

EDITORIAL

PERSONAL REFLECTIONS ON THE SILVER ANNIVERSARY OF SAREM

When I was asked to comment on the 25th anniversary of the Sociedad Argentina para el Estudio de los Mamíferos, I hesitated before responding to Dr. Ulyses Pardiñas's kind request. While it is true that I have studied mammals in Argentina for almost 40 years and have continued to work there throughout the 25 years that SAREM has been in existence, I am not an Argentine. How do Argentine's feel about the success of their mammal society? On the other hand, few Argentine mammalogists working today were also studying the country's mammals in 1970, more than a decade before SAREM was born. One of the few benefits of growing older is that one is able to place things within an historical context. Thus, I have been able to watch SAREM move from its infancy into a growing maturity and, as President-elect of the American Society of Mammalogists, I can offer an international view of the society's development.

Mammalogy in Argentina in 1970

When I arrived in Argentina in 1970, few people were conducting research on mammals, and even fewer had been formally trained as mammalogists. I was sent to study the mammals of the Monte Desert, to be followed by comparative research on the mammals of the Sonoran Desert of North America (very similar in aspect to the Monte Desert), as part of a project of the International Biological Program's Origin and Structure of Ecosystems Subprogram. I left my home and family for two years initially, then for many subsequent field trips. Over the last 39 years, perhaps 10 full years have been spent living in Argentina, generally in the field, and generally exploring habitats whose mammals had not been studied.

The state of mammalogy in Argentina when I arrived was not good. Who was studying mammals at that time? Jorge Crespo, who had a doctorate in biology and was an ecologist, worked at the Museo Argentino de Ciencias Naturales and at the Universidad de Buenos Aires. He was one of the few trained mammalogists in Argentina, but his fieldwork days were long behind him. He had worked primarily in Misiones, Buenos Aires, and Patagonia, but had little experience in the West. I went into the field in 1971 with Abel Fornes, a self-taught field biologist. He would die much too young while conducting field research and I dedicated my first publication based on my Argentine field research to his memory. Elio Massoia was an eccentric (for example, he thought he was the reincarnated pet monkey of the brother of the famous Argentine aviator, Jorge Newberry) and self-taught mammalogist who worked primarily in Buenos Aires and Misiones, with later research carried out in Formosa. Julio Contreras was yet a third self-taught mammalogist who, with his daughter Yolanda Davies, worked extensively on collecting mammals in Patagonia and Mendoza, with later work in Corrientes. All three were intensive collectors, with the finest collection being made by Contreras and Davies, and the most diverse collection (though with many problems related to collection management) being made by Massoia. Most of Massoia's collection would ultimately be lost after his death, although I have been working at the Fundación de Historia Natural Félix de Azara in Buenos Aires on the remaining collection for several years trying to organize it and bring it up to date taxonomically. Fornes's collection was sold after his death and was disbursed throughout the world.

Oswaldo Reig (SAREM's 1st president, 1983-1985) had also entered biology as a self-taught paleontologist, though later he would study biology and complete a doctoral degree in England on his akodont rodent research. He was not living in Argentina in 1970. He was highly politicized and had run afoul of one government after another and so had been living in Venezuela (and later, Chile, then Venezuela again), where he studied echimyid rodents. Crespo had replaced him at the Universidad de Buenos Aires after the military takeover of the nation. He would eventually return to the Universidad de Buenos Aires when democracy returned to the country. Reig was a good paleontologist and mammalogist and had founded a cutting-edge research group in Buenos Aires (headed by an outstanding small mammal evolutionary geneticist, Susana Merani) that was studying the cytogenetics of tuco-tucos and akodont rodents. The bulk of their work in the 1970s concerned mammals from eastern Argentina. Merani would serve as the 3rd president of SAREM (1986-1989). Only the Universidad de Buenos Aires and the Museo Argentino de Ciencias Naturales in Buenos Aires had doctoral level mammal research on taxonomy, ecology, and genetics underway in Argentina in 1970.

My interactions with Reig were limited. I did not meet him until 1979, when I was organizing a symposium on South American mammals that was to be held in 1981 at the University of Pittsburgh, where I was a professor. I had a list of mammalogists whom I felt should be invited to develop a status report on South America's mammals. In the course of conducting field research in Venezuela, I stopped in Caracas to visit a former student who was then dean of the university. He said he had a candidate for tenure who was a «very difficult person» and who worked on mammals. His name? Oswaldo Reig. I was asked to provide an assessment of Reig's merits for tenure. I reviewed the materials and strongly supported his case, noting that some of the most creative people were often the most difficult. Whether or not my positive comments had any effect, Reig was awarded tenure.

I had an opportunity to meet Reig on that visit. I told him I was honored to meet him and invited him to participate in the Pittsburgh conference. He wanted to know why a group of mammalogists would meet in Pennsylvania to discuss South American mammals? I told him that I had funds to organize a symposium and to publish the results and a lovely field station where we could meet. «So you have political reasons.» I didn't know what he was talking about, but assured him politics would not be part of the conference. He asked who would be invited. I mentioned the people I was considering, including a mammalogist from Argentina whom Reig despised. «If you are inviting him, then this is not a serious conference. He is an idiot and knows nothing of mammals. He is not a professional.» I said that the person in question had published extensively. I then mentioned a couple of other people I hoped to invite for whom he also showed contempt (and he had even published with some of them!). He said the conference should not go forward without his blessing and if a conference were held, it would have to be in South America.

Naturally I told him the conference would take place as planned. Later he tried to find ways to stop it from being held, including contacting the President of the American Society of Mammalogists and many other scientists in the United States. We held the conference in 1981. Hugh Genoways and I had pulled together a large group of serious students of South America's mammals (Cleber Alho, Robert Baker, Rui Cerqueira, John Eisenberg, Bill Franklin, Hugh Genoways, Karl Koopman, Tom Lacher, Larry Marshall, John Mayer, Brian McNab, Phil Myers, Peggy O'Connell, Ricardo Ojeda, Jim Patton, Oliver Pearson, Ron Pine, Kent Redford, John Robinson, Angel Spotorno, Ralph Wetzel, Michael Willig, and Charles Woods). The book we edited became a benchmark in South American mammalogy (Mares and Genoways, 1982).

Fernando Kravetz (SAREM's 4th president, 1989-91) was the mammal ecologist in Buenos Aires. He had begun working under the direction of Oswaldo Reig in 1964 (Kravetz, 2003) and continued research on mammals for the next 38 years. His specialty was ecological research on

small rodents in eastern Argentina. He was neither a collector nor a systematist. His ecological research was sound, but his studies were of little value to a desert ecologist working in the Monte, though they were some of the few modern ecological studies done on mammals in Argentina up to that time.

If there were other mammalogists working in Argentina in 1970, I cannot remember them. The nearest mammal collection to my field site in Andalgalá, Catamarca Province, was at the Instituto Lillo in Tucumán and I had to travel there regularly to compare specimens in the collection with what I was collecting in the field. I became good friends with a giant in Argentine ornithology, Dr. Claes Olrog. Olrog is best known for his bird research and his bird field guides, but this brilliant gentleman also had an interest in mammals and other vertebrates and was curator of both the bird and mammal collections at the Lillo. He collected some mammals on every field trip (he had only a few traps), but he gradually built the most important mammal collection in western Argentina. Olrog and I were frequently unable to identify mammals I was collecting. I later found that Massoia and Crespo were unable to identify them either. In fact, when I returned with specimens to the United States, no one could put a name of many of the animals I had collected. Here was a problem I had not expected, given that I had been trained in the United States, where the fauna was exceptionally well known.

Olrog would laugh at the ignorance of people associated with the Tucumán collection before his arrival. For example, the collection contained mammals from the greatest Argentine collector of all time, Emilio Budín (Barquez, 1997). Budín collected for the greatest systematic mammalogist, Oldfield Thomas (and the fortuitous concordance of the greatest mammalogist with the greatest collector stretches the limits of probability theory). Thomas wanted his skulls prepared by specialists at the British Museum, so he asked Budín not to clean them (thus avoiding possible damage to the skulls in the cleaning or shipping process). This Budín did. When Olrog took over the collection at the Instituto Miguel Lillo, he found that all of the mammal skulls were still encased in hard, dry tissue and had never been cleaned. When he began to clean them, people at the institute tried to stop the apparently crazy Swede from destroying the skulls by cleaning away the dry tissues, thus acting against the wishes of Thomas, the long-dead curator of the British Museum!

Virgilio Roig had been trained in agronomy, but had conducted research (often with Reig) on reptile and amphibian biology, as well as early studies on mammals. While not trained as a mammalogist, he had a good knowledge of the mammals of the Monte Desert and was one of the few people who had studied any mammals in the region. Virgilio was a resource upon whom I would draw repeatedly during my time in Argentina as a graduate student, professor, and visiting scientist. He was involved in the early battles to form SAREM. Reig, as might be expected, was also immersed in the politics of the developing organization. Succeeding Osvaldo Reig as president of SAREM, Virgilio Roig served as the 2nd president (1985-86), and later the 8th president as well (1997-1999).

The literature on the mammals of Argentina in 1970 published by Argentines (as opposed to research conducted by foreigners who had worked in Argentina) was primarily based on the classic works of Cabrera, Crespo, Llanos, Yepes, and a few more recent workers, such as Reig, Roig, Merani, Kravetz, Massoia, and Contreras (Mares, 1982; Pardiñas, 2008). Most fieldwork had been done in eastern Argentina, particularly Buenos Aires. Almost no one had worked in the West. Indeed, I cannot think of a single modern ecological study of mammals that had been done in western Argentina before I arrived. I was an ecologist trained in both the Odum and MacArthur schools of ecology, but most research on mammals in Argentina had been basic natural history, describing which species occurred in which habitats, and there were few of even these types of studies. Little work was being done on mammal ecology and very little on mammal systematics.

Everyone's taxonomy was based on the monumental work of Cabrera, with modifications to some taxonomic groups that had been made by Pearson and Hershkovitz. Over time I was to find the lack of systematic research to be the biggest challenge I would face in the coming years.

1972-1982 (pre-SAREM)

I became an adjunct professor of ecology and zoogeography at the Universidad de Córdoba in 1971 and then at the Universidad de Tucumán in 1972, teaching classes between field trips to Andalgalá and Mendoza (my principal research sites). In Tucumán my class included Ricardo Ojeda, Rubén Barquez, and José María Chani. None of the students had ever been immersed in field research or in research on mammals. I took them into the field and we collected mammals, regardless of whether or not it was snowing, raining, cold, or hot. Many would become interested in mammals because of that class and would receive graduate degrees in mammalogy or ecology. One thing I made clear to all of the students was the fact that I could not identify many of the species that we were catching and neither could Olrog, the nearest thing to a mammalogist that there was in Tucumán. The more I worked in the Northwest, the more I became convinced that we were collecting mammals that had not been previously described or that were parts of complex genera whose limits were not clear. We could say that we were collecting species A, but we really did not know if it was A, B, or C, a mix of all three, or some other as yet undescribed species. Once I caught a small rodent in a trap. Ojeda, Barquez and I each «identified» the animal without telling the other what we thought it was. As a measure of our ignorance, we had placed the little mouse in 3 different genera!

How does one do ecology, behavior, physiology, anatomy, or any other research if the identification of the mammals is uncertain? If a line of traps yields nine species but five of them look alike, are we content to say we have five species, but one seems to have very broad preferences in morphology, habitat, physiological adaptations, and diet? Here is a real life example. I had been working on *Eligmodontia typus*, the small gerbil-mouse of the Monte Desert, since my arrival in Argentina. Hershkovitz (1962) had reviewed the genus and concluded that there was only one species in Argentina. This view differed from Oldfield Thomas, who had named several species from the country. When I finally traveled to London in the late 1970s to examine the type specimens (which Hershkovitz had not done), it was obvious that Thomas was correct. But what did I know as a graduate student in ecology encountering the animals in the field? There were no guides to the mammals of Argentina, no taxonomic keys to most of the groups of mammals, no provincial field guides, no lists of species of the provinces or regions, and no mammalogists to talk to about what I was finding. The mammals of the Monte Desert had never been explored. It was very difficult to do ecological work in this environment. Except for the work by Budín and Olrog, the Northwest had hardly been studied at all.

As part of my dissertation, I studied *Eligmodontia* in the lab and in the field, examining ecology and physiology. I assumed there was only a single species, since Hershkovitz said so. Eventually, I published on the animals, but I always had doubts that more species were involved, especially after examining the type specimens. Eventually my students, colleagues and I would work intensively on this genus and find that it was quite complex, containing at least six species in Argentina. Now, thanks to the work of these mammalogists, when someone studies *Eligmodontia* they will know what they are encountering. I emphasize that it took us decades to tease apart the relationships of this group, and it was only after genetic sequencing was incorporated into the study that we were able to complete the work. *Eligmodontia typus*—the animal I had supposedly studied in Andalgalá—does not even occur there! I was studying not one, but two, different species (*E. moreni* and *E. bolsonensis*) and giving both species the name of a third species that is not found in that area (much of the taxonomic history is reviewed in Mares et al., 2008). My

original findings are thus open to question because of the poor state of taxonomic knowledge on the genus. Variability in my data may well have been intraspecific and not interspecific.

Taxonomy and phylogenetic systematics are the foundational disciplines of biology. As I noted in *A Desert Calling* (Mares, 2002), «If you do not know the taxonomy and systematics of the organisms you study—if you cannot identify them correctly and understand how they are related—then you cannot study them in any meaningful manner (p. 232). This is absolutely true, although many ecologists, biogeographers, behaviorists, conservationists, and physiologists do not like to think about it. Some even ignore it. Perhaps this is one reason why so many studies deal with the same species time and again. Often these are species that are easily distinguished from other species or that occur in one particular area that has been studied extensively. This is a way to minimize the problem of the unidentified species lurking within the data. This problem of undiscovered or poorly described species has not been solved in Argentina, as Pardiñas noted in his prescient editorial in *Mastozoología Neotropical* (Pardiñas, 2006).

If one is to distinguish among species and recognize possible new species, one has to have a profound knowledge of that particular group of species wherever it occurs, as well as a deep knowledge of closely related genera. One has to be able to distinguish similar species, or tease apart cryptic species. It is not easy to obtain this base of knowledge and it is impossible to do it without significant research collections or widespread collecting. It is for these reasons that Massoia and Contreras made their large private collections, something that is no longer done in most developed countries due to the fact that such collections may not be readily available to the scientific community or their potential for loss of the collections caused by poor storage conditions or following the death of the collector.

Massoia and Contreras were studying groups that were not common in the museums of Argentina and both required significant systematic collections to be able to do their basic taxonomic research. After Budín, they were pioneering discoverers of mammals. They carried on under the most difficult of circumstances, working with little financial or institutional support and driven only by their passion for understanding Argentina's mammals. They were not formally trained as mammalogists, although they had been involved in a course that Oliver Pearson offered in Buenos Aires in the 1960s. This course, which included many of those who would come to be part of the middle generation of Argentine mammalogists (excluding Cabrera and the earliest workers), was a critical factor in the development of mammalogy in Argentina.

1983 to 1993

SAREM was born in 1983. There were many difficulties in getting the rather small group of founding members to agree on how to proceed with the development of a new scientific society. Quite a few alpha males were present and at least a couple of alpha females. This fact alone almost guaranteed conflict (alluded to by Diaz, 2008). Despite the difficulties at some of the early meetings that resulted in long and heated discussions lasting all day and far into the night, SAREM became a viable mammal society and gradually began to grow. Yet its existence was still tenuous during the economic and political chaos of the late 1980s when hyperinflation reached 200 percent/month and a postage stamp cost several days' salary. How could people afford to pay their society dues or attend annual meetings under such conditions? These were difficult days for everyone, especially for a newly developing scientific society.

Recognition of SAREM by an International Conference

In 1988, as Chair of the Committee on International Relations of the American Society of Mammalogists, I proposed a joint meeting of the ASM—the largest and oldest mammal society

in the world, which was founded in 1919 and had 3660 members —and the fledgling SAREM, which had perhaps 100 members. I thought it would be good to bring the world's largest mammal society to Argentina to increase contacts among North American and Argentine mammalogists and to increase the visibility of SAREM among international mammalogists.

Janet Braun and I organized the meeting for ASM and Fernando Kravetz and Virgilio Roig were the SAREM coordinators. Osvaldo Reig opposed the meeting, saying I was inviting the ASM to Argentina so that ASM members could see that Argentine mammalogists were not their scientific equals. It was an odd view of why a scientific conference is held, but Reig insisted that there were ulterior motives for the meeting. We forged ahead nonetheless.

Kravetz and Roig did an enormous amount of work in the face of strong opposition on many fronts and helped make the conference a success. The fact that we were able to hold the gathering at all is a tribute to their tenacity and courage. More than 250 mammalogists (half from the ASM) gathered in Buenos Aires. New research relationships were forged, new contacts made, and new friendships begun. ASM was impressed by the high quality and diversity of research being done by their Argentine counterparts and with the exciting group of young people that was developing an interest in mammals. I think young Argentine mammalogists enjoyed associating faces with names on papers and seeing that many of these highly published mammalogists who were famous in the very small circle of people who study mammals were similarly curious people driven by a passion for the discipline.

Those of us who organized the conference were pleased that we were able to make it happen at all when so much seemed to conspire to derail our efforts. Kravetz suffered an attack of nerves after the conference and was hospitalized for several weeks. All of us who organized the gathering were in a state of daily high anxiety as money and logistic problems plagued us constantly. We had daily audits late into the night to see if we were going to be able to keep the conference operating. At the end, of the tens of thousands of dollars that had been spent to cover the costs of the meeting, only \$16 remained.

My own view is that this conference marked a turning point in how SAREM was perceived by mammalogists worldwide. SAREM was a serious society doing serious research. Its demographics were good: there were many young people and few old people. The papers were excellent. ASM members were buzzing about the exciting meeting that had taken place in Buenos Aires and about the opportunity that many of them had to discover a new country and to meet new colleagues. Some Argentines began joint research projects with their new North American colleagues. I believe that SAREM became stronger after the joint mammal meeting in Buenos Aires, as did the ASM.

The late 1990s

*The American Society of Mammalogists grew out of the U.S. Biological Survey, which had been developed by C. Hart Merriam. Only five or six scientists were involved with the initial planning for the ASM (Hoffmeister, 1969). Many of the 60 people present at the first meeting had trained under C. Hart Merriam, the Father of Mammalogy, and though Merriam was elderly and no longer active, it seemed fitting that he be made the first president (Storer, 1969). That first meeting established the bylaws and the plans for the *Journal of Mammalogy* as the society's major product (many names, such as *Bairdia*, *Puma*, and *Bison*, were considered for the new journal). The *JM* has continued to be published continuously for 90 years. Without the *Journal of Mammalogy*, ASM would almost certainly have ceased to exist. Many other publications have been produced by the society, but the journal is the flagship of the publications fleet, its articles among the most important and voluminous ever produced on mammals. It is global in scope and is the thing all members most want to receive. Annual meetings were also planned for the ASM*

and, with the exception of two that were missed during World War II, have been held continuously since the founding of the society.

Ricardo Ojeda, who became the 5th president of SAREM (1991-1993) after the joint meeting, was always interested in ecology and biogeography. He is gifted in these disciplines, so his career developed primarily in ecological research related to desert biology. His students continue this work today. Dickie had received his PhD with me at the University of Pittsburgh and loved the broad-brush theoretical approach to discerning patterns in nature. Ojeda (assisted by a small army of students) would eventually become the premier desert mammal ecologist of Argentina. In the early 1990s, Dickie decided that he wanted to develop a scientific journal for SAREM.

Ojeda became the founding editor of *Mastozoología Neotropical* and I recall many long discussions and even arguments about whether or not it was a good idea to develop a new journal for Argentina. I was against it, saying that there were journals enough to handle good science and that publications by mammalogists should be published in English so that they could reach the larger scientific audience. I knew of journals that had appeared and then disappeared in Latin America. Publications that had been placed in those journals were hardly available to scientists in any country. I also was familiar with the need for money and a great amount of unselfish service from a scientific society if a journal was to flourish. SAREM was a very young society. It had had a rocky start and, although it was growing, would there be enough expertise to support, manage, and develop a journal? I did not think so. Scientifically speaking, I felt it would be worse to develop a journal that later failed than to not have a journal at all.

I was wrong. Encouraged by Oliver Pearson, who helped cover some of the costs of publishing the early issues, Ojeda (2003) persisted. Eventually mammalogists from Argentina and many other countries offered to help the new journal (I served on the editorial board for 10 years, along with more than a dozen other international scientists). *Mastozoología Neotropical* grew into a good journal, publishing articles in Spanish, Portuguese, and English. Without this journal, SAREM would never have realized the growth it has enjoyed, or the enthusiasm displayed by young South Americans for mammals and mammalogy. They can now read scientific papers in their own languages in a respected journal. This was a benefit of the journal that I had not considered too important since I doubted that there was a great deal of interest in Argentina for mammal research.

With the establishment of *Mastozoología Neotropical* in 1994 as the official journal of SAREM, a new hill had been climbed by the young society, but it is difficult to maintain a scientific journal. First, there is the matter of cost. It is cheaper to produce many copies than it is to print fewer copies of each issue. This is called the economy of scale and is the reason that small societies seldom have their own journals, or why some small journals may fail as costs rise beyond the level of sustainability. Moreover, a new journal often has little impact on the field. It may not be viewed as a serious publication by government agencies, granting organizations, or fellow scientists. Does it appear regularly? Is it of high quality? Will it persist in the face of economic challenges? Is it included in citation services? Who speaks for this journal?

Mastozoología Neotropical faced all of these challenges and more. Always looming behind the developing society and its journal was the remarkably unstable national government and wildly fluctuating economy. These kinds of problems cannot be overstated to those who have not experienced them and it is a tribute to all SAREM members during this period, especially the leadership, that the society and its journal were able to germinate and grow. There were financial problems, difficulties in getting two issues published on schedule each year, difficulties in receiving enough high quality manuscripts to review, and so on. Without the dedicated efforts of Ricardo Ojeda and the editors who followed him—Carlos Borghi, Rubén Barquez, and now Ulyses Pardiñas—the journal would not have become the publication that it is today and would likely

have disappeared. Eventually, *MN* would come to be recognized as a quality publication. This was a great accomplishment for a small journal from a small society and is significant for many reasons (Barquez, 2006).

Mastozoología Neotropical provided continuity to the society (along with the well-attended annual meetings, which have been held throughout Argentina for 25 years). By having a high quality outlet for published research on mammals, primarily from Latin America, mammal researchers from this broad region are able to communicate their findings to fellow investigators in three languages. Indeed, the success of SAREM influenced other countries (Brazil, Bolivia, Peru) to establish their own mammal societies. As Diaz (2008) noted, in 2006, three mammal societies (Brazil, Bolivia and Argentina) gathered together in Gramado, Brazil, for the first joint South American mammal conference. Mammalogy as a discipline had thus become firmly established on the continent and SAREM deserves much of credit. Finally, in 2009 the 10th International Mammalogical Congress will be held in Mendoza for the first meeting of this group in South America. This largest gathering of mammalogists from throughout the world would not have happened without the existence of SAREM, its excellent journal, and the strong support group for mammal programs and mammalogists in Argentina. Ojeda is the principal organizer of this important conference, assisted by many SAREM members. I believe this conference will be another major benchmark in the continued development of mammalogy in Argentina and will help with the continued growth of SAREM.

Rubén Barquez was a graduate student of Olrog's and mine and had worked with me since that 1972 class in Tucumán. Rubén established a dynamic research group in mammalogy at the Universidad de Tucumán and began a renaissance of the mammal collection of the Instituto Lillo. He succeeded Olrog as curator and almost single handedly brought the mammal collection into the modern era, with specimens in good cases, careful and modern curation, and active collections-based research. He had very little financial support in doing much of this work and, like so many Argentine mammalogists, paid for the improvements from his limited personal resources. He was going to make the collection better and simply could not be stopped, regardless of the roadblocks that were placed in his way (and there were many). It was a remarkable restoration of the vital national collection resource and Argentine mammalogy is better for his unselfish efforts (Díaz, et al., 1998).

Barquez followed Ojeda into the SAREM presidency, becoming the 6th president of the society (1993-1995). Ojeda and Barquez, working together as past president and editor, and as new president, would ensure the success of *Mastozoología Neotropical* and would continue to bring high professional standing to the SAREM leadership. Barquez became editor of *Mastozoología Neotropical* from 2004-2008, the period where *MN* became accessible on the web. He continued the strong development of the journal with high quality articles from a diverse group of biologists.

Rubén had his interest fired by the discovery and clarification of the species that comprise Argentina's fauna, especially bats. Indeed, Barquez is the world authority on Argentine bats, authoring two major works on topic). Rubén's doctoral students included Norberto Giannini, David Flores, and Analía Autino. All are interested in taxonomy, systematics, evolution, and morphology, whether of mammals or their associated parasites. In the late 1990s, another student received her doctorate under Barquez's direction: Mónica Díaz. Moni (who was my postdoctoral student and a postdoctoral student of my former student, Michael Willig, with whom she studied Peru's tropical bat fauna) would develop as a major researcher on the taxonomy of small mammals and bats in the Northwest, arguably Argentina's most faunistically complex region. I had worked with Ojeda and Barquez on guides to the mammals of Salta and Tucumán (the first field guides to Argentine provinces), and to the bats of Argentina. Monica studied the most complex provincial fauna of all—Jujuy—for her doctoral project, publishing an outstanding

guide to the mammals of Jujuy (Díaz and Barquez, 2002). Later, Barquez, Díaz, and Ojeda would edit the first comprehensive technical work to the mammals of Argentina (Barquez et al., 2006). This important book was published by SAREM.

Rubén's and Mónica's research group is interested in finding and identifying mammal species in areas that have not been well surveyed (which, unfortunately, is much of Argentina's territory). They are among the few mammalogists (along with Pardiñas, some of Ojeda's students, and a handful of others) who are actively engaged in discovery and description of mammals and their habitats.

SAREM: Status and Future

Since the joint conference in Buenos Aires in 1990, the membership of the ASM has declined significantly. In part this is demographics. There were many veteran mammalogists who formed the backbone of the society during the 1970s, 1980s, and 1990s who were retiring or passing away as the new century dawned. Without a significant infusion of young mammalogists (and with fewer mammalogist positions becoming available in academia and in museums), the society could not continue to grow sufficiently to replace this large coterie of older members. Today the ASM membership hovers around 2700, a decline of more than 25 percent from 1990. Mammalogy, as a discipline, has changed. More young people are entering the fields of ecology, conservation, genetics, and behavior, and fewer are identifying with mammal research, especially taxonomically focused research. Collecting mammals is an activity not well funded by granting agencies and mammal collections themselves are suffering from a lack of support at all levels. One could say that the demographics are not positive for new growth of the ASM over the long term.

On the other hand, the *Journal of Mammalogy* continues to be the finest journal in its field and it is publishing more and better papers than ever before. The journal is facing threats from web-based publishing, open access, and other challenges to its continued existence, but ASM is attempting to deal with these in creative ways that ensure the success of the journal and, more importantly, the discipline itself. As the ASM approaches its centenary, I feel confident that the society will still be viable after its first 100 years. How it will fare into its second century no one can say. But it is fiscally sound and is being proactive at dealing with the challenges of a world that is changing on all fronts.

The ASM is a large society. Indeed, over the last year alone, ASM lost almost 300 members (10%), roughly equal to SAREM, which has about 300 members. The demographics of SAREM are good and the size of the society has not declined since 1990, rather it has grown. There are many young members and the future seems bright for continued growth. Will SAREM reach 50 years in 2033 and 100 years in 2083? Will its members step forth to meet the enormous environmental and ecological problems that will be taking place over the intervening decades? No one can say, of course. All we can do is train people now to fight the good fight. And to do that there are several things that SAREM can do.

As Patterson (2002), I (Mares, 2003), and Pardiñas (2006) noted, there is a great need for field mammalogy in Argentina. And here I am speaking of discovery, taxonomy, and biogeography. Argentina's mammal fauna is not well known, despite the fact that it appears to be. There are very few museum specimens and these represent only a few localities across this vast territory. Too few SAREM members have learned to collect and prepare mammals and to dedicate some time to increasing the size of the nation's collections. The Museo Argentino de Ciencias Naturales in Buenos Aires contains only about 20,000 specimens from Argentina. As our ongoing work on museum specimens collected in Argentina shows, the great majority of mammals ever collected in Argentina are in collections somewhere in Argentina (more than two thirds). It is simply a myth that most scientific specimens from the country are in foreign museums. Perhaps

50,000 total specimens have been collected in Argentina over the centuries. The problem is not how many specimens are stored in national or foreign museums, but how few have ever been collected in Argentina in the first place. By comparison, consider my state of Oklahoma. Oklahoma is not a large state, but the Sam Noble Museum holds perhaps 10,000 specimens from the state and three other university collections in Oklahoma add another 15,000 specimens. Other museums in the U.S. hold 10,000 more specimens. This means that roughly the same number of mammals have been collected from Oklahoma since 1880 as have been collected from Argentina (which contains more than four times the number of species and is 15 times larger than Oklahoma) in over two centuries. Moreover, Oklahoma cannot be considered to have been well sampled by mammalogists!

How can one study the mammals of a country without comparative material? How can the geographic distributions of mammals be understood or clarified if there are only a few specimens from a scattered group of provinces? How can one even know how many species a nation supports if no one is collecting enough mammals to understand the patterns of speciation? How will one be able to tell if a species is in decline if its distribution and abundance are unknown? How can one begin to study ecology and conservation at ecosystem and population levels if one cannot identify the species or know where they occur and co-occur?

The future of mammal research will in large part reside in the specimens that are placed in collections now. Habitats and species are going to disappear. Genomic resource collections that each day become increasingly invaluable in research of all types, skins and skulls, fluid preserved specimens, and other museum materials will be the only way that many, if not most, species will be studied over the next century. Too few people are collecting mammals in Argentina. Perhaps this is because Walt Disney convinced most of us that wild mammals are like humans and should not be collected. Some mammalogists seem to be opposed to any type of collecting. Certainly there must be some reason why so many students select research projects in ecology and behavior and not in systematics or evolution. They do not want to collect mammals. Some people think that one can even identify mammals in the field using photographs. Let me give you a word of advice: you can't.

SAREM needs to increase its efforts to develop a biological survey of Argentina. There are enough SAREM members in each province right now to begin collecting specimens. It does not require money. Massoia, Contreras, and Fornes hardly ever had even a few pesos to spare, yet they conducted important research because it was a way of life for them. If you do not have money to go into the field, collect mammals at the edge of town or in fields near your home. Specimens are needed from every locality (geographic variation), in every month (reproduction), from every age group (growth and development), from both sexes (sexual variation), and in every habitat (habitat specificity, behavior, ecology, diet). If every member of SAREM collected and prepared 100 specimens this year (a very modest amount), Argentina's mammal collections would double in size in 12 months. Moreover they would do so during a period of possibly catastrophic habitat destruction and species decline. The data and specimens that would be gathered through such an effort will provide baseline scientific information far into the future when all of the little notes and observations on home range and behavior are forgotten, or relegated to reminiscences on extinct species.

SAREM needs to launch a formal effort to increase support for collections and survey research from the scientific establishment, from the nation, from each province, and from each university. Each day scientists are able to extract more information, and more profound information, from museum specimens than anyone would have ever thought possible. Specimens increase in importance constantly. Moritz et al. (2008), using museum specimen data gathered almost a century earlier were able to repeat small mammal censuses in Yellowstone National Park and

show that global climate change was strongly affecting the parks mammal fauna. Yet Argentina's collections are underfunded, understaffed, and in poor condition. Many specimens of the few that have been collected are in danger of deterioration or loss. Moreover, there are too few mammalogists who can really identify the mammals of the country and too few students studying taxonomy or systematics. Yet that is what is vitally needed. We need more field collectors and collection-based mammalogists (Patterson, 2002). As an aside, this would greatly increase the expertise of the country's mammalogists so that more people would know what they're studying. As mammalogists, we have a duty to understand nature, and the most basic questions of nature are: What is it? Where does it live? To what is it related? What does it do? For the great majority of Argentina's mammal fauna, we cannot answer these questions.

Over the years I have noted a split between amateur naturalists and academically trained biologists. In a country where there are so few workers of any kind, these divisions can be counterproductive. There is room for everyone in mammalogy in Argentina, whether professional, amateur, citizen scientist (<http://citizensci.com/>; <http://nasascience.nasa.gov/citizen-scientists>; <http://www.scienceprogress.org/2008/07/harnessing-citizen-scientists/>), politician, or voter. Given the enormous environmental challenges that face us today, everyone will have to work together in their own spheres to attempt to solve these immense problems (Polop, 1999). Conservationists, wildlife biologists, government bureaucrats, biologists at all levels, popularizers, natural historians, park and reserve workers, museum workers, teachers, writers, journalists, and others must all work for the greater good.

Given the scale of habitat destruction and species disappearance, these problems will not be solved by the 300 members of SAREM, or by the ornithologists in Argentina, or other taxonomic or disciplinary specialists, although the basic high quality scientific information they produce is the bedrock upon which the environmental and conservation battles will be developed. The days of protecting turf, guarding data, diminishing the work of others, and similar puffery must end. In battle, one does not worry about whether or not you like the man to your right or left. Your life depends on him. Similarly, the health of the biosphere depends on all of us, each person bringing different expertise, different data, different talents, and different ideas to the table.

If species are lost, as they surely will be, much of the blame will fall on us. We knew what the problems were and either stood by helplessly in the face of environmental destruction or busily pursued our mundane interests without giving our all to the struggle to save our habitats and species (Flores, 2007). It all begins with knowing what we have and where it occurs. We do not have that information for Argentina right now and in many cases the natural habitats are already gone. It is not too late to begin to collect in every province, however. I will add a personal note here: it should not matter whether the collections are made by Argentines or foreigners, professionals or amateurs, faunal personnel or average citizens, as long as those specimens end up in museums. There is just too much work to do to be concerned with protecting one's personal or intellectual territory.

I believe that such worries have been based in either ignorance or ego wrapped in false nationalism. Mammals are a renewable resource for the time being. No mammal species has gone extinct through scientific collecting and collectors will not damage populations. When mammalogists complain about Fulano de Tal collecting eight rodents because he does not happen to be an Argentine, it merely shows a deep ignorance of rodent population biology or worse, a lack of interest in whether or not science advances because one is jealous of anyone else who is trying to work. It also shows an ignorance of the scale of the gathering storm of extinction and habitat deterioration that is even now upon us.

SAREM can lead the way to a new flowering of fundamental mammal research by dealing with issues such as the ridiculous laws involving national and provincial collecting permits for Argentine

citizens and foreign scientists. I know many scientists in developed countries who have given up research in Latin American nations because it is just too much trouble to work within the restrictions that are placed on collectors. Perhaps that was the goal all along. If so, it is succeeding. Alas, it is the unstudied nations and the undiscovered species that will suffer the most.

My students, colleagues and I have worked in Tucuman, Salta, Jujuy, Mendoza, and Catamarca for almost 40 years. But we are only a few scientists. How much better would it have been if dozens of other mammalogists had been working there too? Our only strength as scientists involved in mammal conservation and research will come through strong encouragement—not discouragement—of everyone who wants to work on mammals, wherever and whenever they want to work, and whatever taxa they wish to study (Barquez, 2001). As the great poet and folklorist Jaime Dávalos said, «La única forma del salvarnos es salvarnos juntos.» This was never truer than in reference to the need to develop the foundations of systematic mammalogy in Argentina through collections-based research on the broadest scale possible.

Despite the great environmental challenges we are facing, Argentine mammalogy, right now, is stronger than it has ever been and SAREM is the reason for the growth and development of this discipline. Without SAREM, fewer people would be studying mammals and they would not have a quality publication for their work. They would not have annual meetings, or a website, or an email communication mechanism for discussing scientific and environmental questions instantly across Latin America. They would not be able to unite quickly to respond to common threats to the natural world.

SAREM has contributed much. Now there is a need to lead the society into a dark future where environmental challenges will affect everything from the economy to human health, government stability to species persistence, peace and war. We are on the cusp of a massive extinction event and our research is vital to understanding the mammals that existed before the coming environmental collapse occurs. There is still much to be learned from nature, even if much of it will be extinct within this century. SAREM is positioned to act through its members, its leadership, and its hard-earned respect as a scientific organization. It has come a very long distance since those early planning meetings in 1983. As a scientific society, its future is bright. Perhaps it is good to close with Tracy Storer's (1969) comments on the golden anniversary celebration of the American Society of Mammalogists.

«Our Society and its field of interest have experienced exceptional healthy and sound growth during the past half century. Except for the instances of far decline or extinction of wild species—that must be ascribed to other human hands—we can be proud of the record. The young members of today, who may expect to participate in the centennial of the American Society of Mammalogists, can look forward to an ever expanding pattern of studies in this favored scientific discipline.»

As I write these words, I lift a glass of the finest vino tinto from Mendoza to the continued success of the Sociedad Argentina para el Estudio de los Mamíferos, the last best hope for mammals in Argentina.

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