

Program of the Twenty-third Annual Meeting

Of

The American Society of Primatologists

Hosted by the University of Colorado Health Sciences Center
Department of Psychiatry, the UCHSC Center for Laboratory
Animal Care, Primate Research Facility, and the Denver
Zoological Gardens

June 21 – June 24, 2000

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**ASP gratefully acknowledges the University of Colorado Health Sciences Center
Department of Psychiatry, The UCHSC Center for Laboratory Animal Care,
Primate Research Facility, and The Denver Zoological Gardens for their support of
the 2000 Meeting.**

Local Arrangements Committee

Mark Laudenslager, Chair
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Program Committee Members

Tammie Bettinger	Sarah Williams-Blangero
Maria Boccia	David Lee-Parritz
J. Dee Higley	Leanne Nash
Bill Hopkins	Deborah Overdorff

The Program Committee thanks Karen Rader (Zoo Atlanta) for assistance with the compilation of the 2000 Program.

MEETING ROOMS

All sessions will be in the Regal Harvest House, Boulder, Colorado. Plenary sessions will be held in the Flagstaff Room. Oral presentation sessions, workshops, roundtable discussions, and a film session will be held concurrently in the Flagstaff Room, the Canyon Room and the Sugarloaf Room. The two evening poster sessions will be held in the Century Room (first floor).

REGISTRATION

Tables for registration and information (questions, help, messages, etc.) will be located in the Sunshine Room (second floor). The registration area will open at 12:00 NOON on Wednesday, June 21 and remain open until 7:00PM. It will also be open 8:00AM to 4:30PM on Thursday and Friday, June 22 and 23.

EXHIBITS, VENDORS, AND CONSERVATION SILENT AUCTION

Exhibits, vendors, and items donated for the Conservation Committee's Silent Auction will be displayed in the Millennium Room. Exhibits can be set up beginning at 6:00PM on Wednesday June 21. Please visit and support the exhibitors and sponsors.

SLIDE PREVIEW ROOM

Speakers may preview their slides in the Sunshine Room (second floor).

POSTER SET-UP

Individuals presenting posters can set up their poster presentations in the Century Room between 10:00AM and 5:00PM on the day of their poster session. Authors are encouraged to set up posters early and leave them up for the entire day. Poster sessions will be between 5:00PM and 7:00PM on Thursday, June 22, and Friday, June 23. Authors should remove their posters immediately following the sessions. There will be hors d'oeuvres and a cash bar available during the poster sessions.

COFFEE BREAKS

Coffee service will be available all day long, with soft drinks also available in the afternoons.

CONTINENTAL BREAKFASTS AND LUNCHESES

Registration fees include continental breakfast served each morning from 7:00 to 8:00AM. Breakfast on Thursday, June 22, is in the Century Room, and Friday and Saturday, June 23 and 24, breakfast is in the Millennium Room.

Lunches are also included in the registration fee and will be served outdoors on the Pavilion in the Gardens, at 12:00NOON on Thursday, June 22, and Friday, June 23, and at 12:30PM on Saturday, June 24.

RECREATIONAL ACTIVITIES

There will be guided hikes in the nearby mountains for the casual or more conditioned hiker. Bring your hiking shoes and enjoy the wonderful scenery that Boulder and the Front Range Mountains have to offer. Further information will be available at the meeting, but departure time will be 1:00PM, Saturday June 24, which follows the close of the formal conference, and precedes the banquet. Box lunches will be available that day.

The Denver Zoological Gardens will host a zoo tour on Sunday, June 25. Further information will be available at the meeting, but departure time will be 9:00AM from the hotel. There will be a small charge for transportation.

BANQUET

The final banquet ending the conference will be held Saturday, June 24 at 7:00 PM at the Red Lion Inn. Buses will begin transportation from the Regal Harvest House at 6:30 PM for the short trip to the Red Lion Inn. This will be a casual banquet, with both indoor and outdoor seating, nestled in the foothills, and with a great band!

1999 STUDENT COMPETITION WINNERS

The American Society of Primatologists proudly acknowledges the winners of the 1999 Student Paper and Poster Competition:

Oral Paper: Christina J. Campbell, Department of Anthropology, University of California at Berkley for “Fur rubbing behavior in free-ranging black handed spider monkeys (*Ateles geoffroyi*) in Panama”;

Poster: Jeffrey E. Fite, co-authored by Jeffrey A. French, Department of Psychology, University of Nebraska at Omaha, for “The impact of care on sleep in marmosets (*Callithrix kuhlii*): Is less or disrupted sleep an additional cost of providing care to infants?”;

Honorable Mention: Karen Bales, co-authored by James M. Dietz, Department of Biology, University of Maryland, College Park, for a paper entitled, “A new ‘founder effect’—establishment of dominance in wild golden tamarin groups”;

Wendy Dirks, Department of Anthropology, New York University, for a paper entitled “An evolutionary perspective on dental development in the siamang (*Symphalangus syndactylus*) from histology and radiology;

Melissa S. Gerald, Department of Anthropology, University of California at Los Angeles, co-authored by John Bernstein and Roystone Hinkson, for a poster entitled, “A novel method for measuring animal coloration.”

PROGRAM OVERVIEW

Thursday June 22

6:45AM—8:00AM: Past Presidents' Breakfast (table reserved at the Regal Harvest House Restaurant)

FLAGSTAFF ROOM

8:00AM—8:15AM Welcome

Welcome by Mollie Bloomsmith (Program Committee), Mark Laudenslager (Local Host), Richard Reading (Director of Conservation Biology, Denver Zoological Gardens), Steven Dubovsky (Interim Chairman, Department of Psychiatry, University of Colorado Health Sciences Center).

Introductory Remarks by Nancy Caine (ASP President).

8:15AM—9:15AM

Keynote Address: Duane M. Rumbaugh: "The Apes and Us: Brain and Emergent Processes" [I-1] (Flagstaff Room)

FLAGSTAFF ROOM

9:30AM—12:00NOON

Session 1

Learning and Cognition,
Part A

CANYON ROOM

9:30AM—12:00NOON

Session 2

Enrichment, Breeding
and Reproduction

SUGARLOAF ROOM

9:30AM—12:00NOON

Session 3

Acquisition and
Maintenance of Social
Dominance in Macaques and
Vervets (Symposium)

12:00NOON—1:00PM

Lunch Break

1:00PM—2:00PM

Featured Speaker: Patricia Wright: "Moon Ghosts from a Distant Island: Researching the Lemurs of Madagascar" [I-4] (Flagstaff Room)

FLAGSTAFF ROOM

2:15PM—4:45PM

Session 4

Social Behavior,
Part A

CANYON ROOM

2:15PM—4:15PM

Session 5

Environmental
Enhancement: Policy,
Plans and Perspectives
(Roundtable)

SUGARLOAF ROOM

2:15PM—4:15PM

Session 6

Cognitive Research
in Zoological Parks
(Workshop)

CANYON ROOM

4:30PM—9:00PM

Session 7

Films Dedicated to Newer Material
On Lesser-known Macaques

5:00PM-7:00PM Session 8: POSTER SESSION I: Enrichment/Colony Management; Breeding/ Reproduction; Feeding/Nutrition; Social Behavior; Ecology/Conservation (Century Room)

7:00PM-9:00PM ASP Executive Committee Meeting

Friday June 23

FLAGSTAFF ROOM

8:00AM—10:30AM

Session 9

Learning and Cognition,
Part B

CANYON ROOM

9:00AM—11:00AM

Session 10

Creating Employment Niches
in 21st Century Primatology
(Symposium)

SUGARLOAF ROOM

8:00AM—10:30AM

Session 11

Nonhuman Primate
Behavioral Genetics
(Symposium)

11:00AM—12:00NOON

Featured Speaker: David G. Amaral: “The Role of the Amygdala in Primate Social Behavior” [I-2] (Flagstaff Room)

12:00NOON—1:00PM

Lunch Break

ASP Board of Directors Meeting and Luncheon

FLAGSTAFF ROOM

1:00PM—3:30PM

Session 12

Social Behavior,
Part B

CANYON ROOM

1:00PM—3:00PM

Session 13

Preparing for Life
after Graduate School
(Roundtable)

SUGARLOAF ROOM

1:00PM—3:00PM

Session 14

Behavioral Genetics
Research in Nonhuman
Primate Populations
(Roundtable)

3:30PM—5:00PM ASP Business Meeting (Flagstaff Room)

5:00PM—7:00PM Session 15: POSTER SESSION II: Learning/Cognition; Physiology/Immunology; Endocrinology; Neuroscience/Pharmacology; Research Methods; Infant Development/ Maternal Behavior; Demography/Population Studies; Human Evolution/Anatomy/Growth (Century Room)

Saturday June 24

FLAGSTAFF ROOM

8:00AM—9:30AM

Session 16

Infant Development/
Maternal Behavior

CANYON ROOM

8:00AM—9:30AM

Session 17

Neuroscience/Pharmacology
Physiology/Immunology

SUGARLOAF ROOM

8:00AM—11:00AM

Session 18

Ecology/Conservation
Feeding/Nutrition
Anatomy/Growth

FLAGSTAFF ROOM

9:30AM—11:30AM

Session 19

Gestural Communication
in Primates
(Symposium)

CANYON ROOM

9:30AM—11:30AM

Session 20

Primates and Public Health
(Roundtable)

11:30AM—12:30NOON

Featured Speaker: Lynn A. Fairbanks: “The Nurture Assumptions: Things Your Mother Never Told You” [I-3] (Flagstaff Room)

12:30NOON—1:30PM

Lunch Break

American Journal of Primatology Editorial Board Meeting

1:00PM

Departure for local hikes

6:30PM

Buses begin transportation to Red Lion Inn for Banquet

7:00PM

Banquet begins at the Red Lion Inn

“Dinner in the Hills with Dancing in the Grass”

Sunday June 25

9:00AM

Departure for tour of Denver Zoological Gardens

ASP 2000 MEETING

SCIENTIFIC AND SOCIAL PROGRAM

Wednesday June 21, 2000

12:00NOON—7:00PM Registration (Sunshine Room)

6:00PM Exhibit and Silent Auction Set-up Begins (Millennium Room)

Standing committee meetings

Awards and Recognition	1:00PM-5:00PM	Suite 329
Conservation	1:00PM-5:00PM	Executive Boardroom
Education	3:00PM-5:00PM	Suite 231
Membership and Finance	2:00PM-5:00PM	Suite 229
Program	2:00PM-5:00PM	Regal Class Boardroom
Publications	2:00PM-5:00PM	Suite 331
Research and Development	2:00PM-5:00PM	Suite 431

7:00PM—9:00PM: Opening Reception at the Pavilion (outside in the Gardens)
[Food and Cash Bar]

Thursday June 22

6:45AM—8:00AM: Past Presidents' Breakfast (table reserved at the Regal Harvest House Restaurant)

FLAGSTAFF ROOM

8:00AM—8:15AM Welcome

Welcome by Mollie Bloomsmith (Program Committee), Mark Laudenslager (Local Host), Richard Reading (Director of Conservation Biology, Denver Zoological Gardens), Steven Dubovsky (Interim Chairman, Department of Psychiatry, University of Colorado Health Sciences Center).

Introductory Remarks by Nancy Caine (ASP President).

8:15AM—9:15AM

Keynote Address: Duane M. Rumbaugh "The Apes and Us: Brain and Emergent Processes" [I-1] (Flagstaff Room)

9:30AM—12:00NOON: Session 1: Learning and Cognition, Part A (M. J. Jorgensen, Chair) (Flagstaff Room)

9:30 Observational Learning of Food Processing Techniques in Gorillas (*Gorilla gorilla gorilla*). T.S. Stoinski, N. Ure, J. Wrate and A. Whiten [118]

9:45 Spontaneous Tool Behaviors in a Captive Group of Gorillas (*Gorilla gorilla gorilla*): Innovation and Observational Learning. S. Woods [131]

10:00 **WITHDRAWN**

10:15 Two Chimpanzees (*Pan troglodytes*) Compare Non-Visible Sums of Candy Pieces. M. J. Beran [14]

10:30 Concerning Recall Memory in a Chimpanzee (*Pan troglodytes*). C. R. Menzel [76]

10:45 Matching-To-Meaning: Emotional Awareness in Chimpanzees. L.A. Parr, F.B.M. de Waal and W.D. Hopkins [89]

11:00 Hemiretina Use is Stimulus Dependent in Chimpanzees (*Pan troglodytes*). M.A. Hook, S.J. Schapiro and J.P. Ward [56]

11:15 Vocalization Production and Usage in Language-Competent, Captive Bonobos (*Pan paniscus*). J.P. Taglialatela and E.S. Savage-Rumbaugh [122]

11:30 Touch-Screens Versus Joysticks: A Comparison of Two Automated Cognitive Assessment Methodologies for Nonhuman Primates. M. J. Jorgensen [60]

11:45 Memory Organization by an Orangutan (*Pongo pygmaeus*). K.B. Swartz [121]

9:30AM—12:00NOON: Session 2: Enrichment, Breeding and Reproduction (S. J. Schapiro, Chair) (Canyon Room)

9:30 Initiating a Computer-Assisted Enrichment System for Captive Chimpanzees. S. K. Ross, M.A. Bloomsmith, K.C. Baker and W.D. Hopkins [105]

9:45 Control Over Computer-Assisted Enrichment for Socially Housed Chimpanzees. M.A. Bloomsmith, S.K. Ross and K.C. Baker [17]

10:00 Control Over Videotape Enrichment for Socially Housed Chimpanzees. M.A. Bloomsmith, S.P. Lambeth, J.E. Perlman, M.A. Hook and S.J. Schapiro [16]

10:15 Positive Reinforcement Training Paired with Videotape Exposure Decreases Training Time Investment for a Complicated Task in Female Chimpanzees. J.E. Perlman, S.P. Lambeth and S.J. Schapiro [91]

10:30 Abnormal Behavior in Singly-Housed *Macaca mulatta*: Prevalence and Potential Risk Factors. C.K. Lutz, W.K. Chase and M.A. Novak [72]

10:45 Reproduction in Indonesian vs. Chinese *Cynomolgus* Macaques Revisited. M. K. Izard and D. G. Smith [57]

11:00 Testosterone Across the Cycle of Female Bonobos (*Pan paniscus*). M.H. Jurke, R.H. Sommovilla, N.M. Czekala and R.W. Wrangham [61]

11:15 The Relationship between Testosterone and Socio-Sexual Behavior in Cycling Bonobo Females. M.H. Jurke, R.H. Sommovilla, N.C. Harvey and R.W. Wrangham [62]

11:30 Variation in Lifetime Reproductive Success in Female Chimpanzees (*Pan troglodytes schweinfurthii*) of Gombe Stream Research Centre. K.B. Kerr [64]

11:45 Abortion—A “Biologically Smart” Strategy in Young Macaques (*Macaca nemestrina*)? K. Hinde and L. Newell-Morris [54]

9:30AM—12:00NOON: Session 3—Symposium: Acquisition and Maintenance of Social Dominance in Macaques and Vervets (J.D. Higley, I.S. Bernstein, B. Chapais, L. Fairbanks, organizers) [S-19] (Sugarloaf Room)

9:00 Bernstein, I.S. The Dominance Concept: Causes and Consequences [S-20]

9:30 Chapais, B. Nepotistic Dominance Systems: What is the Exact Role of Kinship? [S-21]

10:00 Fairbanks, L. Dominance in Vervets: Social, Reproductive and Developmental Correlates of Rank [S-22]

10:30 Higley, J.D., Bastain, M. Hurley, A. Developmental and Biological Variables Related to Social Dominance [S-23]

11:00 Discussion

12:00NOON—1:00PM Lunch Break

1:00PM—2:00PM **Featured Speaker: Patricia Wright “Moon Ghosts from a Distant Island: Researching the Lemurs of Madagascar” [I-4] (Flagstaff Room)**

**2:15PM—4:45PM: Session 4: Social Behavior, Part A (M. L. Boccia, Chair)
(Flagstaff Room)**

2:15 Behavioral Consequences of Aging in Great Apes: A Pilot Study. M.A. Bloomsmith, L.R. Tarou and J.M. Erwin [18]

2:30 How Rhesus Macaques Age: Differences in Male and Female Social Behaviors. J. Corr [33]

2:45 Dominance Style or Phylogenetic Affiliation: What Predicts the Social Functions of Affiliative Facial Displays in Pigtailed Macaques (*Macaca nemestrina*)? S. Preuschoft, J. Flack, M.L. Gong and F.B.M. de Waal [97]

3:00 Individual Differences in Response to a Stranger: Social Impulsivity as a Dimension of Temperament in Vervet Monkeys. L.A. Fairbanks, D. Pollack and K. Blau [39]

3:15 Serotonergic Responsivity is Associated with Impulsivity but not Dominance in Female Cynomolgus Monkeys. J.R. Kaplan, B.A. Rymeski, E.C. Nicks, A.D. Cairnes, M.R. Ayers, S.B. Manuck and L.A. Fairbanks [63]

3:30 Negotiating Changes in Status among Female Bonobos. C.M. Johnson and M. Ronneberg [58]

3:45 Female-Female Social Relationships in White Fronted Capuchins (*Cebus albifrons*): Testing Hypotheses about Resource Size and Quality. K.A. Phillips and K. Newlon [94]

4:00 Effects of Timing of Environmental Stress on Social Behavior Patterns During Pregnancy in Captive Squirrel Monkeys (*Saimiri boliviensis*). M.E. Glasgow and L.E. Williams [46]

4:15 A Preliminary Investigation into the Alloparental Behaviors of Corral Living Male Rhesus Macaques (*Macaca mulatta*) using Six Distinctive Polymorphic Microsatellites. J.A. Peterson, J. Viray, A. Deinard, D.G. Smith and S. Gabow [92]

4:30 Early Experience with Atypical Peers: A Macaque Model of Mainstreaming. T.M. Nicholson, J.S. Lockard and J.C. Ha [87]

Session Jointly Sponsored by ASP and APV (Association of Primate Veterinarians)

2:15PM—4:15PM: Session 5—Roundtable: Environmental Enhancement: Policy, Plans, and Perspective (K.C. Baker, organizer) [R-1] (Canyon Room)

2:15PM—4:15PM: Session 6—Workshop: Cognitive Research in Zoological Parks (R.W. Shumaker and T. S. Stoinski, organizers) [W-1] (Sugarloaf Room)

4:30PM—9:00PM: Session 7—Film Session: Films Dedicated to Newer Material on Lesser-known Macaques (C. Weisbard and C. Southwick, organizers) [R-5] (Canyon Room)

5:00PM—7:00PM Session 8: POSTER SESSION I: Enrichment/Colony Management; Breeding/Reproduction; Feeding/Nutrition; Social Behavior; Ecology/Conservation (Century Room)

Enrichment/Colony Management

1. Bramblett, C.A. Stability of Guenon Social Behaviors after Extreme Changes in Housing Conditions [23]
2. Williams, L.E., Steadman, A., Kyser, B. Increased Cage Size Affects *Aotus* Time Budgets and Partner Distances [129]
3. Weed, J.L., McCollom, K.J., Cisar, F.A. Methods for Socializing Unfamiliar Primates to Provide Environmental Enrichment and Promote Psychological Well-Being [128]
4. Harvey, H., Rice, T., Kayhart, R., Torres, C. The Effects of Specific Types of Music on the Activity Levels of Singly-Housed Chimpanzees (*Pan troglodytes*) [50]
5. Veira, Y., Brent, L. Behavioral Intervention Program: Enriching the Lives of Captive Nonhuman Primates [126]
6. Nitsch, M. Affiliative Interactions within an All-Male Group of Western Lowland Gorillas (*Gorilla gorilla gorilla*) at Loro Park, Tenerife, Spain [88]
7. Bollen, K.S., Novak, M.A. A Survey of Abnormal Behavior in Captive Zoo Primates [21]

Breeding/ Reproduction

8. Lukas, K.E., Maher, S.A., Jacobs, B.A., Henderson, A. Assessing the Effect of Visitor Presence on Reproductive Behavior in Gibbons (*Hylobates leucogenys*) at Lincoln Park Zoo [71]

Feeding/Nutrition

9. Milliken, G.W., Ferra, G., Kraiter, K.S., Mallard, S., Ross, C.L. Lateral Reach and Posture Preferences during Arboreal Folivory in *Propithecus* Species [81]

Social Behavior

10. Fernandez-Carriba, S., Loeches, Á., Hopkins, W.D. Functional Asymmetries in the Perception and Production of Facial Expressions in Primates: New Findings in Chimpanzees [41]

11. Schaffner, C.M., Aureli, F. Embracing and Face Greeting in a Captive Group of Colombian Black-Faced Spider Monkeys (*Ateles fusciceps robustus*) [107]
12. Bahmeier, J.M., Battaglia, K.M. Female Social Interactions of Captive Pigtail Macaques (*Macaca nemestrina*) before and following the Introduction of an Alpha Male [4]
13. Brosnan, S.F., Seres, M., de Waal, F.B.M. The Effects of Food Quantity and Audience on Food Calls in Chimpanzees (*Pan troglodytes*) [25]
14. Cohen, M.R., Parr, L.A., Palombit, R.A. Cracking the Code: The Contextual Use of Facial Expressions by Group Housed Chimpanzees (*Pan troglodytes*) and Human Children (*Homo sapiens*) [32]
15. Favia, J.L., Guerra, A., James-Aldridge, V. Family Mediated Female Rank and Chimpanzee-Human Begging Interactions [40]
16. Chase, W.K., Marinus, L.M., Novak, M.A. A Behavioral Comparison of Male Rhesus Macaques (*Macaca mulatta*) in Four Different Housing Conditions [30]
17. Zucker, E.L. Kaplan, J.R. Dominance and Parameters of Social Grooming by Adult Female Patas Monkeys (*Erythrocebus patas*) in Puerto Rico [133]
18. Mertl-Millhollen, A. Ringtailed Lemur (*Lemur catta*) Over-Marking as an Example of Resource Defense [77]
19. Mertl-Millhollen, A. Components of Scent Marking Behavior by Male Ringtailed Lemurs (*Lemur catta*) at Berenty Reserve, Madagascar [78]

Ecology/Conservation

20. Méndez-Cárdenas, M.G. Vocal Variation in Howler Monkeys (*Alouatta*) on Allopatric and Sympatric Populations and its Use for Phylogenetic Analysis [75]
21. Fialho, M.S., Setz, E.Z.F. Brown Howler (*Alouatta fusca*) Feeding Ecology in Hillside and Coastal Forests in Southern Brazil [42]
22. Flaschka, M.J., Norconk, M.A. Analysis of Dietary Mineral Levels for White-Faced Sakis and Red Howler Monkeys from Guri, Venezuela [45]
23. Martinez-Mota, R., Serio-Silva, J.C. Interactions in a Fragment of Tropical Rain Forest of Los Tuxtlas, Mexico: A Dispersal Case Study among Howler Monkeys (*Alouatta palliata mexicana*), Amates (*Ficus perforata*) and ants (*Azteca*) [74]

24. Serio-Silva, J.C., Rico-Gray, V. Microclimatic Factors that Influence Seed Germination of *Ficus perforata* and *Ficus lundelli* (Urostigma) Dispersed by *Alouatta palliata mexicana* in Several Arboreal Strata (Conserved and Perturbed Habitats) [109]
25. Nekaris, K.A.I., Buzzell, C.A. How Cryptic is the Slender Loris (*Loris tardigradus lydekkerianus*)? [85]
26. Rizkalla, C.E., Savage, A., Giraldo, L.H., Soto, L.H., Garcia, F. Patterns of Sleeping Site Selection in Wild Cotton-Top Tamarins (*Saguinus oedipus*) [104]
27. Searcy, Y.M., Caine, N.G. Captive Geoffroy's Marmosets (*Callithrix geoffroyi*) React to Soaring Bird Models with Anti-Predator Behaviors [108]
28. Berman, C.M., Li, J. The Impact of Translocation and Management on Tibetan Monkeys (*Macaca thibetana*) in Anhui Province, China [15]
29. Mueller, T.M., Schillaci, M.A., Babo, R., Froehlich, J.W. Preliminary Survey of the Population and Habitat of the Tonkean Macaque (*Macaca tonkeana*) in Tanjung Api, Sulawesi, Indonesia [84]
30. Eniang, E.A. Confirmation of the Preuss Red Colobus in the Rainforest of Southeastern Nigeria [36]

7:00PM—9:00PM: ASP Executive Committee Meeting

Friday June 23

8:00AM—10:30AM: Session 9: Learning and Cognition, Part B (K.A. Bard, Chair) (Century Room)

8:00 Social Responses to Self-Image versus Reflections of Conspecifics in Male Rhesus Macaques (*Macaca mulatta*). K.C. Baker [5]

8:15 The Use of Spatial Memory in Foraging by a Group of Captive Golden Lion Tamarins (*Leontopithecus rosalia*). L.R. Tarou and T.L. Maple [123]

8:30 Preferences for Conspecific and Heterospecific Faces: Effects of Inversion and Feature Re-Arrangement. M.L. Boccia and C. Pedersen [19]

8:45 The Use of a Puzzle Feeder Task to Assess Relationships between Cognition, Age, and Behavior in Young and Middle-Aged Female Cynomolgus Monkeys (*Macaca fascicularis*). R.C. Stavisky, M. Hook and S.J. Schapiro [117]

9:00 Cognitive Function in Aged Ovariectomized Female Rhesus Monkeys. A. Lacreuse, J.G. Herndon and M.B. Moss [67]

9:15 Observational and Experimental Studies of Hand Preferences in Captive Vervet Monkeys (*Cercopithecus aethiops*). I. Phan and M. Jorgensen [93]

9:30 Simultaneous and Delayed Identity Matching-To-Sample: Acquisition and Transfer of Responding to Photographic Stimuli by Rhesus Monkeys (*Macaca mulatta*). S. Himmanen [53]

9:45 Object Manipulation and Tool Use in Sulawesi Crested Black Macaques. M.A. Babitz [3]

10:00 Cognitive Components of Plant Selection for Fur Rubbing in White-Faced Capuchin Monkeys (*Cebus capucinus*). M.E. Baker [6]

10:15 Can Concurrent Speed and Directness of Travel Indicate Locational Knowledge in the Free-Ranging Yellow Baboons (*Papio hamadryas cynocephalus*) of Ruaha National Park, Tanzania? S.T. Pochron [95]

9:00AM—11:00AM: Session 10-Symposium: Creating Employment Niches in 21st Century Primatology or Where Do We Go From Here? (S.M. Howell, L.E. Miller and J. Fritz, organizers) [S-1] (Canyon Room)

Howell, S., Fritz, J. The Primate Foundation of Arizona Education Program: A Means to Creating a Niche in Primatology [S-2]

Jazrawi, S.E. Postural Congruence in a Captive Group of Chimpanzees (*Pan troglodytes*) [S-3]

Gupta, K.K. Primate Research and Conservation Education Opportunities in India [S-4]

Kuhar, C. The Process of Conducting Graduate Research on Primates in Zoological Parks [S-5]

Morris, J. B. The Role of Primatology Internships for Veterinary Students [S-6]

Schwandt, M.L., Howell, S., Fritz, J. Applied Primatology in the Captive Environment: Science-Based Colony Management of Chimpanzees (*Pan troglodytes*) [S-7]

Howell, S., Miller, L.E. and Fritz, J. Panel Discussion

8:00AM—10:30AM: Session 11-Symposium: Nonhuman Primate Behavioral Genetics (A. Bennett, T. Comuzzie, K.P. Lesch, J.C. Long and J. Rogers, organizers) [S-15] (Sugarloaf Room)

Rogers, J. Comuzzie, A.G. Methods and Study Design Issues in the Behavioral Genetics of Nonhuman Primates [S-16]

Lesch, K.P. Serotonin Transporter and Monoamine Oxidase A: Two Examples for the Candidate Gene Approach to Behavioral Traits [S-17]

Long, J.C., Lorenz, J.G. Behavioral Genetic Analysis Using Complex Nonhuman Pedigrees [S-18]

11:00AM—12:00NOON **Featured Speaker: David G. Amaral “The Role of the Amygdala in Primate Social Behavior” [I-2] (Flagstaff Room)**

12:00NOON—1:00PM Lunch Break
ASP Board of Directors Meeting and Luncheon

1:00PM—3:15PM Session 12: Social Behavior, Part B (A. Weaver, Chair) (Flagstaff Room)

1:00 Reconciliation in Captive Chimpanzees (*Pan troglodytes*): A Re-Evaluation with Controlled Methods. S. Preuschoft, X. Wang, F. Aureli and F.B.M. de Waal [98]

1:15 Patterns of Conflict Intervention and the Control Role in Pigtail Macaque Society. J.C. Flack and F.B.M. de Waal [43]

1:30 Reconciliation Before and After the Introduction of a New Group Member in Drills (*Mandrillus leucophaeus*): Evidence for Social Partners as a Valuable Resource? T.S. Stoinski, D.L. Forthman and T.L. Maple [119]

1:45 Power, Rank, Dominance Style, and the Silent Bared-Teeth Display in Pigtail Macaque Society. J.C. Flack, S. Preuschoft, M.L. Gong and F.B.M. de Waal [44]

2:00 Mating in the Absence of Ovarian Activity following a Resident Male Turnover in a Wild Blue Monkey Group, Kakamega, Kenya. K. Pazol and T.E. Ziegler [90]

2:15 Male Demography, Female Mating Behavior, and Infanticide in Wild Patas Monkeys (*Erythrocebus patas*) in Laikipia, Kenya. K.L. Enstam, L.A. Isbell and T. de Maar [37]

2:30 Social Contexts of the “Arrawh” Call in White-Faced Capuchin Monkeys (*Cebus capucinus*). M.E. Baker [7]

2:45 The Effects of Social Habitat Implemented by Zoos on the Behavior of the Naturally Semi-Solitary Orangutan (*Pongo pygmaeus*). G.M. Beaver [11]

3:00 The Spacing System of the Slender Loris (*Loris tardigradus lydekkerianus*) and its Implications for Slender Loris Social Organization. K.A.I. Nekaris [86]

1:00PM—3:00PM: Session 13-Roundtable Discussion: Preparing for Life After Graduate School (L.E. Miller and ASP Education Committee, organizers) [R-2] (Canyon Room)

1:00PM—3:00PM: Session 14-Roundtable Discussion: Current Studies and Future Directions for Behavioral Genetics Research in Nonhuman Primate Populations (A.J. Bennett, organizer) [R-3] (Sugarloaf Room)

3:30PM—5:00PM ASP Business Meeting (Flagstaff Room)

5:00PM—7:00PM Session 15: POSTER SESSION II: Learning/Cognition; Physiology/Immunology; Endocrinology; Neuroscience/Pharmacology; Research Methods; Infant Development/Maternal Behavior; Demography/Population Studies; Human Evolution/Anatomy/Growth (Century Room)

Learning/Cognition

1. de Blois, S.T., Novak, M.A. Can Rhesus Monkeys (*Macaca mulatta*) Represent Simple Collision Events? [35]
2. Minahan, M.F., Beran, M.J., Savage-Rumbaugh, E.S. Object Permanence in Bonobos (*Pan paniscus*) and Chimpanzees (*Pan troglodytes*) [82]
3. Smith, K.M., Erwin, J. Comparison of Visual Orientation by Chimpanzees to Mirror Image versus Photographic Images (*Pan troglodytes*) [112]
4. Henderson, J.A., Watson, S.L., Shively, C.A. A History of Oral Contraceptive Use Decreased Cognitive Function in Non-Human Primates [52]

Physiology/Immunology

5. Shannon, C., Bennett, A.J., Champoux, M., Higley, S.B., Suomi, S.J., Higley, J.D. The Maternal Genetic Effects on CSF 5-HIAA in Infants Independent of Rearing Condition [110]
6. Marinus, L.M., Chase, W.K., Novak, M.A. Self-Biting Behavior in Rhesus Macaques (*Macaca mulatta*) is Preferentially Directed to Body Areas Associated with Acupuncture Analgesia [73]
7. Austin, T.M., Van Heek, M., France, C.F., Cook, J.A., Strader, C.D., Parker, E.M. Body Composition and Metabolic Profiles of Rhesus Monkeys (*Macaca mulatta*) after Chronic Consumption of a High-Fat Western Diet [2]

Endocrinology

8. Bales, K.L., French, J.A., Dietz, J.M. Reproductive and Social Influences on Fecal Cortisol Levels in Wild and Reintroduced Female Golden Lion Tamarins [8]
9. Register, T.C., Cline, J.M., Shively, C.A., O'Sullivan, M.G., Adams, M.R., Carlson, C.S., Zhang, L., Wagner, J.D., Lewis, C.E., Wilkinson, L.M. Differential Expression of Estrogen Receptor Alpha and Beta mRNA Transcripts in Non-Human Primate Tissues [101]
10. Zumpe, D., Clancy, A.N., Michael, R.P. Progesterone in Male Cynomolgus Monkeys (*Macaca fascicularis*): Effects on Behavior and on the Brain Uptake of [³H]Testosterone and its Metabolites [134]

Neuroscience/Pharmacology

11. Bard, K.A. Predicting Lateral Bias and Affect from Neonatal Measures in Chimpanzees (*Pan troglodytes*) [9]
12. Lee, P.W.H., Gilissen, E., Simmons, R., Hakeem, A., Allman, J.M., Erwin, J.M., Hof, P.R. Relationships between Encephalization and Morphology of Specialized Classes of Pyramidal Neurons in Primates [69]
13. Henderson, J.A., Shively, C.A. A History of Oral Contraceptive Treatment Decreased D1 Receptor Density in the Striatum of Non-Human Primates [51]
14. Graham, T.A., Bennett, A.J., Lindell, S.G., DePetrillo, P.B., Higley, J.D. A Single Alcohol Exposure Changes Heart Rate Variability in Rhesus Monkeys [47]
15. Wittenberg, K.M., Hurley, A.C., Bennett, A.J., Pushkas, J.G., Higley, J.D. Acute Alcohol Exposure Decreases Signal Complexity in Rhesus Monkeys (*Macaca mulatta*) [130]
16. Young, J.E., Barnhardt, R.B., Green, H.L., Vivian, J.A., Shively, C.S., Grant, K.A. Drinking Characteristics of Monkeys that Result in Intoxication [132]

Research Methods

17. Clarke, M.R., Tremblay, A.M., Arden, D.H. Comparison of Observational Methods for Juvenile and Group Behavior in Mantled Howling Monkeys [31]
18. Smith, M.A., Shively, C.A. Behavioral Trait Inventory Predicts Habituation to a Standardized Stimulus: A Potential Technique to Study Behavioral Responsiveness to Social Stress in Captive Cynomolgus Macaques [113]

19. Smucny, D.A., Bellino, F., Hayek, M., Ingram, D.K., Kemnitz, J., Kohama, S., Lee, D.R., Roberts, J., Robinson, J., Roth, G.S., Lane, M.A. A Multicentered, Comparative Database for Identifying and Developing Biomarkers of Aging in Nonhuman Primates [114]
20. Tiefenbacher, S., Chase, W.K., Marinus, L.M., Novak, M.A., Meyer, J.S. Low-Dose Dexamethasone Suppression Test in Rhesus Monkeys Using Urinary Cortisol Excretion [125]

Infant Development/ Maternal Behavior

21. Spini, L. Growing Up in Different Environments: The Behavior of Juvenile Chimpanzees (*Pan troglodytes*) in the Budongo Forest Reserve (Uganda) and in the Chester Zoo (UK) [116]
22. Hommer, R., Purple, M. Shannon, C., Champoux, M. Group Similarities and Individual Differences in the Responses of Infant Rhesus Macaques to a Novel Environment [55]
23. Brent, L., Koban, T. The Baboon as a Model for the Study of Primate Maternal Behavior: Response to a Novel Procedure [24]
24. Landon, K.E., Smith, K.M., Erwin, J. Breaking the Cycle of Hand-Rearing: A Successful Socialization Environment for Laboratory Patas Monkeys (*Erythrocebus patas*) [68]
25. Buzzell, C.A., Brush, J.A. Ontogeny of Independence in Wild and Captive White-Faced Saki Monkeys (*Pithecia pithecia*) [27]
26. Lindell, S.G., Maestripieri, D., Megna, N.L., Higley, J.D. CSF 5-HIAA and MHPG Predict Infant Abuse and Rejection by Rhesus Macaque Mothers [70]
27. Champoux, M., Bennett, A., Lesch, K.P., Heils, A., Nielsen, D.A., Higley, J.D., Suomi, S.J. Serotonin Transporter Gene Polymorphism and Neurobehavioral Development in Rhesus Monkey Neonates [29]

Demography/Population Studies

28. Kyes, R.C., Iskandar, E., Daniel, J., Paputungan, U. Population Survey of the Sulawesi Black Macaques at Tangkoko Nature Reserve [66]
29. Erwin, J., Landon, K., Smith, K. Aging Apes in America: A Strategy for Long-Term-Care that Promotes Individual Well-being and Advances Comparative Gerontology [38]

Human Evolution/Anatomy/Growth

30. Carosi, M., Gerald, M.S., Ulland, A.E., Suomi, S.J. Male-Like External Genitalia in Female Tufted Capuchins (*Cebus apella*) [28]

31. WITHDRAWN

Saturday June 24

8:00AM—9:30AM Session 16: Infant Development and Maternal Behavior (G. Ruppenthal, Chair) (Flagstaff Room)

8:00 Maintenance of Proximity/Contact by Mothers and Infants among Captive Olive Baboons (*Papio hamadryas anubis*). V.K. Bentley-Condit [12]

8:15 Social Interactions of Adolescent Bonnet and Pigtail Macaques (*Macaca radiata* and *Macaca nemestrina*) are Related to Early Events. R.L. Richardson, W.L. MacCannell and M.L. Laudenslager [102]

8:30 Relationship Quality and the Development of Reconciliation in Captive Brown Capuchins (*Cebus apella*). A. Weaver and F.B.M. de Waal [127]

8:45 Mental Retardation in a Pigtailed Monkey with Trisomy 16. G.C. Ruppenthal, C.M. Moore, R.G. Best, G.P. Sackett [106]

9:00 Crying and Fussing in Infant Chimpanzees (*Pan troglodytes*): Do Apes Get Colic? K.A. Bard [10]

9:15 Transfer Patterns among Free-Ranging Infant Ringtailed Lemurs (*Lemur catta*) on St. Catherine's Island. A.L. Jolliffe and R.G. Lessnau [59]

8:00AM—9:30AM: Session 17: Neuroscience, Pharmacology, Physiology, Endocrinology and Immunology (K.L. Rasmussen, Chair) (Canyon Room)

8:00 Urinary Cortisol and Testosterone in Male Gorillas (*Gorilla gorilla gorilla*) Housed in Heterosexual and All-Male Groups. T.S. Stoinski, N. Czekala, K.E. Lukas and T.L. Maple [120]

8:15 Effects of Blood Sampling, Telazol® and Ketamine on Cortisol in Rhesus Monkeys (*Macaca mulatta*). K.L. Bentson, J.P. Capitano and S.B. Mendoza [13]

8:30 The Effect of Habitat on Fecal Cortisol Concentrations in Squirrel Monkeys (*Saimiri sciureus*). S.R. Tecot [124]

8:45 Developmental Patterns of Viral Titers and Parasite Loads in Rhesus Macaques on Cayo, Santiago. K.L.R. Rasmussen, M.L. Laudenslager, A.A. Lilly, B.D. DeVinney, K. English, I. Turrio, N.H. Kalin, S.E. Shelton and S.J. Suomi [100]

9:00 Long Term Changes in Social Interaction with Chronic Moderate Alcohol Consumption. C.A. Shively, K.A. Grant and W.R. Johnson [111]

9:15 Test of Candidate Oxytocin Ligands in Rhesus Monkeys: Pharmacokinetics and PET Imaging Studies. M.L. Boccia, C. Pedersen and F. Wood [20]

8:00AM—11:00AM: Session 18: Ecology, Feeding, Nutrition, Demography, Anatomy and Growth (C. Grassi, Chair) (Sugarloaf Room)

8:00 *Callimico goedlii*: Understory Monkeys of Northern Bolivia. L.M. Porter [96]

8:15 Nutrient Composition and Distribution of Fungal Sporocarps Consumed by Goeldi's Monkeys in Northern Bolivia. A.M. Hanson and L.M. Porter [49]

8:30 Patterns of Interspecific Associations between Wild Golden-Headed Lion Tamarins and Sympatric Wied's Marmosets in Southern Bahia, Brazil. B.E. Raboy and J.M. Dietz [99]

8:45 Forest Structure and Sleeping Site Choice by a Wild White-Faced Saki Group (*Pithecia pithecia*). J.A. Brush [26]

9:00 Ecological and Social Influence on Female Reproduction in Langurs (*Presbytis entellus*). C. Borries and A. Koenig [22]

9:15 Germination Responses of Ficus (Urostigma) Seeds Ingested by Different Primate Species. Righini, N., Serio-Silva, J.C., Martinez-Mota, R., Bárrios-Espinosa, C. [103]

9:30 Factors Affecting Variation in Daily Food Intake by Wild Golden Lion Tamarins (*Leontopithecus rosalia*). K. Miller and J. Dietz [80]

9:45 The Sense of Taste in the Common Marmoset: Taste Fiber Type Determines Behavior. V. Danilova, T. Roberts and G. Hellenkant [34]

10:00 *Colobus guereza* and Exotic Plant Species in the Entebbe Botanical Gardens. K. Grimes and J.D. Paterson [48]

10:15 The Aligarh Rhesus Population: Forty Years of Change. C.H. Southwick and M.F. Siddiqi [115]

10:30 Number of Males and Infanticide: A Modeling Approach. A. Koenig and C. Borries [65]

10:45 Ecology, Brain Size and Life History Evolution. T.M. Mueller, H.S. Kaplan, S.W. Gangestad and J.B. Lancaster [83]

9:30AM—11:30AM: Session 19-Symposium: Gestural Communication in Primates (J. Wallis and J. Tanner, organizers) [S-8] (Flagstaff Room)

Partan, S. Variability and Stereotypy of Facial Expressions in Rhesus Macaques [S-9]

Wallis, J. Muzzle Wiping in Baboons: Intentional Communication or Nervous Twitch? [S-10]

Tanner, J.E., Byrne, R.W. Iconic and Pointing Gestures in Zoo-Living Lowland Gorillas (*Gorilla gorilla gorilla*) [S-11]

Call, J., Tomasello, M. Use and Comprehension of Gestures in Chimpanzees and Orangutans [S-12]

Leavens, D.A., Hopkins, W.D. What Does a Chimpanzee Food Beg Mean? [S-13]

Wilcox, S.E., Armstrong, D.F. The Nature of Gestures in Humans [S-14]

9:30AM—11:30AM: Session 20-Roundtable Discussion: Primates and Public Health (S. Evans, organizer) [R-4] (Canyon Room)

11:30AM—12:30NOON **Featured Speaker: Lynn A. Fairbanks “The Nurture Assumptions: Things your Mother Never Told You” [I-3] (Flagstaff Room)**

12:30NOON—1:30PM Lunch Break
American Journal of Primatology Editorial Board Meeting

1:00PM **Departure for local hikes**

6:30PM **Buses begin transportation to Red Lion Inn for Banquet**

7:00PM **Banquet begins at the Red Lion Inn
“Dinner in the Hills with Dancing in the Grass”**

Sunday June 25

9:00AM **Departure for tour of Denver Zoological Gardens**