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NEWS

WILEY Evolutionary Anthropology
ISSUES, NEWS, AND REVIEWS

The third annual Northeastern Evolutionary Primatologists meeting at Yale University

The third meeting of the Northeastern Evolutionary Primatologists (NEEP) was hosted by Yale University in New Haven, CT on October 27 and 28, 2017. Eduardo Fernandez-Duque and Claudia Valeggia organized the event and gave NEEP members the opportunity to explore the Biological Anthropology Lab during a preconference. There were approximately 120 attendees, including undergraduates, graduate students, postdocs, and faculty (Figure 1). In keeping with the spirit of NEEP's founding, most of the presentations were given by students and recent graduates. NEEP's main objectives are to provide professional experience for early-career academics, as well as an opportunity for them to network with researchers from a variety of institutions and subfields of primatology. The setting is small, allowing everyone to engage in great discussion with new and former colleagues.

1 | KEYNOTE SPEAKER

Dr. Eva Garrett, from Boston University, opened the 2017 NEEP meeting Friday evening as the keynote speaker. Garrett is broadly interested in the evolution of sensory systems, with a focus on olfaction. She presented fascinating research on evolution of the vomeronasal system in primates. Her interdisciplinary research approach integrates bioinformatics, anatomy, and paleontology. Garrett mainly examined evidence of a trade-off between olfaction and vision from a paleontological perspective by looking for grooves made by the vomeronasal organ in the skull. She found evidence suggesting that this organ persisted until stem catarrhines arose. In fact, she showed that the vomeronasal organ has a complex evolutionary history throughout the primate clade, including making a comeback as a vestigial organ in hominoids after being lost in Old World monkeys. She has also found that haplorrhines, on the genetic level, have few intact vomeronasal receptor genes (V1R). Overall, her research suggests that there are significant trade-offs among the different sensory systems. Garrett closed her talk with some great advice. She encouraged students not to be overly hesitant when it comes to exploring new routes of research and emphasized the merits of an interdisciplinary research, despite the inherent challenges one may face when pursuing it.

2 | PODIUM AND POSTER SESSIONS

2.1 | Podium Session 1: foraging, feeding, and nutrition

Interested in examining two hominin brain evolution hypotheses, Amanda Tan (Dartmouth College) used stable isotope analyses to examine a population of macaques that use stone tools to exploit shellfish in intertidal zones off the coast of Thailand. Tan determined that 15% of the macaques' protein intake comes from shellfish. Eliot T. Monaco (Stony Brook University) discussed sodium acquisition through geophagy in gray langurs of Nepal. Monaco examined the chemical properties of soil samples from termite mounds and riverbeds that langurs were observed feeding from and found that sodium concentrations were different in the consumed soils, supporting the mineral acquisition hypothesis regarding why primates engage in geophagy. Maressa Takahashi (Columbia University) discussed nutrient balancing and daily protein prioritization of blue monkeys in Kakamega Forest, Kenya. Takahashi analyzed the nonprotein energy (NPE) to protein energy (P) ratio of blue monkey groups. Her results suggested that individuals appear to tightly balance their cumulative NPE/P intake. Wendy M. Erb (Rutgers University) determined that wildfire smoke can negatively affect the activity budgets and energy balance of wild orangutans in Borneo. Discussion of orangutans continued with Elizabeth F. Ballare's (Rutgers University) examination of cortisol variation in rehabilitated and released orangutans in Central Kalimantan, Indonesia. Ballare concluded that cortisol levels were elevated before their release from the rehabilitation center, a time period that can last several months or longer.

2.2 | Podium Session 2: sociality and social behavior

Ever wonder how we choose our playmates? Meredith Lutz (Bucknell University) examined how juvenile brown capuchins, hamadryas baboons, and diademed sifakas mitigate risks of social play (e.g., physical harm) and determined that doing so varies according to socioecological factors. Continuing with brown capuchins, Corinne N. Leard (Bucknell University) examined a captive population and concluded that kinship, rank, age, and sex affect grooming interactions. She found, for example, that mid-ranked individuals play a prominent role in bridging relationships across capuchin social networks. Caitlin A. O'Connell (Boston University) discussed social party initiation, maintenance, and affiliative interaction among adolescent female orangutans in Gunung Palung National Park, Indonesia. O'Connell concluded that adolescent females engage in diverse interactions with adults of both sexes, including lots of awkward gawking, and that these females are responsible for initiating associations with the adult females with which they spend the largest percent of their time. Rachel M. Petersen (New York University & NYCEP) discussed the behavioral immunology of sociality and reproduction in male rhesus macaques in Cayo Santiago. More

FIGURE 1 Participants of the 2017 NEEP conference. Photo credit, Noel Rowe [Color figure can be viewed at wileyonlinelibrary.com]

specifically, Petersen examined neopterin, a product of immune system activation, and determined that males experience significant immune activation during mating season.

2.3 | Podium Session 3: of genes and phenotypes

Darice Westphal (CUNY & NYCEP) studied relatedness in mouse lemur species by analyzing genomic single nucleotide polymorphism data and determined that one species was even more inbred than the English bulldog. In the process, she demonstrated the potency of genomic assays for quantifying relatedness in wild primate populations. Continuing with the island of Madagascar, Elaine E. Guevara (Yale University) examined the evolutionary genomics of Verreaux's sifakas, which can be exceptionally long-lived, within the context of genes related to aging. She found that Verreaux's sifakas exhibit molecular changes in genomic regions similar to those in other long-lived mammal species such as whales. Thea Anderson (George Washington University) researched sexually dimorphic facial patterns in wild red-bellied lemurs to see if these patterns correlated with male reproductive success. Clare M. Kimock's (New York University and NYCEP) research leveraged years of data on rhesus macaques from Cayo Santiago to examine the heritability of three skeletal proxies for both body mass and bite muscle strength. She found significant heritability in most traits. Raymond Vagell (Hunter College) combined science and technology to ask whether genotype correlated with phenotype in the color vision of ruffed lemurs. At Duke Lemur Center, Vagell trained lemurs to use subject-mediated automatic remote testing apparatus (SMARTA) and found that trichromats significantly outperformed dichromats in distinguishing red from green.

3 | POSTERS

There were dozens of posters from undergraduates, graduate students, post-docs, and some faculty, covering an assortment of fascinating topics. Alexis Amann (CUNY and NYCEP) investigated the consequences of takeovers among hamadryas baboons in Ethiopia and suggested observational evidence of pregnancy loss, also known as the "Bruce effect." Amanda Mancini (CUNY & NYCEP) presented her analyses of

FIGURE 2 Student prize winners at the 2017 NEEP conference. Photo credit:, Noel Rowe [Color figure can be viewed at wileyonlinelibrary.com]

population genetics of the critically endangered black-and-white ruffed lemurs of southeastern Madagascar. Her findings suggest distinct pathways of connections among populations. Kylie Sorenson (Wellesley College) used spatial analysis and satellite imagery to examine deforestation in Borneo and the loss of behavioral diversity of orangutans there. Sheel Singh (George Washington University) presented a technique she helped develop for affordable, high-throughput genotyping using real-time PCR. While researching dominance and migration in male kinda baboons, Anna Weyher (University of Massachusetts, Amherst) determined that there were low levels of aggression within this species. Brian Zhong (University of Pennsylvania) analyzed variation in oxytocin and vasopressin receptor genes in association with social behavior, such as bonding, among Cayo Santiago's rhesus macaques. Chris Gilbert (CUNY & NYCEP) presented on the dentition and biogeography of a new fossil primate from Ramnagar, India. Liz Tapanes (George Washington University) identified subtle sexual dichromatism in the diademed sifaka population from Tsinjoarivo. Trisha Zintel (University of Massachusetts, Amherst) examined phenotypic correlations of gene expression in the visual cortex of 13 primate species via RNA-seq. She found that differentially expressed genes are reflective of differences in habitat use, group size, and color visual system.

4 | CHANGES AND GENERAL MEETING

This years' NEEP meeting implemented some small changes regarding how the conference is run. For example, in an effort to reduce plastic waste, stickers with members' names and affiliations, rather than the traditional plastic badges, were given at registration . Further, all dining supplies used were compostable or recyclable. Speaking of food, the lunch was explicitly designed to serve as an opportunity for attendees to meet new people and network. Each attendee was assigned a primate and number on his or her name tag. During the first 45 minutes of lunch, members joined a table of labeled with the name of their assigned primate, then swapped tables to join a table with their assigned number for the remaining 45 minutes. Each table had a series of discussion prompts regarding academia and research as a means of promoting engagement and giving students the opportunity to learn from faculty and share their experiences. The podium sessions were also changed. Instead of the traditional three-minute question period immediately following each presentation, a 30 minute panel-like question session occurred after each session. This allowed podium presenters and attendees more time to participate in what ended up being thorough and engaging discussions. During the general meeting, members discussed the option of diversifying into more subfields of biological anthropology while still being able to maintain the intimate setting. We also discussed the possibility of extending the conference to include workshops next year.

5 | AWARD CEREMONY

The top three podium and poster presentations were awarded a variety of prizes, including some great books (Figure 2, Photo Credit: Noel Rowe). Podium presenter Eliot Monaco (Stony Brook University) won first place for his presentation, "Sodium acquisition as the function of geophagy in Nepal gray langurs." The first runner-up, Thea Anderson (George Washington University) received an awarded for her presentation, entitled "Sexually dimorphic facial patterns in wild red-bellied lemurs." The second runner-up, Clare Kimock (New York University), presented on "Heritability of skeletal traits in free-ranging rhesus macaques." The first place poster presentation was awarded to Holly Fuong (Columbia University) for her research on similar social network positions among related blue monkeys. The first runner-up, Alyssa Arre (Yale University), presented a poster entitled "Developmental changes in selective attention to socioemotional stimuli in rhesus monkeys (*Macaca mulatta*)." Amber Trujillo (New York University) won the second runner-up award for her poster presentation, "Craniometric variation and taxonomy in papionin monkeys: the case of *Parapapio*." The location of the 2018 NEEP conference is currently being decided by the executive committee.

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