

## PERSONAL INFORMATION

Surname: ARAMBARRI

City: La Plata

Names: Ana María

Country: Argentina

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## EDUCATION

**Doctor** (Exact Sciences Faculty, Department Biological Science, UNLP), **and**  
**Agronomist Engineer** (Agronomy and Forestry Science Faculty,  
Facultad de Ciencias Agrarias y Forestales), La Plata National  
University, Universidad Nacional de La Plata (UNLP), Argentina.

## SKILL

During 38 years (1979-2017) of teaching, and my research activity, I have developed my experience in the plants morphology and anatomy, and produced *ca.* 100 scientific articles published. I studied the genus *Lotus* L. (Fabaceae) from 1983 to 2005, principally seeds research, both morphology and cladistic analysis (which led me to make numerous publications and assistance to International Congress in USA and UK). Since 1993 to 2017 I have been dedicated to the anatomy of Spermatophytes, mainly species used in traditional medicine of Argentina, in order to provide useful tools in botanical quality control.

I created a Seed Herbarium (1980). I was Specimen Herbarium Director, indexed as La Plata Agronomy (LPG) (1997-2010), and Laboratory Director of Compared Morphology of Spermatophytae, Laboratorio de Morfología Comparada de Espermatófitas (LAMCE) (2015-2018), in Faculty of Agrarian and Forestry Sciences, La Plata National University. Since September 2017 I have retired as plant morphology Professor. In 2018, I deposited in the UNLP Repository (SEDICI) a work, on the morphology of Diaspores and Seeds of 200 species of wild plants (weeds). In the same year, I began to contribute with my morphology-anatomy experience in investigation studies as voluntary researcher of the National University of La Plata (UNLP).

## WORK

**Professor full time** in Plants Morphology and Anatomy,  
Faculty of Agrarian and Forestry Sciences, National University of La Plata  
(UNLP).

Period: from August 1993 to September 2017.

**Assistant teacher full time** in Systematic and Plants Morphology and Anatomy,  
Faculty of Agrarian and Forestry Sciences, UNLP.

Period: June 1979 to August 1993.

**Events of Teaching:** 11 from 1984 to 2012.

**Evaluation of Teaching:** 45 from 1995 to 2017.

## COURSES AND SEMINARS DICTATE (Postgraduate)

Professor: 1995, 1999, 2003, 2005, 2007, 2008, 2011, 2012, 2015, 2018.

## HUMAN RESOURCES TRAINING

**Fellow students, Intern students, Thesis: 26**

**Thesis evaluations: 16**

## SCIENTIFIC ARTICLES PUBLISHED

**Total: 88 Sci. articles + (books: 5 and chapter of books: 5)**

**Last five years (2017-2022): 17**

1. Carbone, A. V., **A. M. Arambarri**, M. Yanniccarri, A. Larsen,; F. Pardo; C. A. González. **2021. Effect of hormonal herbicides on germination and initial growth of five commercial varieties of *Triticum durum* "durum wheat".** *Rev. Malezas* 6: 4-15. ISSN 2683-9180. Asociación Argentina de Ciencias de las Malezas (ASACIM).
2. Carbone, A. V., F. E. Fernández, M. P. Hernández, S. M. Martínez Alonso & A. M. **Arambarri. 2021. Morpho-anatomical features of the leaves and stems of *Baccharis notosergila* (Asteraceae) and their relationship with the environment and chemical control.** *Bol. Soc. Argent. Bot.* 56(4): 423-444.  
Doi: <https://doi.org/10.31055/1851.2372.v56.n4.33519>.
3. **Arambarri, Ana M.** & Marcelo P. Hernández. **2021.** New traits to differentiate *Datura ferox* and *D. stramonium* seeds (Solanaceae). UNLP, *CsMorfol* 21: 11-18. ISSN 1851-7862.
4. Malaissi, Luciano, Cristian A. Vaccarini, Marcelo P. Hernández, Marcela Ruscitti, Cecilia Arango, Federico Busquets, **Ana M. Arambarri**, Leda Giannuzzi, Dario Andriolo and Daniela Sedan. **2020. [D-Leu<sup>1</sup>]MC-LR and MC-LR: a small-large difference: significantly different effects on *Phaseolus vulgaris* L. (Fabaceae) growth and phototropic response after single contact during imbibitions with each of these microcystin variants.** *Toxins* 12: 585. Doi: 10.3390/toxins1290585
5. Carbone, A. V., Hernández, M. P., **Arambarri, A. M.**, Yanniccarri, M., Gigón, R., Benavídez, S. & Cadavid, E. **2020. Respuesta de variedades silvestres de *Brassica rapa* (Brassicaceae) a la aplicación de 2,4-D.** *Rev. Malezas* 4: 4-16. ISSN 2683-9180. Asociación Argentina de Ciencia de las Malezas.
6. Hernández Marcelo P.; Vanesa G. Perrotta; Noelia C. La Valle; Leandro M. Nughes; Marta N. Colares; María C. Novoa; **Ana M. Arambarri. 2019. Leaf micrographic parameters and histochemical in the identification of twelve climb medicinal plants in the Rio de la Plata (Argentina).** [Parámetros micrográficos foliares e histoquímica en la identificación de doce especies trepadoras medicinales rioplatenses (Argentina)]. *Lilloa* 56(1): 24-53. doi.org/10.30550/j.lil/2019.56.1/3 á.

7. Hernández, M. P. & A. M. Arambarri. 2019. **Starch and rhizomes of marsh medicinal plants of wetlands of the Rio de la Plata (Buenos Aires, Argentina).** [Rizomas y almidón de plantas palustres medicinales y alimenticias de los humedales del Río de la Plata (Buenos Aires, Argentina)]. *Dominguezia* 35(1): 75-79.
8. Hernández Marcelo P. & Ana M. Arambarri. 2019. **Anatomy and qualitative analysis of saponins, resins and essence oils in *Pascalia glauca* organs (Asteraceae).** [Anatomía y análisis cualitativo de saponinas, resinas y aceites en los órganos de *Pascalia glauca* (Asteraceae)]. *Bol. Soc. Argent. Bot.* 54(3): 313-323.  
<http://dx.doi.org/10.31055/1851.2372.v54.n3.25356>.
9. Hernández, M. P. y A. M. Arambarri. 2019. **Seasonal variation of starch density in rhizomes of *Canna glauca* and *C. indica* (Cannaceae).** [Variación estacional de la densidad de granos de almidón en rizomas de *Canna glauca* y *C. indica* (Cannaceae)]. *Lilloa* 56(2): 37-46. doi.org/10.30550/j.lil/2019.56.2/3.
10. Carbone, A. V., F. E. Fernández, M. P. Hernández & A. M. Arambarri. 2019. **Morphoanatomy, histochemistry and crystals of the underground system of *Baccharis notosergila* (Asteraceae).** *Bol. Soc. Argent. Bot.* 54(4): 519-532. DOI: <http://dx.doi.org/10.31055/1851.2372.v54.n4.24930>. ISSN versión on-line 1851-2372. Versión impresa: 0373-580X.
11. Arambarri, A. M. 2018. **Diasporas and seeds.** (Diásporas y semillas). Site repository for the dissemination of intelectual creation of the UNLP, Argentina.  
<http://www.sedici.unlp.edu.ar/handle/10915/68659> 27/08/2018.
12. Valerga, L., M. Darré, M. J. Zaro, A. Arambarri, A. R. Vicente, M. L. Lemoine, A. Concellón. 2018. **Micro-structural and quality changes in growing dark-purple eggplant (*Solanum melongena* L.) as affected by the harvest season.** *Scientia Horticulturae* 244: 22-30. [www.elsevier.com/locate/scihorti](http://www.elsevier.com/locate/scihorti). ISSN 0304-4238,
13. Perrotta, V. G.; A. M. Arambarri. 2018. **Cladodes anatomy of *Opuntia* (Cactaceae) from the province of Buenos Aires (Argentina).** *Bol. Soc. Argent. Bot.* 53(3): 345-357. <http://dx.doi.org/10.31055/1851.2372.v53.n3.21310>.
14. Arambarri, A. M. 2018. **The “Clarification technique 5-5-5”, a natural method to treat plant material.** (La “técnica de clarificación 5-5-5”, un método natural para el tratamiento de material vegetal). *Bol. Soc. Argent. Bot.* 53(4): 579-586. ISSN 0373-580X; on-line 1851-2372. <http://dx.doi.org/10.31055/1851.2372.v53.n4.21980>.
15. Perrotta VG, MP Hernández, AM Arambarri. 2017. **Anatomy of subterranean organs of four medicinal Dicotyledons from rioplatense area (Argentina). II. Marsh plants.** [Anatomía de los órganos subterráneos de cuatro Dicotiledóneas medicinales rioplatenses (Argentina). II. Plantas palustres]. *Lilloa* 54 (2): 229-239. ISSN 0075-9481. doi.org/10.30550/j.lil
16. Colares Marta N.; Santiago M. Martínez Alonso; Etile Spegazzini; Marcelo P. Hernández; Vanesa G. Perrotta; María C. Novoa; A. M. Arambarri. 2017. **Anatomy and histochemistry of subterranean organs of medicinal climbing plants in Rio de la Plata area (Argentina).** [Anatomía e histoquímica de los órganos subterráneos de plantas trepadoras medicinales rioplatenses (Argentina)]. *Lilloa* 54 (2): 123-140. doi.org/10.30550/j.lil
17. Auguet S., S. Arreghini, R. J. M. Serafini, A. Arambarri, A. F. de Iorio. 2017. **Effect of Pb stress in *Ludwigia peploides* and *Hydrocotyle ranunculoides*.** (Efecto del stress por

plomo en *Ludwigia peploides* e *Hydrocotyle ranunculoides*). *Biología Acuática* 32: 1-15.  
ISSN 1668-4869. e-ISSN 0326-1638. URL <http://www.conicet.gov.ar>.

## CONFERENCES, MEETINGS, RESEARCH SIMPOSIA

Events: 53

Research studies presented: 66

Last five years (2016-2021):

1. Event: “Thirty eight Meeting of Argentinian Society of Botany. Organized by Botanical Garden “Oro Verde”, Paraná city, Entre Ríos province, Argentina. Date: September 6-9, **2021 (virtual)**.
  - Hernández, MP, **Arambarri, AM**, Calonge, F, Katinas, L, Morandi, L, Carrasquero, S. **2021. Xeric anatomical adaptations of *Hoffmannseggia minor* (Fabaceae) in the Desierto del Diablo, Salta province, Argentina.** Abstract: *Bol. Soc. Argent. Bot.* 56(S): 81-82.
  - Hernández, M. P., Carbone, A. V., Alberto, C., **Arambarri, A. M.** **2021. Histochemical and pollen analysis of *Plantago lanceolata* (Plantaginaceae).** Abstract: *Bol. Soc. Argent. Bot.* 56(S): 82.
  - Carbone, AV, Hernández, MP, Fernández, F, Rodríguez Guiñazú, A, **Arambarri, AM.** **2021. *Baccharis notosergila* (Asteraceae), predominant weed in “El Amanecer” farm, Buenos Aires, Argentina.** Abstract: *Bol. Soc. Argent. Bot.* 56(S): 207-208.
2. Event: “Third International Congress of weeds”. ASACIM. 9-10 June **2021**. Virtual
  - Carbone, AV, Fernández, FE, Hernández, MP, Martínez Alonso, S, **Arambarri, A M.** **2021. *Baccharis notosergila* (Asteraceae): relationships among aerial organs features and environment and chemical control.** [www.malezas2021.com.ar](http://www.malezas2021.com.ar) Pp. 74-75.
  - Carbone, AV, **Arambarri, AM**, Yannicari, M, Larsen, A, Pardo, F, González, CA. **2021. Effects of Hormonal pesticides on germination and initial growth in five varieties of *Triticum durum* “trigo duro”.** [www.malezas2021.com.ar](http://www.malezas2021.com.ar) Pp. 139-140.
3. Event: Fifth International Congress of Astrobiology (virtual). University of Atlantic and Institute of Astrobiology, Colombia. 11-14 Nov. **2020**. [www.astrobiologia.org](http://www.astrobiologia.org)  
<https://youtube.com/playlist?list=PLnRv5RvB6D9GoffX0ygA0MoSEnOOeF7vu> Presentaciones números 27 y 68.
  - Hernández, MP, Carbone, AV, **Arambarri, AM.** 2020. **Importance of weeds as food and life support resource in long-term space missions.**
  - Hernández, MP, Carbone, AV, **Arambarri, AM**, Carrasquero S, Morandi LA, Calonge F, Araujo M & Gutiérrez MT. 2020. **Vascular plants from Puna and high Andean areas of Salta province, Argentina, for the terraforming of Mars.**
4. Event. “thirty seventh Meeting of Argentinian Society of Botany. Organized by Institute “Miguel Lillo”, San Miguel de Tucuman, Tucuman province, Argentina. Date: September 9-13, **2019**.
  - Carbone, AV, Fernández, F, **Arambarri, AM**, Oyhamburu, M, Urdampilleta JI. **2019. Morphoanatomy of subterranean organ of *Baccharis notosergila* (Asteraceae): subshrub weed from Pampean Steppe.** Abstract: *Bol. Soc. Argent. Bot.* 54(S): 76.

- Hernández, MP, Arambarri, AM, Calonge, FS, Katinas, L y Morandi, LA. **2019.** **Traditional use of puneñas plants in the town of Tolar Grande, Salta province (Argentina).** Abstract: *Bol. Soc. Argent. Bot.* 54(S): 173-174.
  - Carbone, AV, Garbi, M, Martínez, S, Arambarri, AM, de Caboteau A, Morini, M. **2019.** **Compatibility of tomato plants used as a foot and graft cup.** Abstract: *Bol. Soc. Argent. Bot.* 54(S): 190.
- 5. Event:** “Seventh International Congress of Science and Technology of Foods” (CICYTAC). Cordoba, October **2018**.
- Strack KN, Colares MN, Arambarri AM, Dini C; Viña S. **2018.** **Anatomy compounds of fibrous residues obtained from processed ahipa *Pachyrhizus ahipa* (Fabaceae) roots.** Investigation and development in Criotechnology of Foods (CIDCA, UNLP), Compared Morphology of Spermatophytæ Laboratory (LAMCE, UNLP), Department of Exact Science and Biology, Agrarian Science and Forestry Faculty, National University of La Plata (UNLP).
- 6. Event:** “Sixth National Meeting on native Aromatic Plants and their essence oils” Organized by Pharmacy and Biochemical Faculty, National University of Buenos Aires (UBA), Argentina. Date: November 28-30, **2018**.
- Hernández, MP & AM Arambarri. **2018.** **Anatomy and essence oils in *Pascalia glauca* (Asteraceae) organs.** LAMCE, UNLP. Abstract: *Dominguezia* 34(S): 35.
- 7. Event:** “Thirty sixth Argentina Botany Meeting. Sociedad Argentina de Botánica, Salta city, Salta province, Argentina. Date: September 18-22 **2017**.
- Hernández MP, Arambarri AM, Calonge F, Fernández V, Sona MF. **2017.** **Plants used in popular medicine in humedales of Magdalena, Buenos Aires, Argentina.** LAMCE. Abstract: *Bol. Soc. Argent. Bot.* 52 (Supl.): 172. ISSN 0373-580X.
  - Ruscitti M, Hernández MP, Arambarri, AM, Arango M, Garita S, Bernardo V. **2017.** **Morpho-anatomy alterations in plants of pimiento (*Capsicum annuum* L.) caused by cooper stress.** Physiology Institute of Vegetables (INFIVE) and Laboratory of Compare Morphology of Spermatophytes (LAMCE). Abstract: *Bol. Soc. Argent. Bot.* 52 (Supl.), p 277. ISSN 0373-580X.
- 8. Event:** “Ninth Iberoamerican Congress of Postharvester Technology and Agribusiness”. Agronomy Science Faculty, National Institute of Agropecuarian Investigations (INIA), Chile. December **2017**.
- Valerga, L, Darré M, Zaro M. José, Arambarri AM, Andrade MJ, Vicente A, Lemoine ML, Concellón A. **2017.** **The harvest season affects the seed content and anatomy of violet eggplant fruit.** *Rev. Iber. Tecnología Postcosecha* 18(2): 129-136. ISSN 1665-0204. Ibero American Society of Postharvest Technology, Chile.

## EVALUATIONS: PROGRAMME, PROJECTS, REVIEW, PEER REVIEW

### Member of Scientific Committee

*Latin American Journal of Pharmacy* (formely Acta Farmacéutica Bonaerense) 2004-2016.  
**Yvyraretá, Forestry**, Misiones province, Argentina. Two from 2014-----

**Evaluations of Projects:** 40 from different Institutions (from 2004-----)

**Evaluations of Projects:** as Commission member of CONICET: 12 from 2011-----.

**Laboratory Evaluations:** Lab of vegetative propagation, conservation and domestication of plant genetic resources (LAPROVECO). Dir. Rocha, Sandra. Codir. Niella Fernando. National University, Misiones province, Argentina. Nov 2021.

### Review books and book chapters

- Reviewer of an article for a chapter of book, Santiago del Estero National University, Universidad Nacional de Santiago del Estero (UNSE), Argentina. May **2021**.
- “Plants “**Classifications and Systematic of Gimnosperms**”. **2008**. National University of the Centre of Buenos Aires province (Tandil), (UNCBA), Argentina.
- Tribe *Loteae*. “**Fruits and seeds of genera in the subfamily Faboideae (Fabaceae)**”. Autores: Joseph H. Kirkbride, Jr., Charles R. Gunn, and Anna L. Weitzman. **2003**. *Technical Bull.* 1890. Vol. 1 y 2. Págs 1212. *Agricultural Research Service, United State Department of Agriculture*, (ARS/USDA).

**Scientific articles:** Peer review (from 1999).

### Last five years (2017-2022) as follows:

- *Advanced in Medicinal Plant Research (AMPR)*. Ms **AMPR 011 May 2021**.
- *Annual Research & Review in Biology (ARRB)*. Apr **2017**, Ms 53724 Dec **2019**, Ms 54514 Jan **2020**.
- *Asian Journal of Advances in Agricultural Research (AJAAR)*. Ms 54498 Feb **2020**.
- *Asian Journal of Agricultural and Horticultural Research (AJAHR)* Ms 54533 Jan, Ms 55122 Feb **2020**. Ms 88604 Jun **2022**.
- *Asian Journal of Agricultural Extension, Economics & Sociology (AJAEES)* Ms 64687, 14 Jan **2021**.
- *Asian Journal of Advanced Research and Reports (AJARR)*. Ms 53806. **2019**.
- *Asian Journal of Biology (AJOB)* ISSN: 2456-7124. **2018**. Ms 70190, **2021** Ms 89691. **2022**.
- *Asian Journal of Research in Agriculture and Forestry (AJRAF)*. Ms 52498 Oct **2019**. Ms 56023 Apr **2020**.
- *Asian Journal of Research in Botany (AJRBI)*. Ms 56016 Apr **2020**.
- *Asian Journal of Research in Crop Science (AJRCS)*. Ms 48843, 23 Apr **2019**.
- *Asian Plant Research Journal (APRJ)* Twice: **2019**.
- *Asian Research Journal of Agriculture (ARJA)* **2017**; Ms 67183, 25 Mar **2021**.
- *BIONATURE* ISSN 0970-9835 Manuscrito BN 52. 7 Jul **2018**.
- *Biotechnology Journal International (BJI)*: Ms 56035 Apr **2020**.
- *Boletín de la Sociedad Argentina de Botánica*. Seven **2007-2018**.
- *Current Journal of Applied Science and Technology (CJAST)*. Mar **2018**. Ms 51874 Sep **2019**. Ms. 54317 Jan, Ms 54478 Feb, Ms 55725 Mar **2020**.
- *European Journal of Medicinal Plants (EJMP)*. MS EJMP-29040. Jun, Aug **2019**, Feb **2020**, Mar **2022**.
- *International Advances in Research (AIR)* Apr **2018**.
- *International Asian Journal of Environment and Ecology (AJEE)* 41207. ISSN: 2456-690X. India. Apr **2018**.
- *International Journal of Agricultural Extension, Economics & Sociology*. Nov. **2017**

- *International Journal of Biotechnology and Bioresource Technology*. Nov. **2017**.
- *International Journal of Environment and Climate Change (IJECC)*. Ms67067, Apr **2021**. Ms86398, Apr **2022**, Ms 88238, Jun **2022**, Ms 88708, Jun **2022**, Ms 88901 Jun **2022**.
- *International Journal of Pathogen Research (IJPR)*: Ms 56303 Apr **2020**. Ms 88585 Jun **2022**.
- *International Journal of Plant & Soil Science (IJPSS)*. Ms 50753 Aug, Ms 52501 Oct **2019**. Ms 56252 Apr, Ms 55380 Apr **2020**, Ms 79463 Dic **2021**, Mar **2022**, Ms.89526, Jul **2022**.
- *International Journal of Plant Science*. ISSN · 1058-5893. [University of Chicago Press](#). **2017**.
- *International Research Journal of Pure and Applied Chemistry (IRJPAC)*. ISSN: 2231-3443. Doi: <http://dx.doi.org/10.9734/irjpac> Ms: 46775. Jan **2019**.
- *Journal of Advances in Biology & Biotechnology (JABB)* Ms50655, Jul **2019**.
- *Journal of Advances in Microbiology (JAMB)* Ms 62161 Oct **2020**.
- *Journal of Agriculture and Ecology Research International (JAERI)*. **2019**.
- *Journal of Applied Life Sciences International (JALSI)* Ms 54705, Feb **2020**.
- *Journal of Complementary and Alternative Medical Research (JOCAMR)* Ms 61489 Sep **2020**.
- *Journal Experimental of Agriculture International (JEAI)*. Fifteen times: **2018-2020**. Ms 74959, Oct **2021**.
- *Journal of Engineering Research and Reports (JERR)*. Ms 54838 Feb, Ms 55880 Mar **2020**.
- *Journal of Scientific Research and Reports (JSRR)* Ms 54260, Jan **2020**.
- *Journal of Pharmaceutical Research International (JPRI)*. Ms\_72567, Aug **2021**; Ms 82425, Jan **2022**.
- *Latin American Journal of Pharmacy* (formerly Acta Farmacéutica Bonaerense). Thirty five times from **2004-2016**.
- *Dominguezia*, University of Buenos Aires. Feb **2021**.
- *Lilloa*, Miguel Lillo Foundation, Tucumán, Argentina. Aug **2020**, Jul **2021**.
- *Mesoamerican Journal of Agronomy* (Costa Rica) ISSN electronic: 2215-3608. **2017**.
- *Microscope and Microanalysis (MAM)*. Ms 22-119. May, Jul **2022**.
- *New Zealand Journal of Botany (RSNZ Publishing)*. ISSN 0028-825X. Twice: **2017** y **2019**.
- *Plant Cell Biotechnology and Molecular Biology (PCBMB)* Ms 7008 Jan, Ms 7240 May, Ms 056 Aug, Ms 7834 Aug, **2020**; Ms 8581 Jan; Ms 8818 Mar; Ms 9869 Oct; Ms 10102 Nov; Ms 10118 Dic **2021**. Ms 10813, Jun **2022**, Ms 10843, Jun **2022**.
- *Polibotánica* (Mexico) Oct. **2021**.
- *Revista Colombiana de Ciencias Hortícolas (Colombian Journal of Horticultural Science) de la Sociedad Colombiana de Ciencias Hortícolas, SCCH*). Ms 11233, Nov. **2020**.
- *Revista de la Sociedad Científica del Paraguay*. Aug **2021**, Jun **2022**.
- *Springer Nature, Scientific Reports Journal*. Aug **2021**.

## OTHERS ACTIVITIES

**Creation “Diaspore and Seeds Herbarium”**, Agrarian Science and Forestry Faculty, National University of La Plata (UNLP). August **1980** with 2500 samples in **2017**.

**Director of “Specimens Herbarium”**, La Plata Agronomy Faculty (LPAG) indexed (Period: **1997-2010**).

**Director of “Laboratory of Compared Morphology of Spermatophytes”**, Agrarian Science and Forestry Faculty, National University of La Plata (UNLP) (Period: **2015-2018**).

## **PROJECTS last five years**

**“Soil, underground water and vegetation studies, as a basis to define the management techniques according environment in the Magdalena region, Buenos Aires, Argentina”.**

**2021-2024.** Director: Margarita Alconada, Codirector: Alejandra Carbone. Projects **11/A360**. La Plata National University (UNLP). Accredited: Jan 1, 2021.

➤ As a part of this project, we have two papers published (cited above).

and we continuous doing other studies on *Baccharis notosergila* (Asteraceae), and other species.

**“Evolutionary radiation of the plant family (Asteraceae) in southern South America”.**

**2017-2020.** Director: Liliana Katinas. National Agency for Scientific and Technological Promotion (ANPyCT). **PICT 2017-0965**, subsidy. Presented: final inform.

**“Extremophyles of Northwestern (Salta province), Argentina”.** Extremófilas del noroeste (provincia de Salta), Argentina. **2018-2021.** Director: Marcelo P. Hernández. Without subsidy. Presented: two memories.

**“Anatomy of the vegetative organs in rioplatense medicinal plants of Spermatophytæ. II.**

**Hydrophyte and climbing plants”.** Anatomía de los órganos vegetativos medicinales de Espermatófitas rioplatenses. II. Hidrófitas y trepadoras”. **2015-2018.** Director: Ana Arambarri. **11/A275**. National University of La Plata (UNLP), accredited with subsidy. Approved: final inform.