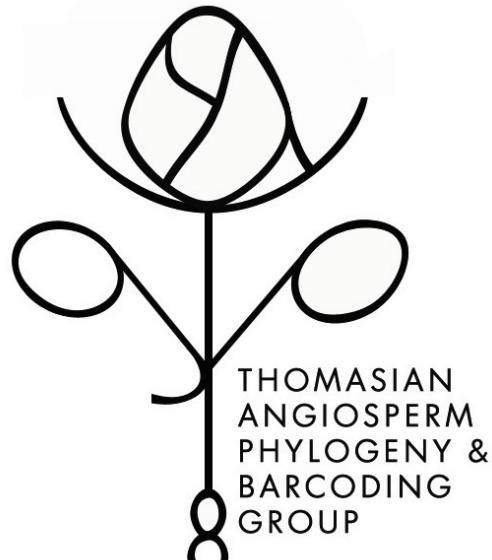


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**About the Researcher**



**Grecebio Jonathan Alejandro** is a Professor at the College of Science and the Graduate School, University of Santo Tomas, and Supervising Scientist of the UST-GS. Alejandro is recognized in his pioneering efforts on Plant Molecular Phylogenetics in the Philippines and discovery of novel genus and several species particularly in the family Rubiaceae. He was awarded an Alexander von Humboldt (AvH) Postdoctoral Fellowship for two years (2009-2010). His German hosts were Prof. Dr. Sigrid Liede-Schuman and PD. Dr. Ulrich Meve (University of Bayreuth, Germany) and Dr. Mike Thiv (Natural Museum of Stuttgart, Germany). During his AvH fellowship, he was also awarded a Europe Research Stay where he joined the group of Dr. Arnaud Mouly (Université de Franche-Comté, Besançon, France) for Dating analyses, DIVA analyses, Data interpretation on Phylogeny and Biogeography. He was able to published Molecular Phylogeny and Taxonomic revisions of the endemic genera of Philippine Rubiaceae. An AvH Return Fellowship was also awarded in 2011 to continue his research works back in the Philippines.

Alejandro was a recipient of Deutscher Akademischer Austauschdienst (DAAD) Doctoral Fellowship(2001-2005) and received his Dr.rer.nat. in Plant Systematics and Evolution from the University of Bayreuth, Germany, Magna Cumlaude in 2005, and his M.Sc. in Biological Science at the University of Santo Tomas, Magna Cumlaude in 1999. During his doctoral studies, he was able to work with Dr. Sylvain Razafimandimbison (under Prof. Dr. Birgitta Bremer Group, Stockholm University) on the Molecular Phylogeny of the tribe Mussaendeae. This work newly delimited the genus *Mussaenda*, recognized a new genus *Bremeria* including 19 new combinations, and four new species and one variety of Philippine *Mussaenda*. One of the new *Mussaenda* species was named after UST (*Mussaenda ustii*Alejandro). He established the "Thomasian Angiosperm Phylogeny and Barcoding Group (TAPBG) at the UST-RCNAS. Since then, the TAPBG actively participated in lecture-seminar and poster presentations and won several awards in National and International Scientific meetings. Recently, Alejandro received a research grant from the DOST – PCHRD as a Project Leader in Barcoding of Philippine Medicinal Plants. He is currently the Vice President of ASBP, Auditor of PSBMB, and Board Member of BIOTA Philippines.

He has received numerous awards including the 2006 NAST Outstanding Young Scientist in Biology, 2008 NAST - Talent Search for Young Scientist (Special Citation), 2012 Best Published Research in S&T (Gawad San Alberto Magno, UST), 2011 Outstanding Researcher (Gawad San Alberto Magno, UST); 2008 Best Associate Professor (Gawad Santo Tomas, 2008);2004 Marie Stopes Award (XXIII Willi Hennig Society, Paris, France); 2000, 2003, 2005 Silver Series Awardee, 2005, 2008, 2012, International Publication Awards, 2012 Gold Series Awardee (Office of Research and Development, UST); 2009-2010 Alexander von Humboldt Postdoctoral Fellow; 2001-2005 Deutscher Akademischer Austauschdienst Doctoral Fellowship.

## Research

### 1. Systematics of the Philippine Rubiaceae (and other endemic plants)

The Philippine Rubiaceae currently consists of about 80 genera and more than 500 species which constitute the main component of understorey plants. The family has the largest number of indigenous species and four endemic genera (*Antherostele*, *Greeniopsis*, *Sulitia*, and *Villaria*) among the Philippine dicotyledonous plants. The very first step towards a comprehensive treatment of the family for the island has been taken in DELTA format available at [http://www.bio.uni-bayreuth.de/planta2/research/databases/delta\\_ru/index.htm](http://www.bio.uni-bayreuth.de/planta2/research/databases/delta_ru/index.htm). The development of an interactive key for all genera provides a welcome tool for all concerned with forest conservation, management and utilization to identify easily the main components of the patch of forest under investigation and obtain further information on the species involved.

Several species-rich genera of Philippine Rubiaceae need revision and numerous endemic species are left unresolved and awaiting to be discovered. We use both **classical tools** and **molecular markers (cpDNA & nrDNA)** in our research. Furthermore, our group takes a particular effort to record and document **biodiversity** of Philippine Rubiaceae in several forests for the Flora of the Philippines project and the vision to publish a pictorial guide of the family. We are also interested in systematic works of other Philippine endemic plants (e.g., Apocynaceae-Asclepiadoideae, Annonaceae, Rutaceae).

### 2. DNA Barcoding of Philippine Medicinal Plants

This study funded by the DOST-PCHRD constitutes a pioneering genome-based authentication of Philippine medicinal plants with promising chemical and pharmacological property. We aim to 1) generate the ideal gene sequences for identification and authentication of Philippine medicinal plants, 2) publish an updated pictorial guide on Philippine medicinal plants including descriptions, 3) develop a Philippine Medicinal Plants DNA Barcode Database (PMPDBD), and 4) assess the conservation status of Philippine medicinal plants. The PMPDBD will be useful for molecular identification of Philippine medicinal plants including information retrieval (resources, adulterant, medical parts, photographs, primers used in the barcodes, & key references).

### 3. Phytochemistry and Biological Potentials of endemic and indigenous Philippine plants.

Our group assesses the preliminary biological activities of understudied endemic Philippine plants, particularly Annonaceae, Pandanaceae, Rubiaceae, Rutaceae, collected in the wild. We provide botanical descriptions and materials for comprehensive studies on its Phytochemistry done by the Natural Product Groups (Dr. Allan Patrick Macabeo, Dr. Mario Tan, Dr. Alice Aguinaldo, Dr. Maribel G. Nonato) for collaborative studies.

## Publications

### Refereed Papers:

1. JJ Obico & **GJD Alejandro**. 2012 Molecular Phylogeny of the Philippine endemic genus *Antherostele* Bremek. (Rubiaceae) inferred from ITS data (nrDNA) and its conservation status. **American Journal of Plant Sciences** (in press).
2. JJ Obico & **GJD Alejandro**. 2012. A new species of *Antherostele* (Rubiaceae, Rubioideae, Urophylleae) from Mt. Sohoton, Samar, Philippines. **Phytotaxa** (in press).
3. PGD Cabuang, BS Exconde, VIM Lim, DKM Padilla, SR Salas, APG Macabeo, BOC Lemana & **GJD Alejandro**. 2012. A Novel Species of *Uvaria* (Annonaceae) Based on cpDNA Markers with Potential Medicinal Properties. **Philippine Journal of Systematic Biology** (in press).
4. MM Uy & **GJD Alejandro**. 2012. Conservation status and nrITS-supported classification of the Philippine endemic genus *Greeniopsis* Merr. (Rubiaceae). **Asia Life Sciences** 21(2):441-454.
5. MA Tan, JA Eusebio, **GJD Alejandro**. 2012. Chemotaxonomic implications of the absence of alkaloids in *Psychotria gitingensis*. **Biochemical Systematics & Ecology** 45: 20-22. <http://dx.doi.org/10.1016/j.bse.2012.07.016>
6. APG Macabeo, JA Avilaa, **GJD Alejandro**, SG Franzblaud, SF Kouame, H Hussaine & K Krohn. 2012. Villarinol, a new Alkenoyloxyalkenol Derivative from the Endemic Philippine Rubiaceae species *Villaria odorata*. **Natural Product Communications** 7(6): 779-780.
7. **GJD Alejandro**, U Meve, A Mouly, M Thiv & S Liede-Schumann. 2011. Molecular phylogeny and taxonomic revision of the Philippine endemic *Villaria Rolfe* (Rubiaceae). **Plant Systematics & Evolution** 296: 1–20. DOI 10.1007/s00606-011-0472-9
8. CI Banag, AO. Gatpo, BJ. Adajar, SA. Apepe, LE. de Castro, LP. Liwag, & **GJD Alejandro**. 2011. Generic status of the endemic *Atalantia linearis* Merr. (Rutaceae) based on rps16 intron data cpDNA, with a preliminary report on its phytochemical components. **Philippine Journal of Systematic Biology** 5: 49–59.
9. AH Arriola & **GJD Alejandro**. 2011. Searching for the relatives of the Philippine endemic *Gloeocarpus Radlk.* (Sapindaceae): Evidence molecular sequence data. **Philippine Journal of Systematic Biology** 5: 83–96.
10. **GJD Alejandro**, U Meve, M Uy, A Mouly, M Thiv & S Liede-Schumann. 2010. Molecular support of the classification of *Greeniopsis* Merr. in Aleisanthieae (Rubiaceae), with a revision of the genus. **Taxon** 59 (5) : 1547–1564.
11. APG Macabeo, FA Tudla, **GJD Alejandro**, Simeon F. Kouam, Hidayat Hussain, Karsten Krohn. 2010. Benzoylated derivatives from *Uvaria rufa*. **Biochemical Systematics and Ecology** 38 (2010) 857–860.

- 12.AL Bueras, OS Laurente, BC Lemana, and **GJD Alejandro**. 2010. Molecular Confirmation on the Phylogenetic Position of the Genus *Clemensiella* Schltr. in Marsdenieae (Apocynaceae - Asclepiadoideae). **Philippine Journal of Systematic Biology** 4: 55–66.
- 13.U Meve, O Laurente, **GJD Alejandro**, & Livshultz T. (2009 November). Systematics of *Clemensiella* (Apocynaceae--Asclepiadoideae). **Edinburgh Journal of Botany: An International Journal of Plant Systematics and Biodiversity** 66(3): 447–457. doi:10.1017/S0960428609990059 ISSN: 0960-4286, EISSN: 1474-0036
- 14.APG Macabeo, **GJD Alejandro**, AV Hallare, WS Vidar, & OB Flores. 2009. Phytochemical Survey and Pharmacological Activities of the Indole Alkaloids in the genus *Voacanga* Thouars (Apocynaceae) – An Update. **Pharmacognosy Reviews** 3(5): 143–153. ISSN: 0031-6997.
- 15.**GJD Alejandro**, Madulid RS, & Madulid DA. 2008. The utility of Internal Transcribed Spacer (nrDNA) sequence data for phylogenetic reconstruction in endemic Philippine *Nepenthes* L. (Nepenthaceae). **The Philippine Scientist** 45: 99–110. DOI: 10.3860/psci.v45i0.994, ISSN:0079-1466
- 16.**GJD Alejandro**, U Meve, & S Liede-Schumann. 2008. Two new species of *Mussaenda* (Rubiaceae) from Panay Island, Philippines. **Botanical Journal of Linnean Society: The Linnean Society of London** 158: 87–92. Article first published online: 3 SEP 2008 | DOI: 10.1111/j.1095-8339.2008.00882.x, Online ISSN: 1095-8339
- 17.JA Ching, CA Binag, & **GJD Alejandro**. 2008. Uptake and distribution of some heavy metals in peanut (*Arachis hypogaea* L.) grown in artificially contaminated soils. **Philippine Agricultural Scientist** 91(2):134-142. ISSN 0031-7454
- 18.**GJD Alejandro**, Arlegui DLA, Detabali PMO, Espino EA, Layson EG, & Rosales RFB. 2008. Synonymy of three *Villaria* Rolfe spp. (Rubiaceae): Evidence from morphological and nuclear rDNA sequence data. **Acta Manilana** 56: 7–15. DOI: 10.3860/acta.v56i0.1489, ISSN: 0065-1370
- 19.**GJD Alejandro** & U Meve. 2008. Development of an interactive database of the Philippine *Mussaenda* species (Rubiaceae). **Philippine Journal of Systematic Biology** 2 (1): 12–20. ISSN 1908-6865
- 20.**GJD Alejandro**, C.G. Evangelista, C.I. Banag, L.K.M. Getuiza, E.T. Liberato, A.G. Punsalan and J.C. Rosales. 2008. Phylogenetic positions of the tuberous Rubiaceous epiphytes (ant plants) inferred from ITS1, 5.8s gene and ITS2 region (nrDNA) sequence data. **The Philippine BIOTA** 41(1): 17–29.
- 21.**GJD Alejandro**, J.P.C. Baysa, B.O.C. Lemana, G.M. Madulara1, R.S. Madulid and D. A. Madulid. 2007. Conspecificity of *Nepenthes alata* Blco. population found in Mt. Guisguis, Zambales inferred from Internal Transcribed Spacer (nrDNA) Sequence Data. **Acta Manilana** 55: 15–21.

22. **GJD Alejandro**, E.A. Quinto, A.V. De Mesa, N.S. Dizon, D.M. Mendoza, A.P. Ong and F.E. Pascual. 2007. Comparative Determination of the Antioxidant Activities of Fruits using the DPPH assay. *The Philippine BIOTA* 40(2): 4–13.
23. **GJD Alejandro**. 2007. The Current Status of the Philippine Rubiaceae. *Philippine Journal of Systematic Biology* 1(1): 47–60.
24. **GJD Alejandro**, S. Razafimandimbison, and S. Liede-Schumann. 2005. Polyphyly of Mussaenda inferred from ITS and *trnT-F* data and its implication for generic limits in Mussaendeae (Rubiaceae). *American Journal of Botany* 92(3): 544–557.
25. **GJD Alejandro**, S. Razafimandimbison, and S. Liede-Schumann. 2004. New circumscription of Mussaenda (Mussaendeae: Rubiaceae) inferred from ITS and *trnT-F* data. In P. Grandcolas: Abstracts of the 23<sup>rd</sup> Annual Meeting of the Willi Hennig Society, "Phylogenetics and Evolutionary Biology". *Cladistics* 20: 584.
26. **GJD Alejandro**& S. Liede. 2003. The Philippine Rubiaceae Genera: Updated Synopsis In INTKEY Databases of the DELTA System. *Blumea* 48: 261–277.
27. **GJD Alejandro** and D. Madulid. 2000. Morpho-Numerical Analysis of *Ficus* species Using Hierarchical Method of Clustering Analysis. *Acta Manilana* 48: 11–18.
28. **GJD Alejandro** and D. Madulid. 1999. The *Ficus* (Moraceae) Flora of Mts. Palay-palay – Mataas na Gulod National Park (Ternate, Cavite). *Acta Manilana* 47: 15–40.

## Proceedings:

1. Pablo CGC, **Alejandro GJD**, & Solevila RC. Ethnopharmacy of the Most Commonly Used Plant of The Higa-onon Tribe of Gingoog, Misamis Oriental, Philippines. First Asian Conference of Ethnobiology, Oct 21-28, 2009, Providence University, Taichung Taiwan, sponsored by the Shei-pa National Parks headquarters, Providence University and International Society of Ethnobiology.
2. **G.J.D. Alejandro**. 2007. A new species of Mussaenda (Rubiaceae) from Panay, Philippines. *Proceedings of the 7<sup>th</sup> International Flora Malesiana Symposium*, Leiden, The Netherlands.
3. **G.J.D. Alejandro**, S.G. Razafimandimbison and S. Liede-Schumann. 2007. The new circumscription of Mussaenda Burm. ex L. (Rubiaceae) inferred from chloroplast (*trnT-F*) and nuclear (ITS) DNA data. *Proceedings of the 7<sup>th</sup> International Flora Malesiana Symposium*, Leiden, The Netherlands.
4. Razafimandimbison, S.G., **G.J.D. Alejandro**, B. Bremer, and S. Liede-Schumann. 2003. Phylogeny and biogeography of Mussaenda (Rubiaceae). In Abstracts of the XVIIth AETFAT Congress held in Addis Ababa, Belgium. p. 52.
5. **G.J.D. Alejandro** and S. Liede-Schumann. 2004. Preliminary studies in Philippine Rubiaceae: Updated synopsis and phylogeny of tribe Mussaendeae. Abstract in *Palmarum Hortus Francofurtensis* 7. Frankfurt am Main.

6. **G.J.D. Alejandro**, S. Razafimandimbison, and S. Liede-Schumann. 2004. New circumscription of *Mussaenda* (Mussaendeae: Rubiaceae) inferred from ITS and trnT-F data. In P. Grandcolas: Abstracts of the 23<sup>rd</sup> Annual Meeting of the Willi Hennig Society, "Phylogenetics and Evolutionary Biology".

### **Current Group Members (List, Picture and Major)**

#### **a. Undergraduate students**

	<p><b>"Camiguin" Group</b></p> <p>Bautista, Nicole M. Francisco, Abraham SP. Srimata, Natasha V. Santos, Francis Gerald A. Divinagracia, Denzyl G.</p>
	<p><b>"Canthium" Group</b></p> <p>Wong, Annie Eliza D. Magdaleno, Carizza Marie M. Pacia, Joseph Alvin T. Quioge, Kim Karlo C. Yayen, Krysten Marie R.</p>
	<p><b>"Cyathocalyx" Group</b></p> <p>Sanota, Patricia Bianca DC. Poblete, Miguel Angelo J. Suyo, Lissa Angela C. Uy, Vance Mikhail T.</p>
	<p><b>"Ixora" Group</b></p> <p>Belen, Maria Anjelette Patricia F. Buhay, Julianne Francine R. Espejo, Raphael A. Manalastas, Nicole Marie B. Mangila, Mark Anthony P.</p>

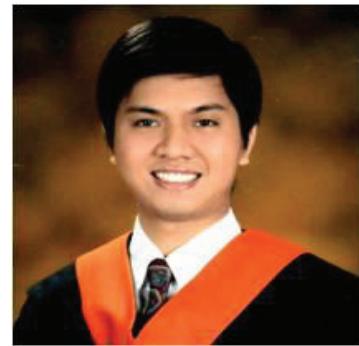
	<p><b>“Barcode” Group</b></p> <p>Dela Cruz, Nicole Angeli J.      Genesis, Christle Carol M.      Lingad, Arsenio Isagani R.      Manuel, Christel Ruth M.      Reyes, Alexandra Clarisse A.</p>
	<p><b>“Antique” Group</b></p> <p>Paruñgao, Angelo Miguel P.      Aguas, Vincent Leonell D.      Delos Angeles, Celestine Joan U.      Manzano, Francesca Marie V.      Vertudez, Ara Noraene B.</p>
	<p><b>TAPBG Group</b>  <b>AY 2011-2012</b></p>

### b. Graduate Students

	Axel H. Arriola, PhD. cand.		Cecilia I. Banag, PhD. cand.
	Ma. Kristel Georgia A. Mendoza, MSc. cand.		Lyn Paraguison, MSc. cand.

	<p>Ravas</p>
<p>Jordan G. Abad, MSc. cand.</p>	
<p>Bohol</p>	

#### c. Alumni

	
<p>Jayson G. Chavez, MSc.</p>	<p>Bismark Oliver Lemana, MSc.</p>
	<p>Arleen Buera, MSc.</p>
<p>Millard M. Uy, MSc.</p>	
<p>Ophelia Laurente, MSc.</p>	<p>Jasper John A. Obico, MSc.</p>

#### d. RA



Erwin James M. Puno, MSc. cand.