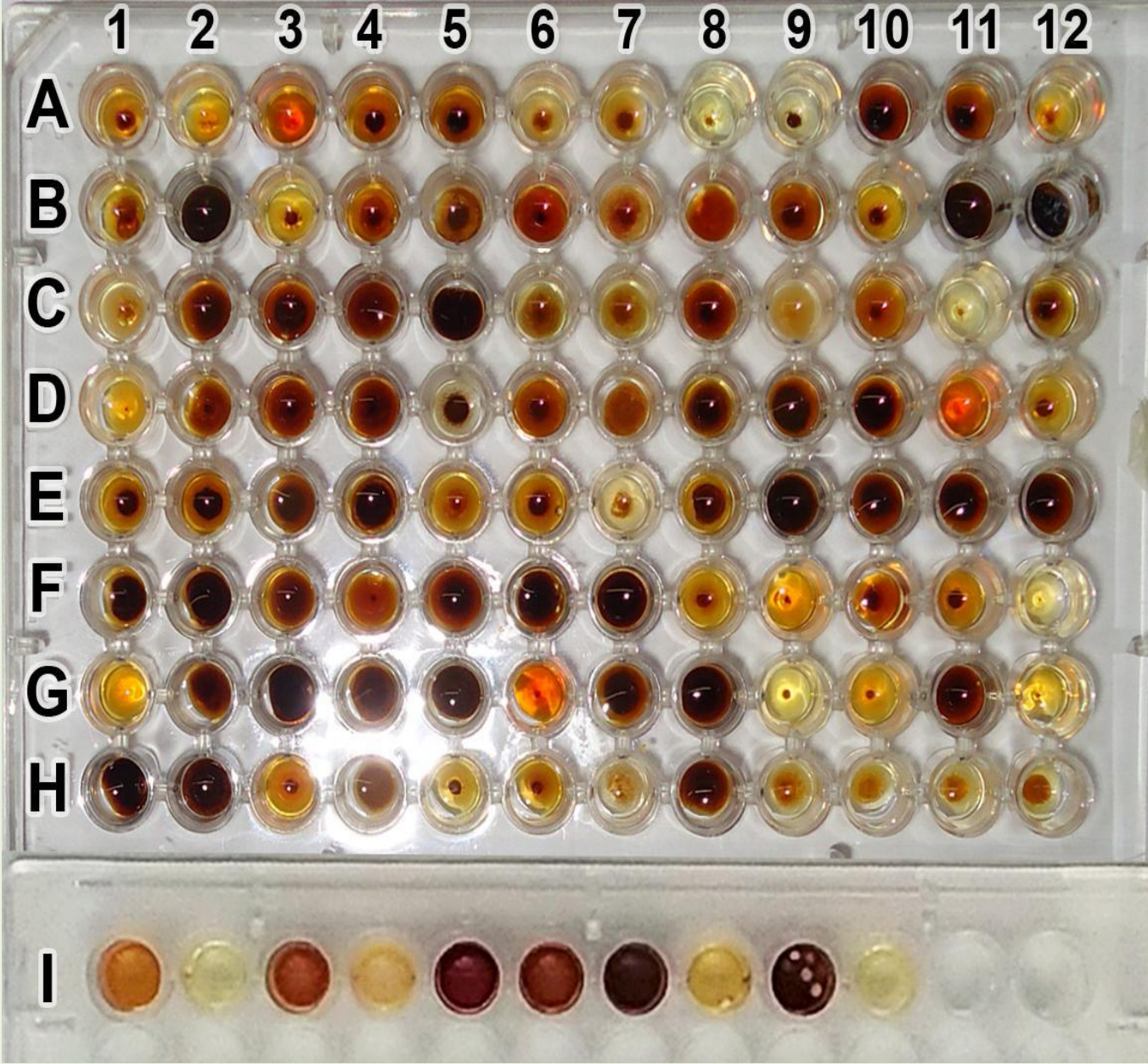
- we detected **additives / substitutes** in some brews used at ayahuasca ceremonies



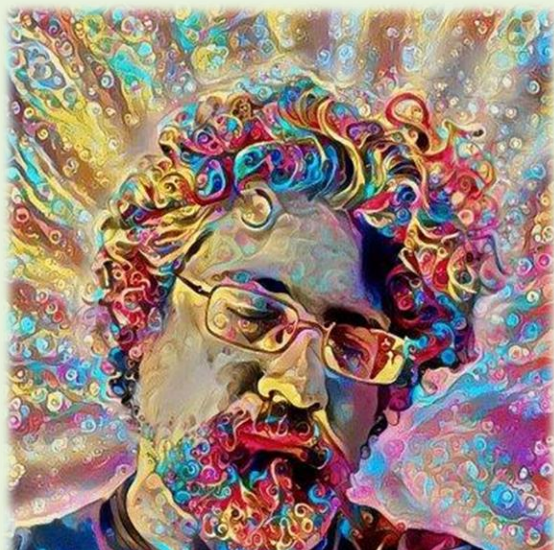
- **Fieldwork, participant observations**











**Luís Fernando Tófoli**

# Our Brazilian team



**Alessandra Sussulini**



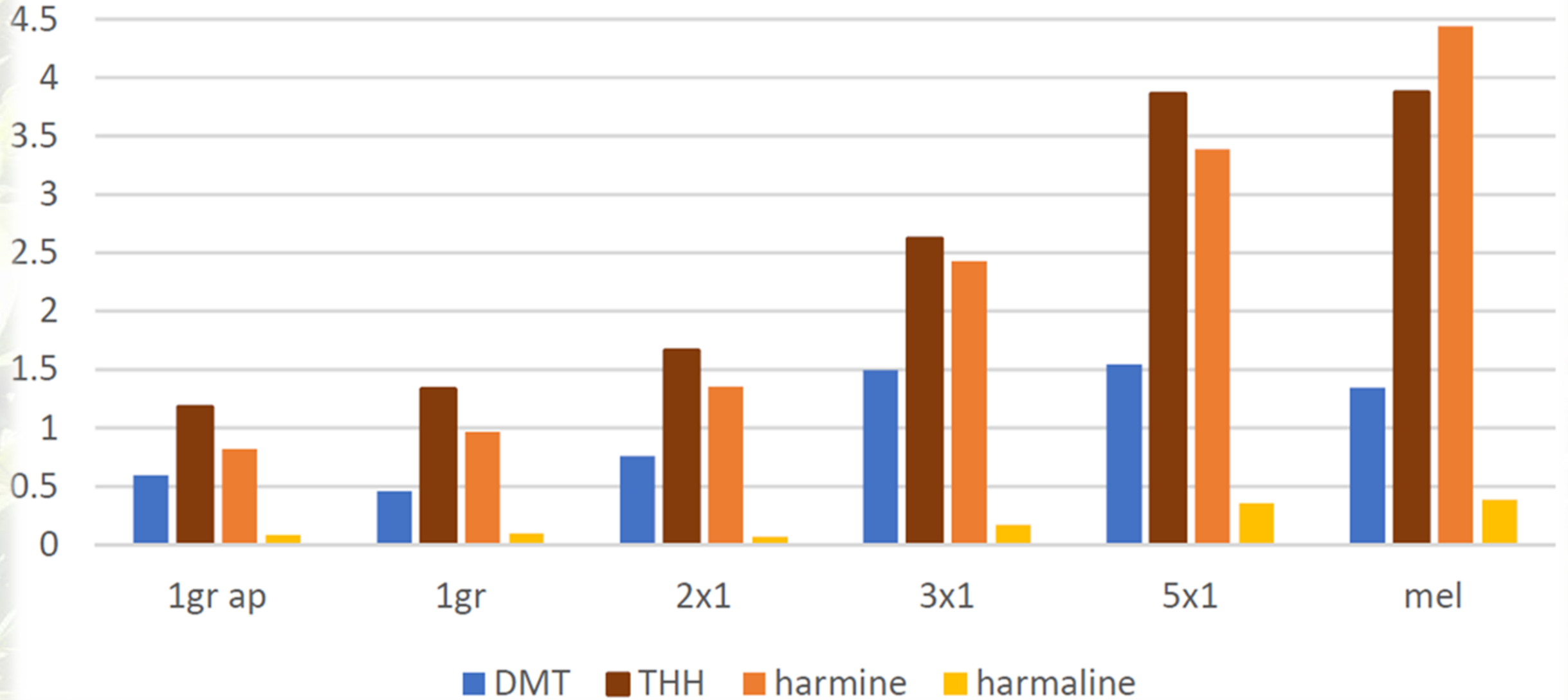
**Rita C. Z.  
Souza**



**Flávia S.  
Zandonadi**

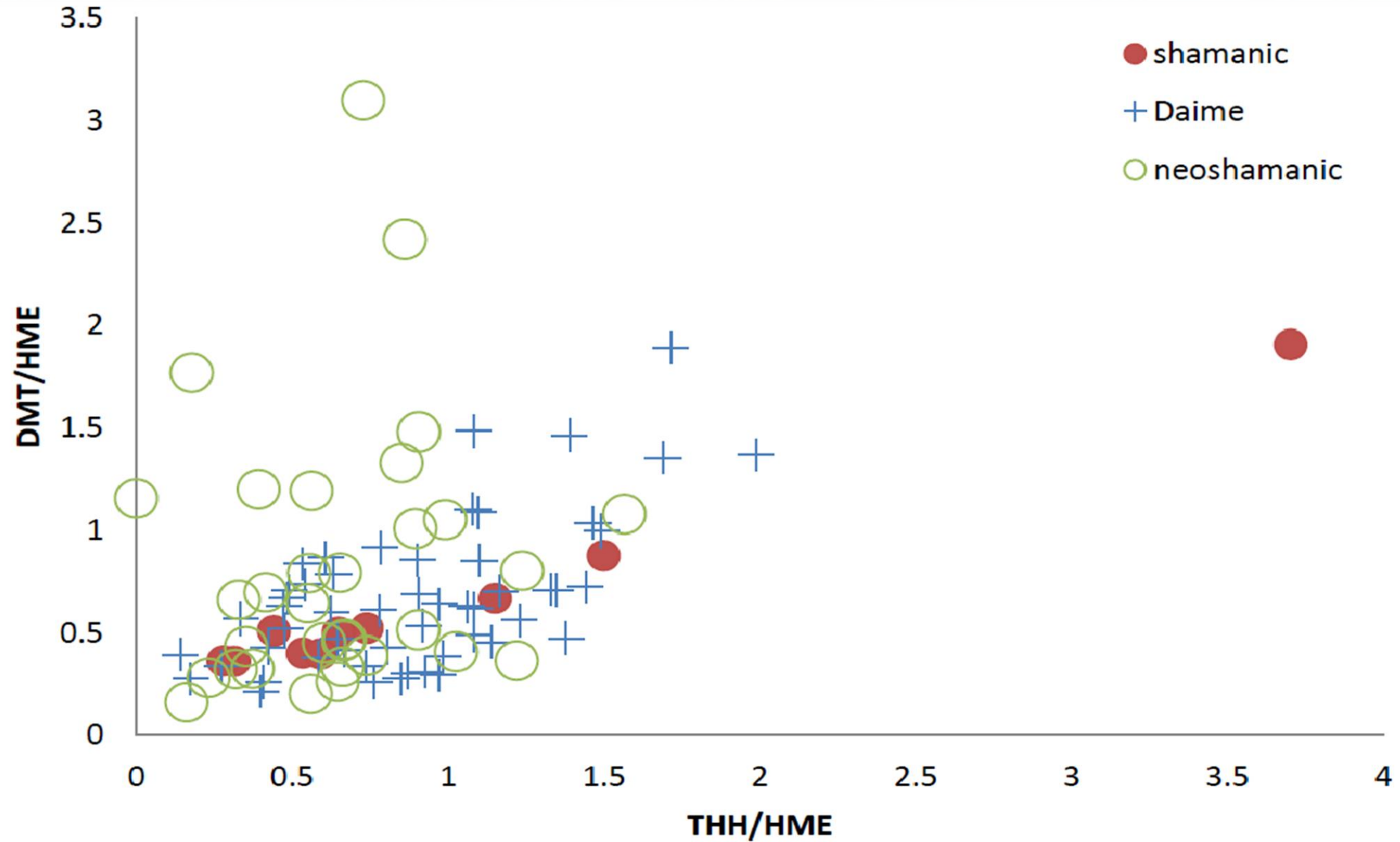


## Concentrations mg/mL





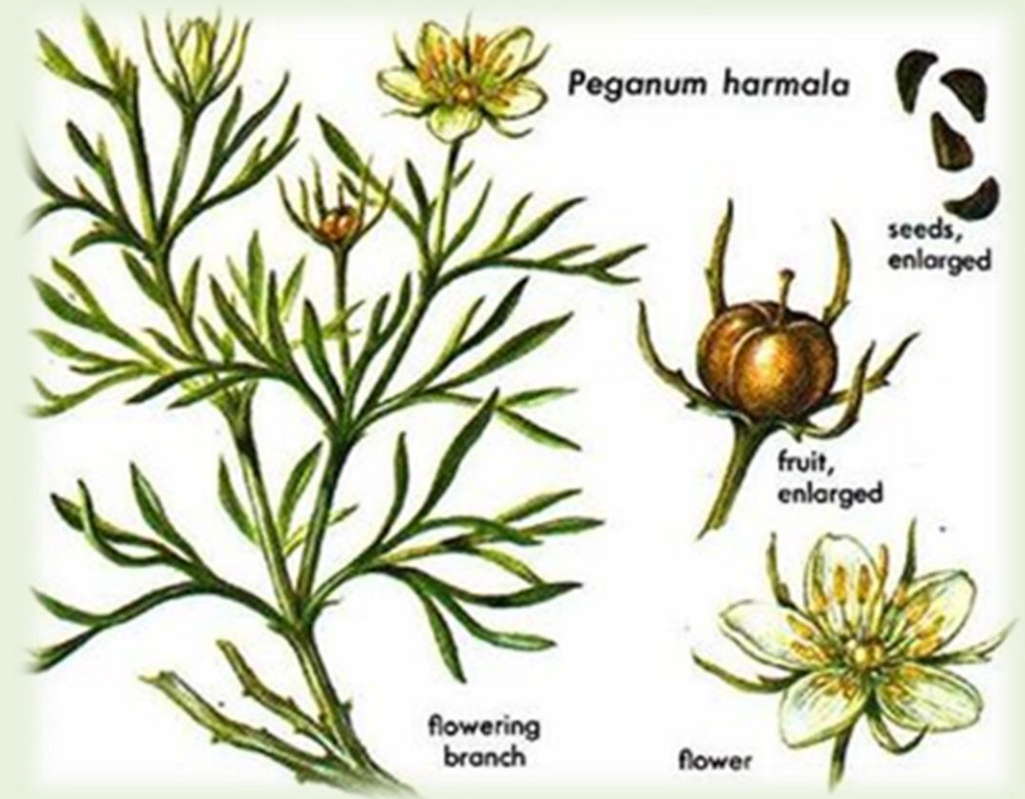
# Results: DMT, THH, harmine by context





# Ayahuasca analogues

Some use of **analogue plants** (*Mimosa tenuiflora*, *Peganum harmala*) in Europe was detected



<http://colplanta.plantsoftheworld.online/taxon/urn:lsid:ipni.org:names:508775-1>

<https://www.white-buffalo-trading.com/rue-wild-syrian.html#/>



# Fake ayahuasca

Two related samples of **psychonaut cocktails** offered as **ayahuasca** from Europe:

- moclobemide (a pharmaceutical MAOI antidepressant),
- psilocin,
- high concentrations of DMT from *Mimosa tenuiflora* (confirmed by presence of yuremamine)
- very low concentrations of *B. caapi* alkaloids.





# Conclusions: chemistry of ayahuasca

- It's diverse and complicated
- People don't know what they drink - especially outside South America and its religions



## 2. Psychology of ayahuasca users

30 ayahuasca users (15 female) and 30 matched non-users:

- questionnaires: ritual practices, subjective experience
- “objective” tests of personality (EE.PIP-NEO, SNAP-2) and mental health (EEK-2, MoCA, Raven Standard Matrices)
- MINI neuropsychiatric interview



# Subjective reports

Users saw their use of ayahuasca as a serious spiritual practice that has mostly good influences on their mental health, social adjustment and personal development.

## Main motives of use:

- spiritual development
- psychological and physical healing
- self-knowledge
- exploration of consciousness





# Long-term subjective effects

- + healthier lifestyle, physical and psychological healing
- + better psychological coping and relationships
- + increased self-knowledge
- + spiritual development
- +/- less fears, **especially fear of death**
- temporary disturbance of emotional balance, increased sensitivity
- difficult to integrate extraordinary experiences into everyday life



# **“Objective” indicators: mostly harmless**

- No abuse of ayahuasca, no addiction
- No deterioration of mental health or IQ
- Ayahuasca users had lower indicators of depression and anxiety (compared to control group)
- Higher life satisfaction and happiness
- Higher openness and agreeability
- Lower aggressiveness and neuroticism



# Conclusions: psychology of ayahuasca users

- No deterioration of mental health or quality of life
- Personality differences moderate and benign.
- Ayahuasca use described as a serious, mostly beneficial spiritual practice

**However, some issues remain:** adverse effects, commercialization and abuse

Helle Kaasik, Kairi Kreegipuu. 2020. "Ayahuasca Users in Estonia: Ceremonial Practices, Subjective Long-Term Effects, Mental Health, and Quality of Life." *Journal of Psychoactive Drugs*, <https://doi.org/10.1080/02791072.2020.1748773>.



### 3. Making sense of the ayahuasca experience

60 semi-structured interviews with Estonian ayahuasca users,  
in average 1.5 h each

“Aya-story”: the whole trajectory of the respondent from first memories about ayahuasca until the present moment and future plans.

- Finding ayahuasca
- Motivations and intentions
- First experience: preparation, ritual, experience, after-effects
- Repeated experiences, variability, future plans to partake or not
- Long-term effects, meaning of the experiences, life changes
- Ritual rules and regulation by the society



# Identities of participants

Known categories (combining, changing) appeared also in the interviews:

- seeking physical and psychological healing
- self-exploration, self-development, life-path and existential questions
- looking for spiritual experiences, connection with the spiritual world
- curiosity and seeking of extraordinary experiences

plus:

- random participants
- social reasons (looking for *communitas*, “wanting too”; sent by a friend; social pressure, helper for a friend)
- “hobby anthropologists” interested in the culture(s), the ritual, the shaman
- called by ayahuasca (“*the medicine chooses people*”)



# Identity of ayahuasca?

- **psychoactive substance:** - *“to try this new drug”*
- **medicine:**
  - *“I got healed of my physical and emotional problems”*
- **self-exploration /self-development tool:**
  - *“for self-discovery, to find out who I am without this ego”*
- **sacrament:** - *“a faith-based, religious sacrament”*
- **sacred being:**
  - *“the plant with higher consciousness, who helps to reach clarity”*
  - *“Mother Ayahuasca gives everybody what they need, not what they want”*























## Summary:

- Chemical composition of ayahuasca: it's complicated
- Mental health and quality of life among participants: mostly OK
- Identities of participants and ayahuasca: variable and multidimensional



# Picture sources

- [Luis Tamani Amasifuen: https://inbarela.tumblr.com/post/79036272064/artist-luis-tamani-amasifuen](https://inbarela.tumblr.com/post/79036272064/artist-luis-tamani-amasifuen)
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- <https://www.pinterest.com/pin/262123640782542573/>





## **Funding sources:**


**EU Regional Development Fund: Dora+ 1.1 & 1.2, Kristjan Jaak**

**Foundation Archimedes**

**CWT Estonia / Kaleva Travel**

**Fundação de Amparo à Pesquisa do Estado de São Paulo - FAPESP and INCT of Bioanalytics, Brazil**





**Big thanks to all the beings  
who helped me during the fieldwork,  
donated the ayahuasca samples  
and shared their wisdom and experience!**

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