

Philippine Mycology's central DOGMA

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Abstract

This paper outlines the unique contributions of this Festschrift's honoree, Prof. Irineo J. Dogma Jr. to the field of mycology, microbiology, and systematics. These are evidenced by his numerous publications, involvement and leadership in professional scientific organizations and editorship in pioneering scientific publications in the Philippines. His publications included some of the most notable papers on aquatic zoosporic fungi, including those co-authored with his mentor - Prof. Frederick K. Sparrow, a pioneer in the study of aquatic phycomycetes. Through an analysis of his previously published works and interviews with several of his family members, closest colleagues, and students, we get a glimpse of Dr. Dogma as a family man, an academic, a researcher and a well-loved and respected mentor.

Keywords: Irineo J. Dogma, Jr., Festschrift, microbiology, mycology, zoosporic fungi

Introduction

“Beautiful!” and “Look at those sexy fungi!” (in a very distinct, high-pitched voice) were some of the most memorable words of Dr. Irineo J. Dogma, Jr. that struck the first author ever since he became his student in undergraduate Systematic Botany and graduate-level Mycology courses. This offers us glimpses as to how Dr. Dogma sees the organisms that he has studied and taught about for more than 50 years. His passion for his craft was immense, and in so many ways, infective!

For many, Dr. Dogma is a consummate researcher, an editor with an eye for detail and a biology teacher like no other. Never have we seen anyone in our profession prepare for laboratory classes the same way that Dr. Dogma does. The first author remembers overhearing his laboratory partner during his undergraduate Systematic Botany laboratory course, Grecebio Jonathan Alejandro (who later became a well-known plant phylogeneticist from UST), exclaim “*Sir, saan mo na naman nakuha yan?*” (Sir, where did you get those?). He was referring to a mat of fresh liverworts (*Marchantia*) complete with sporophytes that Dr. Dogma brought back to the laboratory to show us in class. His only reply then was “*Dyan lang sa tabi-tabi!*” (Just near here). We cannot recall any other Botany instructor since Dr. Dogma who had spent that much time and

effort to collect fresh specimens to be shown in class. Most would just be contented showing prepared slides, or worse, internet photographs from their PowerPoint slides! This was never the case for Dr. Dogma. He also developed quite a reputation among his students while doing this. We used to say that if you wanted to look for Dr. Dogma, do not go to the faculty room, but rather, look for him at the Botanical Garden. There, he would be found, crouching, and digging for specimens - may it be soil, termites, millipedes, leaf litter, bryophytes, small plants or macrofungi. However, if you want to locate him more easily, go to a spot in the garden where you can see puffs of smoke coming from a cigarette, for he would usually be looking for specimens while smoking (UST was not yet a smoke-free campus then)!

However, it was only during Graduate School that the first author started to learn that Dr. Irineo J. Dogma, Jr. (born December 2, 1943) (Figure 1) is one of the most influential microbiologists of the Philippines - having done extensive research in the field of mycology – specializing in zoosporic fungi, most especially, the chytridiomycetes. He discovered more about his contributions and achievements after enrolling in his Mycology class. Dr. Dogma may be considered as one of the Filipino pillars in the field of mycology, together with Tricita Quimio and Nicanor Teodoro, and the country's foremost authority on zoosporic fungi based on his contributions to our knowledge on Philippine taxa (Quimio, 1986; Dela Cruz et al., 2009; Santos, 1984; Tadosa, 2012).

The way he conducted his classes in the Graduate School was remarkably similar to how he was during our undergraduate days, but with much more authority, since he was teaching his expertise – the fungi. His laboratory handouts were based on his own experiences, experiments, and publications – for instance,

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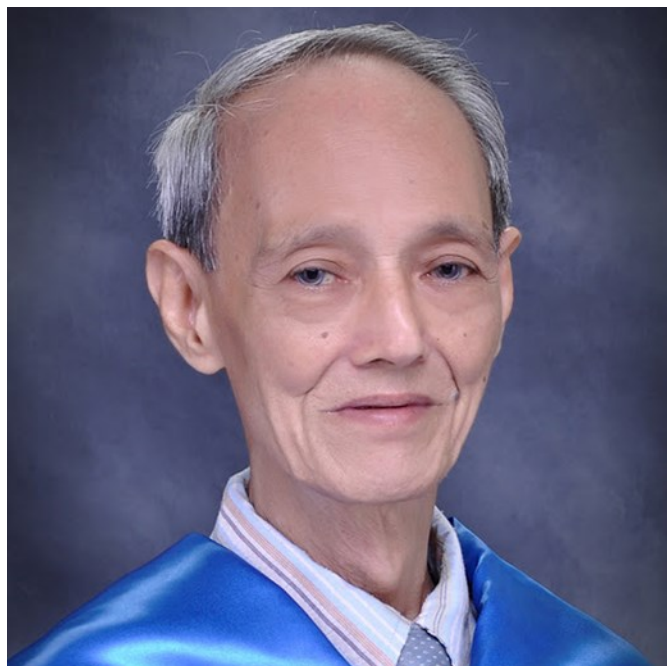


Figure 1. Prof. Irineo J. Dogma, Jr., Ph.D. (photo from the UST website)

what worked for him while trying to bait aquatic fungi from water samples; and he could identify them from under the microscope in an instant! His class requirement was quite straightforward –we just needed to submit three pure fungal cultures which we isolated ourselves. Michael Bahrami-Hessari, another former student of Dr. Dogma mentioned how he “encouraged exploration beyond written instructions.” Time was likewise irrelevant for him. Even though his classes were scheduled twice a week, from 6 to 9 PM, he expects you to work in the laboratory beyond the required class time, if needed, in order to come up with your three isolates. His dedication to his work is evident in the long hours he spends to prepare and deliver his lectures and conduct laboratory experiments and exercises, often extending beyond class time. His classes usually get dismissed well beyond 9:00 PM - oftentimes, when it is already pitch-dark around campus. There are times that only summons from the Security Guard can make him call it a night. He rewards hard work, the best way he knows how, by giving his students a 1.00. We had a classmate who later complained why he got a lower grade. Dr. Dogma's explanation was simple: he was last to arrive and first to leave the laboratory during classes, he did not come in to do extra work during his free time (although he just works in UST), and he was not able to turn in three pure isolates. Another former student, Dr. Gregorio Martin, recounts the times when Dr. Dogma would tell a classmate of his who forgot to bring specimens to class that he cannot proceed with the day's work.

“No specimen, no experiment!” This was classic Dogma.

As we stayed longer in the academe and got more exposed to professional scientific societies, the more we learned to appreciate the part that Dr. Dogma played in the development of the fields of microbiology, mycology and systematics in the Philippines. Scientists talk about him with twinkle in their eyes. His scientific achievements, together with his known reputation for standing up to what he believed is right, regardless of its professional repercussions, made me marvel at the man even more. The second author was one of his former mentees who benefitted immensely from his tutelage. In fact, the first author first met the second author during Dr. Dogma's Mycology class in the UST Graduate School, the former was a master's student while the latter was Dr. Dogma's teaching assistant.

This paper celebrates the milestones and achievements of a man lovingly referred to by many of his mentees as “*Tatay Jun*” or “*Sir Dogma*” through a thorough review of his scientific career based on his academic achievements, publications, involvement in professional organizations and mentorship of students, first, at the University of the Philippines – Los Baños, and later, at the University of Santo Tomas.

Academic Pedigree – UPLB and the University of Michigan

Dr. Dogma took up his B.Sc. Agriculture degree, majoring in plant pathology and microbiology and a M.Sc. in Plant Pathology with minors in Botany, Microbiology and Biochemistry at the University of the Philippines – Los Baños (UPLB). A fitting choice of school given that the University of the Philippines – College of Agriculture (former name encompassing all of UPLB), especially its Department of Plant Pathology, is considered as a hotspot of fungal research in the Philippines during the early and mid-20th century (Dagamac and Dela Cruz, 2015; Dela Cruz et al., 2009; Tadosa, 2012). He finished his undergraduate and graduate degrees in 1964 and 1966, respectively. His entry into the academic world started when he was appointed as a teaching fellow in UPLB from 1964 -1966 when he was taking up his graduate studies. In 1966, he was accepted for a Fulbright-Hays International Scholarship which helped him earn a Ph.D. in Botany minor in Biochemistry and Protozoology from the University of Michigan (USA) by 1970. During his Ph.D. studies, he became a U.S. National Science Foundation (NSF) Fellow and a recipient of the Horace Rackham Graduate School and International Center Scholarship. Like many other graduate students in the United States, he served as a Graduate Teaching Fellow at the Department of Botany of the University of Michigan during his doctoral studies. His dissertation entitled “Developmental, morphological

and taxonomic studies on some monocentric Chytridiomycetes”, which he conducted under the supervision of Prof. Frederick K. Sparrow became the basis of many of his initial scientific discoveries in the field.

Early Career

He returned to UPLB immediately upon the completion of his doctorate degree and rose through the ranks in the academia. Apart from his teaching duties in UPLB, he served as a researcher in the Departments of Plant Pathology and Botany in UPLB from 1970 until he retired from UPLB in 1983. He also held appointments in other units / institutions both inside and outside UPLB such as a researcher in the Philippine Eye Research Institute of the University of the Philippines-Philippine General Hospital (UP-PGH), Professor in other UP campuses such as UP Manila, Diliman and Visayas, Scientist of the Ministry of Natural Resources and UP Natural Science Research Institute. In 1977, he was named as one of the Philippine Men of Science by the National Institute of Science and Technology. However, one of his most memorable appointments in UPLB was being the second Director of its Museum of Natural History, which he held from 1980-1982 and his Editorship of *Kalikasan* – Philippine Journal of Biology from 1976-1983. *Kalikasan* was one of the first Philippine publications listed in the ISI Web of Science. In 1978, he joined the University of Santo Tomas and became one of the pioneer faculty of the M.Sc. Microbiology program, thus starting his more than four-decade involvement with the university. Dr. Asuncion Raymundo speculates that one of the primary considerations that led to Dr. Dogma's transfer to UST was the taxing daily commute, since he commuted from Manila to Los Baños everyday – usually arriving in UPLB by 10 AM and leaving past 7 PM to avoid traffic. This became his daily routine after he got married and settled down in Metro Manila.

Contributions to the Profession

His contributions to Philippine biological sciences and microbiology are immense and truly groundbreaking. He was one of the founding (Charter) members of the Philippine Society for Microbiology, Inc. (PSM) in 1971, eventually serving as its Vice President (1975-1976) and President (1976-1977). He was also one of the founding members of the Association of Systematic Biologists of the Philippines (ASBP) which was established in 1982. In 1984, he became the inaugural Editor of the ASBP Communications, the pioneer publication of the ASBP. He still serves as a member of the

editorial board of the Philippine Journal of Systematic Biology – the successor of the ASBP Communications as the official publication of the ASBP.

Research Impacts

The first publications of Dr. Dogma on record are two papers in the Philippine Agriculturist and Philippine Phytopathologist in 1965. The papers, co-authored with O.R. Exconde and R. C. Blancaver were on seed-borne fungi and slime molds isolated from soils, respectively. His first publication, which came out in 1965, was based on his undergraduate thesis in the UP College of Agriculture. In total, he has more than 38 publications in peer-reviewed national and international journals such as *Kalikasan* – Philippine Journal of Biology, Philippine Agriculturist, Nova Hedwigia, Mycologia, Archiv für Mikrobiologie, Transactions of the British Mycological Society and the International Journal of Molecular Phylogenetics and Evolution. Most of his publications (n=29), were sole authorships, majority of which were published in Nova Hedwigia and *Kalikasan*, The Philippine Journal of Biology (where he served as Editor). He published “Of Philippine mycology and lower fungi” in 1975 in the journal *Kalikasan*, which is his most cited sole authored publication (19 citations in Google Scholar as of 30 March 2020). In 1986, he wrote a chapter on Zoospore Fungi in the Guide to Philippine Flora and Fauna (Vol. 1), published by the Natural Resources Management Center of the Ministry of Natural Resources and the University of the Philippines – considered to be one of the most comprehensive works on Philippine zoospore fungi, to date. Dr. Jose Vera Santos mentions how I.J. Dogma Jr., single-handedly increased the number of known phycmycetes in the Philippines from 43 species during the time of Teodoro to almost 300 species (Santos, 1984).

In honor of his scientific achievements, one genus and four species have been named after him, the latest of which were *Phytopythium dogmae* Bennett and Thines, 2018 (Bennett et al., 2018) and *Lepidemathis dogmai* Barrion-Dupo and Barrion, 2019 which is published in the first volume of this Festschrift (Barrion-Dupo and Barrion, 2019).

Most recently, Dr. Dogma has been recognized by the UST Graduate School (UST-GS) as one of its eight Distinguished Faculty Members during the 80th Anniversary Celebration of the UST-GS last May 5, 2018 and by July 19 of the same year, Dr. Dogma was honored by the Philippine Society for Microbiology, Inc. as its Outstanding Microbiologist of the year. He is the first faculty member of UST to receive the highest

Table 1. List of species described by I.J. Dogma Jr. in his various publications

Names	Mycobank citations	References
1 <i>Blyttomyces harderi</i> Sparrow & Dogma, Archiv für Mikrobiologie 89 (3): 187 (1973)	Sparrow & Dogma, Archiv für Mikrobiologie 89 (3): 187 (1973) [MB#309601]	Sparrow, F.K.; Dogma, I.J. 1973. Zoosporic phycomycetes from Hispaniola. Archiv für Mikrobiologie. 89(3):177-204
2 <i>Blyttomyces rhizophlyctidis</i> Dogma, Mycologia 61 (6): 1150 (1970)	Dogma, Mycologia 61 (6): 1150 (1970) [MB#309602]	Dogma, I.J.; Sparrow, F.K. 1969. A hyperparasitic <i>Blyttomyces</i> . Mycologia. 61 (6):1149-1158
3 <i>Blyttomyces vaucheriae</i> (Rieth) Dogma, Mycologia 61 (6): 1157 (1970)	Dogma, Mycologia 61 (6): 1157 (1970) [MB#309603]	Dogma, I.J.; Sparrow, F.K. 1969. A hyperparasitic <i>Blyttomyces</i> . Mycologia. 61 (6):1149-1158
4 <i>Blyttomyces verrucosus</i> Dogma, Kalikasan Philippine Journal of Biology 8: 238 (1980)	Dogma, Kalikasan Philippine Journal of Biology 8: 238 (1980) [MB#112713]	Dogma, I.J. Jr. 1979. Philippine zoosporic fungi: <i>Blyttomyces verrucosus</i> n. sp. (Chytridiales), with a revision of the genus. Kalikasan Philippine Journal of Biology. 8:237-266
5 <i>Chytridium schenkii</i> var. <i>dumontii</i> Dogma, Philippine Agriculturist 57(1-2): 49 (1975)	Dogma, Philippine Agriculturist 57(1-2): 49 (1975) [MB#352675]	Dogma, I.J. Jr. 1973. A new chytridiaceous fungus from South America. Philippine Agriculturist. 57. 49-54
6 <i>Chytriomycetes annulatus</i> Dogma, Nova Hedwigia 18 (2-4): 349 (1969)	Dogma, Nova Hedwigia 18 (2-4): 349 (1969) [MB#311120]	Dogma, I.J. 1969. Additions to the phycomycete flora of the Douglas Lake region. VIII. <i>Chytridiomycetes annulatus</i> sp. nov. and notes on other zoosporic fungi. Nova Hedwigia. 18(2-4):349-365
(Current name: <i>Irineochytrium annulatum</i> (Dogma) Letcher, Longcore & M.J. Powell, Index Fungorum 175: 1 (2014) [MB#550671])		
7 <i>Chytriomycetes elegans</i> (Ingold) Dogma, Kalikasan 5(1): 136 (1976)	(Ingold) Dogma, Kalikasan 5(1): 136 (1976) [MB#311121]	Dogma, I.J. 1976. <i>Diplophlyctis versiformis</i> n.sp. and the Siphonaria-type of sexual reproduction. Kalikasan. 5(1): 121-142
8 <i>Chytriomycetes multioperculatus</i> Sparrow & Dogma, Archiv für Mikrobiologie 89 (3): 195 (1973)	Sparrow & Dogma, Archiv für Mikrobiologie 89 (3): 195 (1973) [MB#311122]	Sparrow, F.K.; Dogma, I.J. 1973. Zoosporic phycomycetes from Hispaniola. Archiv für Mikrobiologie. 89(3):177-204
9 <i>Chytriomycetes reticulosporus</i> Dogma, Kalikasan: 395 (1983)	Dogma, Kalikasan: 395 (1983) [MB#107816]	Dogma, I.J. 1983. Philippine zoosporic fungi: three parasitic species on <i>Chytriomycetes</i> (Chytridiales, Chytridiomycetes). Kalikasan 12(3): 385-408
10 <i>Chytriomycetes rhizidiomycetis</i> Dogma, Kalikasan: 12(3):386 (1983)	Dogma, Kalikasan: 12(3):386 (1983) [MB#107817]	Dogma, I.J. 1983. Philippine zoosporic fungi: three parasitic species on <i>Chytriomycetes</i> (Chytridiales, Chytridiomycetes). Kalikasan 12(3): 385-408
11 <i>Clavulina banahaensis</i> Dogma, Philippine Agriculturist 50(8): 771 (1967)	Dogma, Philippine Agriculturist 50: 771 (1967) [MB#328394]	Dogma, I.J. 1967. Additions to the genus <i>Clavulina</i> , Clavariaceae. Philippine Agriculturist 50(8): 771-778
12 <i>Clavulina rugosa</i> var. <i>tropica</i> Dogma, Philippine Agriculturist 50(8): 774 (1967)	Dogma, Philippine Agriculturist 50(8): 774 (1967) [MB#353363]	Dogma, I.J. 1967. Additions to the genus <i>Clavulina</i> , Clavariaceae. Philippine Agriculturist 50(8): 771-778
13 <i>Diplophlyctis asteroidea</i> Dogma, Transactions of the British Mycological Society 67 (2): 255 (1976)	Dogma, Transactions of the British Mycological Society 67 (2): 255 (1976) [MB#313234]	Dogma, I.J. 1976. Studies on chitinophilic <i>Siphonaria</i> , <i>Diplophlyctis</i> , and <i>Rhizoclosmatium</i> , chytridiales. V. <i>Diplophlyctis asteroidea</i> , a new species with asexual resting spores. Transactions of the British Mycological Society. 67(2):255-264

Table 1 cont. List of species described by I.J. Dogma Jr. in his various publications

Names	Mycobank citations	References
14 <i>Diplophlyctis buttermerensis</i> (Willoughby) Dogma, Archiv für Mikrobiologie 66: 210 (1969)	(Willoughby) Dogma, Archiv für Mikrobiologie 66: 210 (1969) [MB#330102]	Dogma, I.J. 1969. Additions to the phycomycete flora of the Douglas Lake region. VII. Observations on some cellulosic chytridiaceous fungi. Archiv für Mikrobiologie. 66:203-219
15 <i>Diplophlyctis complicata</i> (Willoughby) Dogma, Nova Hedwigia 25 (1-2): 144 (1974)	(Willoughby) Dogma, Nova Hedwigia 25 (1-2): 144 (1974) [MB#313235]	Dogma, I.J. 1974. Studies on chitinophilic <i>Siphonaria</i> , <i>Diplophlyctis</i> and <i>Rizoclosmatium</i> , Chytridiales. III. <i>Nephochytrium complicatus</i> Willoughby: another <i>Diplophlyctis</i> with a sexual phase. Nova Hedwigia. 25(1-2):143-159
16 <i>Diplophlyctis sarcoptoides</i> (H.E. Petersen) Dogma, Nova Hedwigia 25 (1-2): 122 (1974)	(H.E. Petersen) Dogma, Nova Hedwigia 25 (1-2): 122 (1974) [MB#313236]	Dogma, I.J. 1974. Studies on chitinophilic <i>Siphonaria</i> , <i>Diplophlyctis</i> and <i>Rizoclosmatium</i> , Chytridiales. II. <i>Asterophlyctis sarcoptoides</i> H.E. Petersen: a <i>Diplophlyctis</i> with a sexual phase. Nova Hedwigia. 25(1-2): 121-141
17 <i>Diplophlyctis versiformis</i> Dogma, Kalikasan 5(1): 123 (1975)	Dogma, Kalikasan: 123 (1975) [MB#313237]	Dogma, I.J. 1976. <i>Diplophlyctis versiformis</i> n.sp. and the <i>Siphonaria</i> -type of sexual reproduction. Kalikasan. 5(1): 121-142
18 <i>Endochytrium cystarum</i> Dogma, Archiv für Mikrobiologie 66: 207 (1969)	Dogma, Archiv für Mikrobiologie 66: 207 (1969) [MB#330357]	Dogma, I.J. 1969. Additions to the phycomycete flora of the Douglas Lake region. VII. Observations on some cellulosic chytridiaceous fungi. Archiv für Mikrobiologie. 66: 203-219
19 <i>Endochytrium multiguttulatum</i> Dogma, Archiv für Mikrobiologie 66: 204 (1969)	Dogma, Archiv für Mikrobiologie 66: 204 (1969) [MB#330358]	Dogma, I.J. 1969. Additions to the phycomycete flora of the Douglas Lake region. VII. Observations on some cellulosic chytridiaceous fungi. Archiv für Mikrobiologie. 66: 203-219
20 <i>Entophlyctis obscura</i> Sparrow & Dogma, Archiv für Mikrobiologie 89 (3): 183 (1973)	Sparrow & Dogma, Archiv für Mikrobiologie 89 (3): 183 (1973) [MB#313894]	Sparrow, F.K.; Dogma, I.J. 1973. Zoosporic phycomycetes from Hispaniola. Archiv für Mikrobiologie. 89(3): 177-204
21 <i>Olpidium sparrowii</i> Dogma, Kalikasan: 10 (1977)	Dogma, Kalikasan: 10 (1977) [MB#318949]	Dogma, I.J. 1977. Philippine zoosporic fungi: <i>Olpidium sparrowii</i> , a new chytridiomycete parasite of rotifer eggs. Kalikasan. 6(1): 9-20
22 <i>Phlyctochytrium parasitans</i> Sparrow & Dogma, Archiv für Mikrobiologie 89 (3): 185 (1973)	Sparrow & Dogma, Archiv für Mikrobiologie 89 (3): 185 (1973) [MB#319912]	Sparrow, F.K.; Dogma, I.J. 1973. Zoosporic phycomycetes from Hispaniola. Archiv für Mikrobiologie. 89(3): 177-204
23 <i>Phlyctochytrium mucosum</i> Sparrow & Dogma, Archiv für Mikrobiologie 89 (3): 186 (1973)	Sparrow & Dogma, Archiv für Mikrobiologie 89 (3): 186 (1973) [MB#319909]	Sparrow, F.K.; Dogma, I.J. 1973. Zoosporic phycomycetes from Hispaniola. Archiv für Mikrobiologie. 89(3): 177-204
24 <i>Pterula intermedia</i> Dogma, Philippine Agriculturist 49:852 (1966)	Dogma, Philippine Agriculturist 49:852 (1966) [MB#337880]	Dogma IJ (1966) Philippine Clavariaceae. I. The pteruloid series. Philippine Agriculturist 49(10): 844-861
25 <i>Rhizophlyctis aurantiaca</i> Dogma, Nova Hedwigia 25 (1-2): 52 (1974)	Dogma, Nova Hedwigia 25 (1-2): 52 (1974) [MB#322487]	Dogma, I.J. 1974. Developmental and taxonomic studies on rhizophlyctoid fungi, Chytridiales. III. Chitinophilic <i>Rhizophlyctis</i> with resting spores of sexual origin. Nova Hedwigia. 25(1-2): 51-89

Table 1 cont. List of species described by I.J. Dogma Jr. in his various publications

Names	Mycobank citations	References
26 <i>Rhizophlyctis reynoldsii</i> Dogma, Nova Hedwigia 25 (1-2): 64 (1974)	Dogma, Nova Hedwigia 25 (1-2): 64 (1974) [MB#322489]	Dogma, I.J. 1974. Developmental and taxonomic studies on rhizophlyctoid fungi, Chytridiales. III. Chitinophilic <i>Rhizophlyctis</i> with resting spores of sexual origin. Nova Hedwigia. 25(1-2): 51-89
27 <i>Rhizophlyctis serpentina</i> Dogma, Nova Hedwigia 25 (1-2): 58 (1974)	Dogma, Nova Hedwigia 25 (1-2): 58 (1974) [MB#322490]	Dogma, I.J. 1974. Developmental and taxonomic studies on rhizophlyctoid fungi, Chytridiales. III. Chitinophilic <i>Rhizophlyctis</i> with resting spores of sexual origin. Nova Hedwigia. 25(1-2): 51-89
28 <i>Rhizophlyctis tropicalis</i> Sparrow & Dogma, Archiv für Mikrobiologie 89 (3): 192 (1973)	Sparrow & Dogma, Archiv für Mikrobiologie 89 (3): 192 (1973) [MB#322491]	Sparrow, F.K.; Dogma, I.J. 1973. Zoosporic phycomycetes from Hispaniola. Archiv für Mikrobiologie. 89(3): 177-204
29 <i>Rhizophlyctis variabilis</i> var. <i>burmaensis</i> Dogma, Nova Hedwigia 25 (1-2): 67 (1974)	Dogma, Nova Hedwigia 25 (1-2): 67 (1974) [MB#353128]	Dogma, I.J. 1974. Developmental and taxonomic studies on rhizophlyctoid fungi, Chytridiales. III. Chitinophilic <i>Rhizophlyctis</i> with resting spores of sexual origin. Nova Hedwigia. 25(1-2): 51-89
30 <i>Septochytrium willoughbyi</i> Dogma, Nova Hedwigia 24 (2-4): 367 (1975)	Dogma, Nova Hedwigia 24 (2-4): 367 (1975) [MB#323439]	Dogma, I.J. 1973. <i>Septochytrium willoughbyi</i> , a new polycentric chytridiomycete with monocentric resting spore thalli. Nova Hedwigia. 24(2-4): 367-377
31 <i>Septosperma irregulare</i> (Karling) Dogma, Nova Hedwigia 25 (1-2): 131 (1974)	(Karling) Dogma, Nova Hedwigia 25 (1-2): 131 (1974) [MB#323518]	Dogma, I.J. 1974. Studies on chitinophilic <i>Siphonaria</i> , <i>Diplophlyctis</i> and <i>Rizoclosmatium</i> , Chytridiales. II. <i>Asterophlyctis sarcoptoides</i> H.E. Petersen: a <i>Diplophlyctis</i> with a sexual phase. Nova Hedwigia. 25(1-2): 121-141
32 <i>Sparrowia subcruciformis</i> Dogma, Nova Hedwigia 19 (3-4): 503 (1971)	Dogma, Nova Hedwigia 19 (3-4): 503 (1971) [MB#323657]	Dogma, I.J. 1970. Additions to the Phycomycetes flora of the Douglas Lake region. IX. On the genus <i>Sparrowia</i> Willoughby. Chytridiales. Nova Hedwigia. 19 (3-4): 503-509

References: IndexFungorum <http://www.indexfungorum.org/>; Mycobank <http://www.mycobank.org/>;

The Lower Fungi <https://www.thelowerfungi.org/>

award bestowed by the PSM - an organization which he has helped establish.

“Dogmatic” Mentor

His passion for microbiology was not only manifested through his research works, as he ensured to pass it on to his myriad students in the undergraduate and graduate levels of institutions where he had served as a member of the faculty. His teaching career started in the University of the Philippines - Los Baños, where he began as a Teaching Fellow, and rose through the ranks to become Full Professor in the Departments of Plant Pathology and Botany from 1964-1983. He was such a legend

in UPLB that some of the most prominent members of its faculty, including two Professors Emerita – Macrina Tamayo-Zafaralla and Milagrosa Martinez-Goss, count Dr. Dogma as one of their most memorable professors. He started teaching in the University of Santo Tomas in 1978 (coinciding with the establishment of the M.Sc. Microbiology program in UST), first, as a Professorial Lecturer in the Graduate School and eventually handling courses in the undergraduate level from 1995 to 2009. In the Graduate School, he helped develop generations of Microbiology and Biology students, teaching courses in Mycology, Advanced Microbiology, Microbial Ecology, Protozoology, Plant Physiology and Plant Pathology. According to one of his students, Mark Noe Ritumalta, he usually “goes in

Table 2. List of taxa named after I.J. Dogma, Jr.

Taxon	Year	Author(s)	Brief Description
<i>Cuneoppia dogmai</i>	1979	L. Corpuz-Raros	Grassland mite from Mt. Makiling
<i>Lobaria dogmae</i>	2006	W.S. Gruezo	Foliose lichen from Mt. Banahaw
<i>Irineochytrium annulatum</i>	2014	Leicher, Longcore and Powell	Based on generic transfer of <i>Chytriomycetes annulatus</i> Dogma described in 1969 from Michigan, USA
<i>Phytophythium dogmae</i>	2018	R.M. Bennett and M. Thines	Filamentous chromistan from mangrove leaf litter from the Philippines
<i>Lepidemathis dogmai</i>	2019	A.L. Barrion-Dupo and A. Barrion	Spider from Mauban, Quezon

their graduate mycology class with nothing but chalk and a wet rag”, which is a testament to his mastery of the course to which Michael Bahrami-Hessari, added “a mug of coffee”, to Mark’s recollection of “chalk and a wet rag.” Indeed, Dr. Dogma is widely known for his fondness for good coffee and his usual nicotine fix.

He served as adviser to four Ph.D. Biological Sciences students (including one former president of the Philippine Society for Microbiology – Delia D.C. Ontengco) and 23 M.Sc. Microbiology students, all of whom are now successful practicing microbiologists in various fields (Table 3). Notable former mentees who pursued research in microbiology include Ronald O. Garcia (Helmholtz Center for Infection Research, Germany; myxobacteria), Paulina A. Bawingan (St. Louis University, Baguio; lichen taxonomy), and Donna May A. Dela Cruz-Papa (University of Santo Tomas; bacteriophage therapy). Among his most notable undergraduate research advisees who followed his footsteps is the multi-awarded scientist Thomas Edison E. Dela Cruz (University of Santo Tomas, mycology) who fondly remembers that it was Dr. Dogma who first showed him cytoplasmic streaming in plasmodial slime molds (myxomycetes) during their Industrial Microbiology course. This later became a catalyst for the future research works conducted by Dr. Dela Cruz on myxomycetes himself.

His students, who fondly call themselves “Dogmatics” and refer to Dr. Dogma as “Tatay Jun”, have many stories to tell about their mentor, and how he helped shape their careers. The second author recalls how Dr. Dogma would go to the house of Ronald Garcia (which is quite near Dr. Dogma’s Cubao residence) late at night all the way to the wee hours of the morning so they can work on editing their manuscripts together on a desktop computer. This was before the days of using Track Changes in MS Word, storing files in Google Drive and emails had a 10 MB limit for attachments. Josel Josen-Salvador, who enrolled in Dr. Dogma’s Mycology course as an M.Sc. Biology

student, became so inspired by Dr. Dogma that she decided to shift to M.Sc. Microbiology! Others, such as Dr. Lourdes Alvarez recall how Dr. Dogma helped boost her confidence as she went through her dissertation defense while she was six months pregnant.

Furthermore, he has served as consultant and confidant to numerous students who seek his counsel or advice in many aspects of their research and professional careers. His stand on many issues has been always *pro-student*. He believes in providing adequate space, and time for the graduate students to conduct research, and eventually finish their degrees.

Family Man

Dr. Dogma’s wife, Elsie, mentioned that even though Dr. Dogma was “always a busy man”, he never failed to spend time with his three kids, mentioning how they are a happy family and bonded a lot by playing, watching television and singing together, which was how they spent quality time together. Furthermore, she mentioned how Dr. Dogma is a loving and responsible husband and father to their family, which now includes grandchildren.

Conclusion

Given the numerous achievements of I.J. Dogma, Jr., from his academic achievements, research publications and reputation as a dedicated and passionate mentor, he deserves to be honored with this two-volume Festschrift published in the Philippine Journal of Systematic Biology; where he serves as a member of the Editorial Board and whose mother organization – the Association of Systematic Biologists of the Philippines, he has been affiliated with since its foundation and has served as the founding editor of its pioneer publication – the ASBP Communications. We hope that by reading this article, budding

Table 3. List of Graduate Student mentees of I.J. Dogma Jr. in the UST Graduate School (1996-2010)

Name of Students	Title of Thesis/Special Problems/Practicum	Year Graduated
Ph.D.		
Delia C. Ontengco	In vitro exploration of Jatrofida, an experimental herbal germicidal soap with <i>J. multifida</i> latex	1996
Vicky C. Mergal	Response of enterobacteria to antibiotics and reciprocal transformation of drug resistance in <i>Escherichia coli</i> and <i>Enterobacter cloacae</i> among vegetarian and non-vegetarian of Silang, Cavite	2002
Paulina A. Bawingan	Phylogenetic relationships of Philippine Cordillera lichens (Parmeliaceae) inferred from nuclear ITS rDNA	2006
Jose A. Mallari	Production of biodegradable poly-beta-hydroxybutyrate (PHB) from indigenous bacteria by batch fermentation	2010
M.Sc.		
Caroline Angeles-Vaghaye	Fungal degradation of low-density polyethylene plastic	1996
Myra L. Tansengco	Microbial degradation of poly(beta-hydroxybutyrate) or PHB in local landfill soils	1998
Michael C. Valdez	Isolation, characterization and identification of an extremely thermophilic-anaerobic bacterium from a Philippine hot spring	1999
Jose A. Mallari	Antibiotics from PHB-degrading bacteria	2000
Ronald O. Garcia	Philippine soil myxobacteria and their potentials for antibiosis	2002
Anna Jane I. San Juan	Transformation of <i>Aspergillus oryzae</i> by plasmid-mediated complementation of the Sc (ATP sulfurylase) gene	2002
Maria Teresa Ilicito-Calwit	Floral and foliar wild yeasts of Euphorbiaceous plants – Taxonomy and community structure	2003
Agnes Platon de Asis	Production of polygalacturonase from <i>Cryptococcus</i> sp. S2	2003
Donna May A. dela Cruz	Coli and pseudomonad phages from Philippine soils and waters	2004
Eleanor S. Ponayo	Anti-TB drug resistance in two Philippine hospitals and antimycobacterial assay of Streptomyces and myxobacteria	2004
Ross D. Vasquez	Hormonal and light induction of gametophyte development in the ferns <i>Platyserium grande</i> (Fee) Kunt and <i>Asplenium nidus</i> Linn.	2005
Mary Victory Gutierrez	Intraspecific allelopathy among <i>Coleus blumei</i> Benth- Effects of root exudates and lead extracts	2006
Sheila Alarilla-Martin	Blood-anticoagulant activity of myxobacteria	2007
Mark N.C. Ritumalta	Biocontrol by <i>Bacillus</i> of selected mycophytopathogens	2008
Imelda Forteza	Comparative predation between <i>Bdellovibrio</i> and like organisms (Balos) and lytic bacteriophages on their common bacterial hosts	2009
Evelyn S. Suasin	Bdellovibrios. Isolation, purification, host range, and predation on drug-resistant bacilli	2009
Joseca S. Alincastré	Cosmetic photoprotection by microbial melanin	2009
Michael L. Bahrami-Hessari	<i>Pyxococcus fallax</i> . Nutritional characterization and optimization for the production and bioassay of its antimicrobial metabolites	2009
Crisencio M. Paner	Chemical control of fungi infesting easel oil paintings at the University of Santo Tomas Museum of Arts & Sciences	2009
Remedios delos Reyes	Phage-typing of bacteriuric <i>E. coli</i>	2010
Diana dela Cruz Verano	<i>Enterobacter cloacae</i> for postharvest control of fruit anthracnose	2010
Josel C. Joson-Salvador	Biocontrol of fungi pathogenic on rice and corn by myxobacteria	2010
Neil Ian P. Lumanlan	Lytic effect of myxobacteria on cyanobacteria	2010

Filipino scientists would draw inspiration from the likes of Dr. Dogma. Truly, THE central Dogma of Philippine mycology.

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Appendix

Anecdotes about Dr. Dogma from selected colleagues and former students

“He was so productive that he was always in the list every time there was a promotion to the consternation of the more senior faculty members of the department.” – Acad. Asuncion K. Raymundo, Ph.D., University of the Philippines - Los Baños

“My first field trip as an Instructor was when I joined him and our class in Mt. Makiling in Laguna. We climbed the peak, my first mountain hiking experience, and went home quite late, as in it was already dark. We even thought that we got lost in the forest as some students have already turned their shirts back following some local superstitious beliefs. Sir Dogma would instead go first to see the trail and then he returned to lead us. While this experience may be scary for most, it was a memorable one for me. On our way back I saw for the first time a bioluminescent mushroom along the trail, a sight I have never forgotten and something I wanted to see again.” – Prof. Thomas Edison E. Dela Cruz, Dr.rer.Nat., University of Santo Tomas

“To me, he is more than just a fine professor, a mentor, or a revered icon of mycology; but most of all, he is my academic father and my best friend..... Drinking coffee is his favorite moment, and making coffee for others is his favorite offering ” – Prof. Gina R. Dedeles, Ph.D., University of Santo Tomas

“I was pleasantly surprised to learn that his home is always open to his students, no matter what time of the day, or what day in the week, or even what special holiday in the year. His generosity in extending his expertise and services cannot be overstated. Despite his accomplishments, he remains to be a very unassuming and warm person.” – Prof. Esperanza Cabrera, Ph.D., De La Salle University

“He is a superb and exceptional adviser who is always there to inspire and support. The values, attitude, and dedication are the most important things that I learned from him as a scientist. These are the foundations in my scientific career that is rooted in him and will always be grateful.” – Dr. Ronald Garcia, Helmholtz-Zentrum für Infektionsforschung GmbH, Germany

“Dr. Dogma serves as an inspiration to all of us (his students) to do good and become future researchers in different fields in microbiology. I guess he is successful in encouraging and motivating his students, because most of his mentees are now

successful researchers in different fields of microbiology.” – Dr. Lourdes Alvarez, Polytechnic University of the Philippines

“Despite his old school way of delivering lectures- complicated, hand-drawn diagrams of the Krebs's Cycle and the electron transport chain or the occasional use of an overhead projector, he exuded a genuine interest in our learning. He was quite intimidating too. He demanded only the best from students because he gave his all to his craft and profession. I remember vividly his surprise quizzes especially when he sensed we came to class unprepared. It was very humbling but a harsh reality check on the demands of academia.” – Michael Bahrami-Hessari, M.Sc., University of Santo Tomas and University of Manchester

“He is a certified nocturnal adviser who would be sending me reminders and revisions of my paper at the middle of the night. I have no choice but to become as nocturnal as he was. It was beneficial to me because I was able to submit my manuscript on time. I was also amazed by his editing skill which is legendary. I experienced how my world turns upside down after receiving my edited manuscript with tons of bloody markings and corrections. But this was the moment I realized how passionate he was for me to be equipped with all the necessary concepts. Hence, I was able to confidently stand in front of the panelists and defended my study successfully.” – Mary Victory Gutierrez, M.Sc., Far Eastern University

“After a long hiatus during my master's thesis (paper) writing - Dr Dogma: Oh, you're back! Good to know you have recovered from your illness! Me: Sir?!? Dr Dogma: Yung bato mo, okay na? Me: Huh??? (Confused!) Dr Dogma: Yun pagka batu-gan, okay na? Ayos ka na, ready to go back to work? Me: (Shy) aiii yes sir...? Dr Dogma: Good! Good! Welcome back, Eya! – Eleanor Ponayo-Sherlyn, M.D., M.Sc.