

Program of the Twenty-second Annual Meeting
Of
The American Society of Primatologists

Hosted by the College of Liberal Arts and the Regional Primate Research
Center of Tulane University, New Orleans

August 12 – August 16, 1999

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ASP gratefully acknowledges the College of Liberal Arts and Sciences and the Regional Primate Research Center of Tulane University for their support of the 1999 meeting.

Local Arrangements Committee

Margie Clarke, Chair
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Conard Hamilton
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Program Committee Members

Tammie Bettinger	Leslie Knapp
Maria Boccia	Rick Lee
J. Dee Higley	Leanne Nash
Bill Hopkins	Deborah Overdorff

The Program Committee thanks Karen Rader (Zoo Atlanta) for assistance with the compilation of the 1999 Program.

MEETING ROOMS

All sessions will be in the Fairmont Hotel, New Orleans. Plenary sessions will be held in the University Room. Oral presentation sessions, workshops, and roundtable discussions will be held concurrently in the University Room, the Gold Room, the Explorer's Room, and the Mayor's Chamber.

The two evening poster sessions will be held in the Emerald Ballroom. Food and beverages will be available.

REGISTRATION

Tables for registration and information (questions, help, messages, etc.) will be located in the Emerald Foyer. The registration area will open from 12:00 NOON on August 12 and remain open until 5:00PM that day. It will also be open 8:00AM to 5:00PM August 13 and 14, and 8:00AM to 12:00NOON August 15.

EXHIBITS, VENDORS, AND CONSERVATION SILENT AUCTION

Exhibits, vendors, and items donated for the Conservation Committee's Silent Auction will be displayed in the Emerald Ballroom. Exhibits can be set up beginning at 12:00 NOON on August 12. Please visit and support the exhibitors and sponsors.

SLIDE PREVIEW ROOM

There will be a room available for speakers to preview their slides.

POSTER SET-UP

Individuals presenting posters can set-up their presentations in the Emerald Ballroom between 8:00AM and 5:00PM on the day of their poster session. Authors are encouraged to set-up posters well before the beginning of the sessions. Poster sessions will be between 5:00PM and 7:00PM on Friday, August 13, and Saturday, August 14. Authors should remove their posters immediately following the sessions. Food and beverages will be available during the poster sessions.

COFFEE BREAKS

There will be mid-morning and mid-afternoon snacks and drinks available in the Foyer area each day.

TOUR OF THE TULANE PRIMATE CENTER

A tour of the Tulane Primate Center will be possible on Monday, August 16. Pickup at the Fairmont Hotel will be at 8:30AM. The tour will require one hour travel time from New Orleans to the Center, two hours to tour the Center and breeding areas, and to eat, and one hour to return to New Orleans. To reserve a tour, notify Richard Harrison (harrison@tpc.tulane.edu) by August 9. The cost is \$10.00, payable at the meeting before 4:00PM on Friday, August 13.

1998 STUDENT COMPETITION WINNERS

The American Society of Primatologists proudly acknowledges the winners of the 1998 Student Paper and Poster Competition, DeeAnn Reeder and Tina Gilbert.

Oral Paper:

D.M. Reeder, S.P. Mendoza, and W.A. Mason (University of California, Davis) Social behavior and sexual motivation across the reproductive cycle in titi monkeys (*Callicebus moloch*): Concealment or communication of ovulation?

Poster:

T.M. Gilbert, D.A. Brown, and S.T. Boysen (The Ohio State University) Social effects on behavior in capuchins (*Cebus apella*).

PROGRAM OVERVIEW

Thursday, August 12, 1999

9:00AM–4:30PM

Workshop: The care and management of captive chimpanzees: Retirement from laboratories to sanctuaries. L. Brent, F.L. Dolins, E. Toback, and M.A. Bloomsmith (organizers)

(University Room)

[contact L. Brent for pre-registration; lbrent@icarus.sfbr.org]

12:00NOON—5:00PM: Registration **(Emerald Foyer)**

12:00NOON—5:00PM: Exhibits and Silent Auction Set-up **(Emerald Ballroom)**

1:00PM—6:00PM: Standing Committee Meetings (times vary)

6:00PM–8:00PM: Opening Reception [food and beverages] **(Emerald Ballroom)**

Friday, August 13, 1999

MORNING

7:00AM – 8:00AM: Past Presidents' Breakfast **(Bailey's Restaurant, Fairmont Hotel)**

UNIVERSITY ROOM

8:00AM – 8:15AM

Welcome by Mollie Bloomsmith (Program Committee);

Margie Clarke (Local Host);

Teresa Soufas (Dean, College of Arts and Sciences, Tulane University);

Pete Gerone (Director, Tulane Primate Center, Tulane University);

Introductory Remarks by Nancy Caine (ASP President)

UNIVERSITY ROOM

8:15AM – 9:15AM

Keynote Address: Jeanne Altmann, "The role of social grooming in a primate society: From individuals through populations"

UNIVERSITY ROOM

9:30AM—12:00NOON

Session 1

Conservation

GOLD ROOM

9:30AM—11:30AM

Session 2

Learning and Cognition,
Part A

MAYOR'S CHAMBER

9:30AM—12:00NOON

Session 3

Infant Development & Maternal
Behavior

12:00NOON—1:30PM Lunch
American Journal of Primatology Editorial Board Meeting (**Orleans Room**)

UNIVERSITY ROOM

1:30PM—2:30PM Distinguished Primatologist's Lecture: W. Richard Dukelow,
"True Confessions of a Monkey Gynecologist"

AFTERNOON

UNIVERSITY ROOM

2:45PM—4:45PM
Session 4
Ecology

EXPLORER'S ROOM

2:45PM—4:45PM
Session 5
Learning and Cognition, Part B

MAYOR'S CHAMBER

2:45 PM—4:45PM
Session 6
Breeding and Reproduction,
Part A

EVENING

EMERALD BALLROOM

5:00PM—7:00PM
Session 7
Poster Session I: Breeding/Reproduction, Social Behavior, Colony Management/Enrichment,
Demography/Population Studies/Genetics, Physiology/Endocrinology/Anatomy

Saturday August 14, 1999

MORNING

UNIVERSITY ROOM

8:00AM—10:45AM
Session 8
Social Behavior, Part A

EXPLORER'S ROOM

8:00AM—9:45AM
Session 9
Ecology and Nutrition

MAYOR'S CHAMBER

8:00AM—10:30AM
Session 10
Neuroscience, Endocrinology,
Biomedicine and Physiology

UNIVERSITY ROOM

11:00AM—12:00NOON Featured Speaker: Terry L. Maple, “Zoos as a niche for primatology (and primatologists)”

12:00NOON—1:30PM Lunch
ASP Executive Committee Meeting (**Tulane Room**)

AFTERNOON

UNIVERSITY ROOM

1:30PM—3:30PM
Session 11
Colony Management
and Enrichment

EXPLORER’S ROOM

2:00PM—5:00PM
Session 12
Workshop: The African
Bushmeat Crisis: New
Findings, Theory, and
Solutions

MAYOR’S CHAMBER

1:30PM—3:30PM
Session 13
Human Evolution,
Anatomy, and Growth

3:30PM—5:00PM
Session 14
Roundtable Discussion:
Is there life after graduate
school?
A roundtable discussion on
career options beyond
academia

EVENING

EMERALD BALLROOM

5:00PM—7:00PM
Session 15
Poster Session II: Conservation/Ecology, Learning/Cognition, Maternal Behavior/ Infant Development,
Neuroscience/Biomedicine, Research Methods

Sunday, August 15, 1999

MORNING

UNIVERSITY ROOM

8:00AM—11:00AM
Session 16
Social Behavior, Part B

EXPLORER'S ROOM

8:00AM—11:00AM
Session 17
Workshop:
Technology in the wild:
A workshop on the technological
Advances in field primatology

MAYOR'S CHAMBER

8:00AM—10:00AM
Session 18
Roundtable Discussion:
Encouraging minority
participation in primatology:
Launching an ASP initiative

UNIVERSITY ROOM

11:00AM—12:00NOON Featured Speaker: Stephen J. Suomi, "How do jumpy monkeys survive?"

12:00NOON—1:30PM Lunch
ASP Board of Directors Meeting (**Director's Room**)

AFTERNOON

UNIVERSITY ROOM

1:30PM—3:15PM
Session 19
Breeding & Reproduction,
Part B

EXPLORER'S ROOM

1:30PM—4:00PM
Session 20
Roundtable Discussion:
Environmental enrichment in the
new millennium

MAYOR'S CHAMBER

1:30PM—3:30PM
Session 21
Workshop
Bringing Science to the Public:
A workshop in giving effective
presentations

4:00PM— 5:30PM
ASP Business Meeting

EVENING

6:30PM— 7:00PM Board boat for Dinner Cruise
7:00PM—10:00PM Dinner Cruise
10:00PM—11:00PM Boat docked for final hour of party

Monday, August 16, 1999

MORNING

8:30PM—1:00PM **Tour of Tulane Primate Center and Lunch**

ASP 1999 MEETING

SCIENTIFIC AND SOCIAL PROGRAM*

* [Numbers in brackets correspond to the abstract number.]

Thursday, August 12, 1999

12:00NOON – 5:00PM: Registration (**Emerald Foyer**)

12:00NOON—5:00 PM: Exhibits and Silent Auction Set-up (**Emerald Ballroom**)

Standing Committee Meetings

Awards and Recognition	1:00PM - 2:00PM (Suite A)
Conservation	1:00PM - 6:00PM (Chancellor's Room)
Education	2:00PM - 5:00PM (Suite B)
Membership and Finance	1:00PM - 3:00PM (Mayor's Chamber)
Program	2:00PM - 5:00PM (Tulane Room)
Publications	3:00PM - 6:00PM (Mayor's Chamber)
Research and Development	2:00PM - 5:00PM (Suite A)

**9:00AM – 4:30PM: Workshop: The care and management of captive chimpanzees: Retirement from laboratories to sanctuaries. L. Brent, F.L. Dolins, E. Toback, and M.A. Bloomsmith (organizers) [5] (University Room).
[contact L. Brent for pre-registration; lbrent@icarus.sfbr.org]**

6:00PM – 8:00PM: Opening Reception (**Emerald Ballroom**)
[food and beverages]

Friday, August 13, 1999

MORNING

7:00AM – 8:00AM: Past Presidents' Breakfast (**Bailey's Restaurant, Fairmont Hotel**)

8:00AM – 8:15AM: Welcome by Mollie Bloomsmith (Program Committee), Margie Clarke (Local Host), Teresa Soufas (Dean, College of Arts and Sciences, Tulane University), Pete Gerone (Director, Tulane Primate Center, Tulane University).
Introductory Remarks by Nancy Caine (ASP President) (**University Room**)

8:15AM – 9:15AM Keynote Address: Jeanne Altmann, “The role of social grooming in a primate society: From individuals through populations” [1] (University Room)

9:30AM – 12:00NOON: Session 1: Conservation (J. Paterson, Chair) (University Room)

9:30 Long-term effects of logging on African primate communities: A 28-year comparison from Kibale National Park, Uganda. T. Gillespie, S. Balcomb, C. Chapman, J. Skorupa, and T. Struhsaker [74]

9:45 Community-based ecotourism for primate conservation and economic development in Central Sulawesi, Indonesia. J. Froehlich and N. Babo [69]

10:00 Survey of the distribution and diversity of primates in Northwest Guyana. S. Lehman and M. Mayor [105]

10:15 Snare injuries to chimpanzees (*Pan troglodytes*) at 10 study sites in East and West Africa. E.J. Stokes, V. Reynolds, and D. Quaitt [176]

10:30 Intestinal parasite loads in western lowland gorillas (*Gorilla gorilla gorilla*), chimpanzees (*Pan troglodytes*) and researchers in Dzanga-Ndoki National Park, Central African Republic. A. Lilly and D. Doran [109]

10:45 Reintroducing captive-born lemurs to the wild. K. Glander, C. Welch, A. Katz, and A. Britt [75]

11:00 Back to the wild: Captive-bred black and white ruffed lemurs (*Varecia variegata variegata*) on St. Catherine’s Island. R. Lessnau, A. Kaylor, and S. Staaden [107]

11:15 A survey of pest primate status along the Masindi-Butiaba Road in Masindi District, Uganda. J. Paterson [134]

11:30 Age-sex class differences in the time budget and feeding strategies of members of a crop and food-raiding vervet group in Entebbe, Uganda. T. Saj, P. Sicotte, and J.D. Paterson [158]

11:45 Listening at night in Belize is important for locating and relocating black howler monkeys (*Alouatta pigra luctuosa*). J. Dahl [53]

9:30AM – 11:30AM: Session 2: Learning and Cognition, Part A (W. Hopkins, Chair) (Gold Room)

9:30 Laterality and communicative aspects of manual and pedal activity in captive chimpanzees. E.L. Toback [185]

9:45 Hand preferences for visuospatial reaching in the bushbaby (*Otolemur garnettii*). M. Hook-Costigan, M. Rehlander, C. Cantalupo, and J. Ward [85]

10:00 Laterality patterns and interactions in the small-eared bushbaby (*Otolemur garnettii*). C. Cantalupo and J. Ward [38]

10:15 Early social rearing environment influences acquisition of a computerized joystick task in rhesus monkeys (*Macaca mulatta*). A.J. Bennett, T. Tsai, W.D. Hopkins, S.G. Lindell, P.J. Pierre, M. Champoux, and S.E. Shoaf [23]

10:30 Perceptual contributions to scale model comprehensions in chimpanzees. V. Kuhlmeier, S. Boysen, and K. Mukobi [100]

10:45 Organization of movement by rhesus monkeys, apes and humans in computer-presented maze tasks. C. Menzel, S. Savage-Rumbaugh and E. Menzel, Jr. [123]

11:00 Assessment of cognitive performance in reproductively intact and ovariectomized monkeys. R.C. Stavisky, M.R. Ayers, M.S. Anthony, W.D. Hopkins, M. Andrews, and J.R. Kaplan [173]

11:15 Sex and age differences in cognition in the rhesus monkey (*Macaca mulatta*). A. Lacreuse, J. Herndon, R. Killiany, D. Rosene, and M. Moss [101]

9:30AM – 12:00NOON: Session 3: Infant Development and Maternal Behavior (G. Sackett, Chair) (Mayor's Chamber)

9:30 Juvenile-Infant relationships among captive lowland gorillas. M. Hoff, K. Hoff, and T. L. Maple [82]

9:45 Long term behavioral consequences of brief early maternal separation experiences in bonnet and pigtail macaques (*Macaca nemestrina* and *M. radiata*). R.L. Richardson, W.L. MacCannell, and M.L. Laudenslager [147]

10:00 Long-term effects of maternal ACTH exposure on offspring in rhesus monkeys. S. Clarke, E. Hayes, and A. Soto [46]

10:15 Growth, health, and reproduction following nursery rearing in *Macaca nemestrina*. G.P. Sackett and G.C. Ruppenthal [157]

10:30 The effect of environment and group composition on the behavior of a surrogate mother gorilla and her infant. L.R. Tarou, M. Hoff, and T.L. Maple [182]

10:45 Changes in play behavior after sibling birth among free-ranging yearling rhesus monkeys (*Macaca mulatta*) on Cayo Santiago. B. DeVinney, C. Berman, and K. Rasmussen [55]

11:00 Measuring relationship quality in brown capuchins (*Cebus apella*). A. Weaver and F. de Waal [194]

11:15 Food transfer between mother and infant chimpanzees in the wild: Generous mothers or scrounging infants? C. Assersohn and A. Whiten [15]

11:30 Age differences in alarm peep response by squirrel monkeys. G.A. Vicinio, B. McCowan, and N.V. Franceschini [188]

11:45 Parental care in captive common marmosets (*Callithrix jacchus*) and cotton-top tamarins (*Saguinus oedipus*). M. Bardi and A.J. Petto [19]

AFTERNOON

12:00NOON – 1:30PM Lunch Break

American Journal of Primatology Editorial Board Meeting (Orleans Room)

1:30PM – 2:30PM: Distinguished Primatologist’s Lecture: W. Richard Dukelow, “True Confessions of a Monkey Gynecologist” [2] (University Room)

2:45PM – 4:45PM: Session 4: Ecology (P. Mehlman, Chair) (University Room)

2:45 Group nest counts in western lowland gorillas (*Gorilla gorilla gorilla*), Mondika Research Center, Central African Republic. P. Mehlman and D. Doran [122]

3:00 Eat or be eaten: Predation sensitive foraging in capuchin monkeys. L. Miller [124]

3:15 The role of primates in determining tropical forest composition: Specific tests with seed dispersal, Kibale National Park, Uganda. S. Balcomb and C. Chapman [17]

3:30 The role of howler monkeys (*Alouatta palliata mexicana*) as dispersal agents of the genus *Ficus*: A keystone species of the tropical rain forest. J.C. Serio-Silva and V. Rico-Gray [165]

3:45 Phytochemicals and energy yield for *Khaya* bark consumed by Budongo Forest baboons. J. Paterson, J. Teichroeb, L. Rabatach, D. Fournel, and P. Fachini [135]

4:00 Feeding ecology of one group of Humboldt’s black uakari (*Cacajao melanocephalus melanocephalus*) in a forest on white-sand soils of Pico da Neblina National Park, Brazil. J. Boubli [31]

4:15 Foraging ecology of the mountain monkey (*Cercopithecus l’hoesti*) in Rwanda: Implications for its evolutionary history and use of disturbed forest. B. Kaplin [96]

4:30 Diet and food choice in Eastern black and white colobus monkeys in the Kakamega Forest. P. Fashing [59]

2:45PM – 4:45PM: Session 5: Learning and Cognition, Part B (G. Westergaard, Chair) (Explorer’s Room)

2:45 A preliminary analysis of spatial memory in orangutans (*Pongo pygmaeus*). T.S. Stoinski, R. W. Shumaker, and T.L. Maple [174]

3:00 A chronometric analysis of the chimpanzees’ (*Pan troglodytes*) abilities to determine same/different relations between abstract representations of quantity. G. Himes, S. Boysen, and K. Mukobi [80]

- 3:15 Chimpanzee food barks as referential signals: Evidence from a laboratory playback experiment. K. Hallberg, S. Boysen, and K. Mukobi [78]
- 3:30 Self-judgement of performance by chimpanzees (*Pan troglodytes*). S. L. Williams, M.J. Beran, and D.M. Rumbaugh [197]
- 3:45 Token-mediated tool-use by a tufted capuchin monkey. G.C. Westergaard [196]
- 4:00 Exposure to novelty enhances problem-solving proficiency in cynomolgus macaques (*Macaca fascicularis*). S. Watson, R. Stavisky, and J. Kaplan [193]
- 4:15 Categorization of natural stimuli by captive chimpanzees using a same-different task. D. Brown, K. Mukobi, and S. Boysen [34]
- 4:30 Feeding skills and the effect of injury on chimpanzees of the Budongo Forest, Uganda. E.J. Stokes and R.W. Byrne [175]

**2:45PM – 4:45PM: Session 6: Breeding and Reproduction, Part A (M.K. Izard, Chair)
(Mayor's Chamber)**

- 2:45 The function of female mate choice in the Sumatran orangutan (*Pongo pygmaeus abelli*). E. Fox, L. McGeehan, N. Czekala [65]
- 3:00 Male mate choice and social rank in *Macaca mulatta*. A. Rifkin, J. Mann, and P. O'Neill-Wagner [149]
- 3:15 Mate selection in female orang utans (*Pongo pygmaeus*). R.W. Shumaker, T.S. Stoinski, E. Cardillo, and B.B. Beck [170]
- 3:30 Female social preferences and mating behavior in corral-living Savanna baboons (*Papio cynocephalus anubis*). R. D. Schneider [162]
- 3:45 Spatial associations in captive female bonobos (*Pan paniscus*) across the ovarian cycle. A. Bukowinski, M. Jurke, S. Jurke, and N. Harvey [35]
- 4:00 Reproductive statistics in a specific pathogen-free breeding colony of rhesus macaques (*Macaca mulatta*). K. Litton and M. Izard [110]
- 4:15 Reproductive performance in primiparous Indonesian and Chinese cynomolgous macaques (*Macaca fascicularis*). M. Izard and D. Taub [91]
- 4:30 Effect of early and late permanent infant separation on lactational amenorrhea of pigtailed macaques (*Macaca nemestrina*). N. Maninger, G. Sackett, and G. Ruppenthal [118]
- 4:45 Behavioral and physiological correlates of reproduction in a breeding colony of Pygmy lorises (*Nycticebus pygmaeus*). H. Fitch-Synder, M. Jurke, S. Jurke, and N. Tornatore [63]

EVENING

5:00PM – 7:00PM: Session 7: Poster Session I : Breeding/Reproduction, Social Behavior, Colony Management/ Enrichment, Demography/Population Studies/Genetics, Physiology/Endocrinology/Anatomy (Emerald Ballroom)

Breeding/Reproduction

1. Reproductive behavior and early development of a captive colony of common marmosets (*Callithrix jacchus jacchus*) in a Mexican zoo. M. Parra-Sanchez, J. Serio-Silva, S. Ruiz, and F. Camacho-Wardle [133]
2. Fetal gender does not significantly affect prolonged gestation in captive *Macaca nemestrina*. A. Lichtenwalner, D. Koberstein, and C. Bowers [108]
3. Sexy seniors: Breeding activity in vasectomized and reproductive aging rhesus monkey males (*Macaca mulatta*). P. O'Neill-Wagner [130]
4. Hormonal correlates of reproductive behavior in captive douc langurs (*Pygathrix nemaeus menaeus*). K.M. Abbott, N.C. Harvey, N. Czekala-Gruber, A. Fetter, and L. McGeehan [12]
5. Parturition in singly-caged longtailed macaques (*Macaca fascicularis*): A comparison to the pigtailed macaque (*Macaca nemestrina*). T.L. Arndt, M.F.S.X. Novak, T.M. Nicholson, C.G. Walker-Gelatt, and G.C. Ruppenthal [14]
6. The timing of mother-infant separation and its effect on postpartum estrus and subsequent conception in captive baboons. B. Valentine, M. Cary, J. Stanley, G. White, and J. Wallis [187]

Social Behavior

7. Like mother-like son: Visual kin recognition in chimpanzees. L. Parr and F. de Waal [132]
8. An experimental dominance test in wild golden lion tamarins. R. Lake, K. Bales, and J. Dietz [102]
9. Social dominance in a group of white-faced sakis (*Pithecia pithecia*) in the context of a rare and limited resource. A.L. Harrison and M. Norconk [79]
10. The function of food sharing with infants in the golden-head lion tamarin (*Leontopithecus chrysomelas*). A.C. de A. Moura and A. Langguth [125]
11. Primate vocal development: Comparing a controlled environment with a naturalistic environment. J.L. Stowe, G. Maimon, J.D. Newman and P. O'Neill-Wagner [177]
12. Female age class and mate competition in social groups of rhesus monkeys (*Macaca mulatta*). M. Huynen and M. Clarke [89]

13. Female familiarity and relatedness in captive groups of rhesus monkeys (*Macaca mulatta*). M. Huynen and M. Clarke [90]
14. Sexual solicitation of extra-group males by family-housed female common marmosets (*Callithrix jacchus*). W. Saltzman, R.R. Ochs, and D.H. Abbott [159]
15. Eliciting anointing behavior in capuchin monkeys (*Cebus apella*). T. Gilbert and S. Boysen [73]
16. Urine washing in tufted capuchins (*Cebus apella*): Relationship with air temperature and relative humidity in indoor and outdoor conditions. M. Carosi and A. Rosofsky [40]
17. The social behavior of captive Philippine and Indochinese long-tailed macaques following transfer to a new facility. L. Brent and Y. Veira [33]
18. The impact of N-3 fatty acid supplementation during infancy on later social behavior. M. Purple, K. Zajicek, C. Shannon, R. Hommer, and C. Champoux [142]
19. Initiation and reciprocation as a function of group composition in laboratory-reared infant *Macaca nemestrina*. T. Nicholson, J. Lockard, J. Ha, C. Walker-Gelatt, and M.F.S.X. Novak [129]
20. The development of social behavior in *Macaca nemestrina* infants socialized in the dark. C. Ferrier, J. Kim, J. Worlein, G. Sackett, and V. Gunderson [62]
21. Two takeovers in wild hamadryas baboons (*Papio hamadryas hamadryas*) and the subsequent re-acquisition of a female by a deposed leader male. L. Swedell [181]

Colony Management/Enrichment

22. Day nest building and nest use by captive chimpanzees (*Pan troglodytes*). L. Casler and L. Nash [41]
23. Ontogeny of positional behavior in captive chimpanzees (*Pan troglodytes*). M.L. Schwandt [163]
24. A psychological well-being program for managing environmental enrichment and behavior issues in a colony of research primates. C. Crockett, R. Bellanca, K. Heffernan, and C. Johnson-Delaney [51]
25. Behavioral profiles of laboratory monkeys referred to a regional primate research center's psychological well-being program. R.U. Bellanca, K.S. Heffernan, J.E. Grabber, and C.M. Crockett [22]
26. Integration of a female francois langur (*Presbytis francoisi francoisi*) into an existing captive group. D. Bocian and A. Carter [30]

Demography/Population Studies/Genetics

27. Immature-to-adult ratios over time in two groups of Costa Rican mantled howling monkeys (*Alouatta palliata*): Annual variations and comparison with population parameters. E.L. Zucker and M.R. Clarke [200]
28. Strategies for enhancing reproductive value in female primates. A. J. Petto [138]
29. Heritability of standardized biobehavioral assessment scores in rhesus monkey infants. M. Champoux, C. Jaquish, S. Higley, and S. Suomi [42]
30. The effectiveness of human microsatellite loci for determining paternity in non-human primates: A case study in vervets (*Cercopithecus aethiops*). T. Newman, L. Fairbanks, D. Pollack, and J. Rogers [127]
31. Comparison of methods used to census mantled howlers in the dry tropical forests of Costa Rica. M. Clarke, C. Crockett, and E. Zucker [45]

Endocrinology/Physiology/Anatomy

32. Urinary endocrine profiles and behavioral patterns of young adult and aged male orangutans. A.N. Maggioncalda, R. Sapolsky, and N. Czekala [117]
33. Heart rate patterns in rhesus monkeys with self-injurious behavior (SIB): Are these monkeys “high reactors?” W. Chase, L. Marinus, M. Jorgensen, K. Rasmussen, S. Suomi, and M. Novak [43]
34. Reaction of rhesus monkeys with self-injurious behavior to heart rate testing: Is biting a coping strategy? L. Marinus, W. Chase, K. Rasmussen, M. Jorgensen, and M. Novak [120]
35. Hypothalamic-pituitary-adrenal and hypothalamic-pituitary-gonadal activity in rhesus monkeys with self-injurious behavior. S. Tiefenbacher, M.J. Jorgensen, M.A. Novak, and J.S. Meyer [184]
36. Detailed description of the structure of the larynx in the small-eared bushbaby (*Otolemur garnettii*). J. Kahane, M. Becker, and J. Ward [94]
37. The occurrence of a bone-like structure in the clitoris of female tufted capuchins (*Cebus apella*). M. Carosi and M. Haines [39]

Saturday August 14, 1999

MORNING

8:00AM – 10:45AM: Session 8: Social Behavior, Part A (M.S. Gerald, Chair) (University Room)

8:00 Delayed pair bond formation in common marmosets: Sex is not enough. R. L. Roberts, E.M. Uri, and J.D. Newman [150]

8:15 Female homosexual behavior among free-ranging rhesus macaques (*Macaca mulatta*). E. Kapsalis and R. Johnson [97]

8:30 Mating behavior and success of hybrid male baboons (*Papio hamadryas hamadryas* x *Papio hamadryas anubis*) in Ethiopia's Awash National Park. T.J. Bergman [25]

8:45 Reproductive inhibition, low aggression, and cooperative imperatives: A prescription for peaceful living? C. M. Schaffner, N.G. Caine, B.L. Addington, and T.E. Smith [161]

9:00 Scrotal color predicts aggressive behavior and reveals social status in vervet monkeys (*Cercopithecus aethiops sabaesus*). M. Gerald [70]

9:15 Counter-aggression in Assamese macaques (*Macaca assamensis*): When dominance relationships break down. M. Cooper and I. Bernstein [48]

9:30 Lethal intra-community gang aggression directed at a young adult male chimpanzee in the Sonso Community, Budongo Forest, Uganda. K. Fawcett [61]

9:45 Hormonal and behavioral responses of marmosets (*Callithrix kuhlii*) to social intruders. C.N. Ross, J.A. French, and K.J. Patera [153]

10:00 Functions of vigilance in wild white-faced capuchins (*Cebus capucinus*) in Costa Rica. L.M. Rose [151]

10:15 Dominance, coalitions, and sub-grouping patterns of Brazilian tufted capuchin monkeys (*Cebus apella*). J.W. Lynch. [115]

10:30 Infanticide and female counter-strategies in wild Japanese macaques (*Macaca fuscata yakui*) on Yakushima Island, Japan. J. Soltis, R. Thomsen, K. Matsubayashi, and O. Takenaka [172]

8:00AM – 9:45AM: Session 9: Ecology and Nutrition (J. Chism, Chair) (Explorer's Room)

8:00 Intergroup encounters in wild patas monkeys (*Erythrocebus patas*) in Kenya. J. Chism [44]

8:15 Population dynamics and male leader tenures among Formosan macaques at Mt. Longevity, Taiwan. M. Hsu and G. Agoramoorthy [87]

8:30 Adolescent dip in indices of central serotonergic activity among free-ranging rhesus monkeys. J. Kaplan, M. Fontenot, J. Berard, L. Fairbanks, and J. Mann [95]

8:45 Sun avoidance in the yellow baboons (*Papio cynocephalus cynocephalus*) of Ruaha National Park, Tanzania: Variations with season, behavior and weather. S. Pochron [139]

9:00 Niche separation between grey-cheeked mangabeys and gorillas during a poor fruit season at Bai Hokou, Central African Republic. M.J. Remis [146]

9:15 Ecology and behavior of Mexican howler monkeys (*Alouatta palliata mexicana*) in a fragmented area: Eight years of data. J.C. Serio-Silva, and J. Bello-Gutierrez [164]

9:30 Maternal-fetal transfer of iron deficiency in rhesus monkeys (*Macaca mulatta*). G. Lubach and C. Coe [112]

8:00AM – 10:30AM: Session 10: Neuroscience, Endocrinology, Biomedicine, and Physiology (T. Bettinger, Chair) (Mayor's Chamber)

8:00 CFS Monoamines, age and impulsivity in wild grivet monkeys (*Cercopithecus aethiops aethiops*). L. Fairbanks, M. Fontenot, J. Phillips-Conroy, C. Jolly, J. Kaplan, and J. Mann [58]

8:15 The entorhinal cortex in aged chimpanzees (*Pan troglodytes*): Stereologic analyses of neuron number and volume. P. Hof, D. Perl, E. Nimchinsky, and J. Erwin [81]

8:30 Behavior and salivary cortisol in an all-male gorilla group. T. Bettinger, C. Kuhar, A. Sironen, M. Goldstein, and M. Laudenslager [26]

8:45 Immune functioning and reactivity predict hand preference in rhesus macaques. G.C. Westergaard [195]

9:00 Tympanic membrane temperatures reflect lateralization in a language-trained ape (*Pan troglodytes*). S.L. Williams and D.M. Rumbaugh [198]

9:15 Catchers in the mangroves: Hand preference of free-ranging male and female rhesus macaques (*Macaca mulatta*) in catching thrown peanuts. R. Johnson and E. Kapsalis [92]

9:30 Behavioral and physiological characteristics that predict subsequent behavioral depression in female cynomolgus monkeys (*Macaca fascicularis*). C.A. Shively, K. Laber-Laird, and R.F. Anton [169]

9:45 Perineal swelling during pregnancy in chimpanzees (*Pan troglodytes*) is an external marker of steroid hormones. J. Dahl and W. Hopkins [54]

10:00 Gonadal steroid concentrations influenced by levonorgestrel: Implanted versus non-implanted females of *Macaca sylvanus*. B. Wallner, K. Schäfer, and E. Möstl [190]

10:15 Frequent assessment using a neonatal test battery effectively detects deficits associated with prenatal lentivirus exposure in *Macaca nemestrina* infants. L.M. Ames, J.M. Worlein, M.F.S.X. Novak, J.D. Burchett, J.D. Unadkat, and R.J.Y. Ho [13]

11:00AM – 12:00 NOON: Featured Speaker: Terry L. Maple “Zoos as a niche for primatology (and primatologists)” [3] (University Room)

AFTERNOON

12:00NOON – 1:30PM Lunch

ASP Executive Committee Meeting (Tulane Room)

1:30PM – 3:30PM : Session 11: Colony Management and Enrichment (C. Cox, Chair) (University Room)

1:30 The impact of hay provision on gorilla nest-building at Zoo Atlanta. K. Lukas, T.S. Stoinski, R. Snyder, S. Bexell, K. Burks, and T. L. Maple [113]

1:45 Chimpanzee use of enclosures. M.A. Bloomsmith, S.P. Lambeth, and M.D. Haberstroh [28]

2:00 Effects of exhibit conditions on chimpanzee activities. C. Cox and S. Wilcox [50]

2:15 Comparing animal training to non-training human interaction as environmental enrichment for chimpanzees. M.A. Bloomsmith, K.C. Baker, S.K. Ross, and S.P. Lambeth [27]

2:30 Affiliative interactions between singly-housed rhesus macaques in adjacent unmodified cages. K. Baker [16]

2:45 The behavior of captive male chimpanzees (*Pan troglodytes*) housed in multi-male bachelor versus mixed-sex social groups at the Primate Foundation of Arizona. J. Fritz and S. Howell [68]

3:00 Environmental effects on female social behavior during pregnancy and infant development in captive squirrel monkeys (*Samiri boliviensis*): Implications for management. M. Glasgow, L. Williams, and M. Clarke [76]

3:15 Effect of temperature on sun avoidance behaviors of *Gorilla gorilla gorilla* at the Rio Grande Zoo. J. Rowe and J. Perry [156]

2:00PM – 5:00PM: Session 12- Workshop: The African bushmeat crisis: New findings, theory, and solutions. T.S. Stoinski and A.L. Rose (organizers) [7] (Explorer’s Room)

1:30PM- 3:30PM: Session 13: Human Evolution, Anatomy and Growth (C.J. Jolly, Chair) (Mayor’s Chamber)

1:30 Towards a proximate model of baboon speciation. C. Jolly and J. Phillips-Conroy [93]

- 1:45 An evolutionary perspective on dental development in the siamang (*Symphalangus syndactylus*) from histology and radiography. W. Dirks [56]
- 2:00 Ontogeny and function in the evolution of African ape masticatory form. A.B. Taylor and M.J. Ravosa [183]
- 2:15 The relationship between postural stability and manual asymmetry in 5 species of wild African monkeys and apes. M. Holder [83]
- 2:30 Functional integration in the craniofacial skeleton of adult *Macaca mulatta*. B. Behrens [21]
- 2:45 Gradient interactions and hominid body plans. D.B. Swartz [179]
- 3:00 Analysis of body weight in chimpanzees and gorillas: A functional interpretation. R. McFarland and A. Zihlman [121]
- 3:15 The evolution of social organization in baboons (*Papio hamadryas*): A phylogeographic perspective. T. Newman and J. Rogers [128]

3:30PM – 5:00PM: Session 14-Roundtable Discussion: Is there life after graduate school? A round-table discussion on career options beyond academia (L.E. Miller, organizer; sponsored by the ASP Education Committee) [10] (Mayor's Chamber)

EVENING

5:00PM – 7:00PM: Session 15: Poster Session II: Conservation/Ecology, Learning /Cognition, Maternal Behavior/Infant Development, Neuroscience/Biomedicine, Research Methods (Emerald Ballroom)

Conservation/Ecology

1. Elizabeth S. Watts and primate conservation in the Yucatan Peninsula, Mexico. V. Rico-Gray and J.C. Serio-Silva [148]
2. Cultural implications for neotropical conservation on the Carú indigenous reserve, Maranhão, Brazil. L. Cormier [49]
3. Integrated models for conservation: A case study of the commercial bushmeat trade of chimpanzees and gorillas in Cameroon. C. Ellis [57]
4. A Primate Ecology Flow Chart. D.B. Swartz [178]
5. Variation in food intake and bout duration in two prosimian primates: Implications for sex differences. D. Overdorff, S. Strait, and R. Selzer [131]
6. The fate of primate-dispersed seeds. J. Lambert [103]

- 7 The use of pristine and disturbed forests by wild golden-headed lion tamarins (*Leontopithecus chrysomelas*) in Una, Brazil. B.E. Raboy and J.M. Dietz [144]
8. Dental health in a population of wild ringtailed lemurs: A life history approach. M.L. Sauther, F. Cuozzo, and R.W. Sussman [160]
9. Sleeping habits of golden-faced sakis in a forest fragment in the central Amazon. E. Setz [166]
10. Densities and biomass of diurnal primates in the Kakamega Forest, Kenya. P. Fashing and M. Cords [60]
11. Comparative ecology of redbellied monkeys (*Cercopithecus ascanius schmidtii*) in logged and unlogged forest compartments of the Budongo Forest Reserve, Uganda. D.J. Sheppard. [168]

Learning/Cognition

12. Prediction of movement by capuchins. D. Fragaszy and S. Cummins [66]
13. Detecting environmental constraints in a tool task by capuchins. S. Cummins [52]
14. Exchange and value in *Cebus apella*. C. Liv, G. Westergaard, and S. Suomi [111]
15. Capuchin monkeys (*Cebus apella* and *Cebus apella apella*) show a von Restorff effect in a visual list memory task. A. Machado, A. Wright, and J. Katz [116]
16. Competency in seriating cups by captive capuchins (*Cebus apella*). C.R. Rosengart, S. Ruiz, and D.M. Fragaszy [152]
17. An assessment of the stability of trait curiosity in the small-eared bushbaby (*Otolemur garnettii*). S. Watson and J. Ward [192]
18. How to get from here to there: Mastery of a joystick by naïve capuchins (*Cebus apella*). K. Leighty, K. McCormack, and D. Fragaszy [106]

Maternal Behavior/Infant Development

19. Play behavior in infant small-eared bushbabies (*Otolemur garnettii*). M.D. Price, M.L. Becker, and J.P. Ward [141]
20. Captive olive baboon infant development and mother-infant proximity. V. Bentley-Condit [24]
21. Fear response to familiar and unfamiliar observers as compared to behavior in a novel environment in infant rhesus macaques. K.B. Zajicek, C. Fahlke, and J.D. Higley [199]

22. Motherhood and personality: Emotions profile index assessment of female rhesus monkeys (*Macaca mulatta*) with and without infants. N. Klepper-Kilgore [98]
23. Social separation in infant *Cebus apella*: Patterns of behavioral and cortisol response. G. Byrne and S. Suomi [36]
24. Lack of effect of dietary DHA supplementation on behavioral switches in nursery-reared infant rhesus macaques. R. Hommer, M. Champoux, M. Purple, and C. Shannon [84]
25. The impact of infant care on sleep in marmosets (*Callithrix kuhlii*): Is less or disrupted sleep an additional cost of providing care to infants? J. Fite and J. French [64]
26. Description of the growl vocalization in small-eared bushbaby mothers (*Otolemur garnettii*). M.L. Becker, E.H. Buder, and J.P. Ward [20]

Neuroscience/Biomedicine

27. Behavioral response to novel objects varies with CSF 5-HIAA concentrations in rhesus monkeys. T.W. Tsai, A.J. Bennett, P.J. Pierre, S.E. Shoaf, and J.D. Higley [186]
28. CNS Monoamine metabolites and plasma hormones as predictors of alcohol consumption in rhesus macaques (*Macaca mulatta*). A.C. Hurley, S. Lindell, D. Hommer, S. Shoaf, and J. D. Higley [88]
29. The effect of an oral corticotropin releasing hormone (CRH) antagonist on the response of male rhesus monkeys to other males. J. Pushkas, K.P. Weld, P.W. Gold, and J. D. Higley [143]
30. Effects of pregnancy and lactation on parameters of bone metabolism in the common marmoset monkey (*Callithrix jacchus*). R. A. Power, C. Jerome, M. Power, O. Oftedal, D. Layne, and S. Tardif [140]

Research Methods

31. Utilization of video and motion analysis software in the study of primate locomotor kinematics. L. Shapiro and J. Cooper [167]
32. Assessing behavioral reactivity in juvenile pigtailed macaques: Slides vs. video. R.A. Skiver and R.C. Kyes [171]
33. Techniques for collecting saliva from awake, unrestrained adult monkeys for cortisol assay. C. Lutz, S. Tiefenbacher, M. Jorgensen, J. Meyer, and M. Novak [114]
34. Can spectrographic analysis of roars be used to identify individual male black howler monkeys (*Alouatta pigra*)? D. Bocian, C. Aday, A. Gavazzi, H. Markowitz, and L. Baptista [29]
35. An assessment of Primatology in the 1990's. S. Howell [86]

36. A novel method for measuring animal coloration. M.S. Gerald, J. Bernstein, and R. Hinkson [71]

Sunday, August 15, 1999

MORNING

8:00AM - 11:00AM: Session 16: Social Behavior, Part B (C.A. Bramblett, Chair) (University Room)

8:00 A day in the life of a wild spider monkey (*Ateles geoffroyi*). C. Bramblett and S. Bramblett [32]

8:15 Food sharing relationships among adult lion tamarins. L.G. Rapaport [145]

8:30 Affiliative behaviors of group housed rhesus macaques are altered by positive reinforcement training. J. Perlman, B. Boudreau, and S. Schapiro [136]

8:45 Female friendships in a non-female-bonded species: Social relationships between females in wild hamadryas baboons (*Papio hamadryas hamadryas*). L. Swedell [180]

9:00 Influence of peers on the social development of captive juvenile rhesus macaques (*Macaca mulatta*). N. Cobb [47]

9:15 Fur rubbing behavior in free-ranging black-handed spider monkeys (*Ateles geoffroyi*) in Panama. C. J. Campbell [37]

9:30 Intergroup variation in social conventions in wild white-faced capuchins. S. Perry [137]

9:45 A new “founder effect” – establishment of dominance in wild golden lion tamarin groups. K. Bales and J.M. Dietz [18]

10:00 Correlates of self-directed behavior in wild white-faced capuchins (*Cebus capucinus*). J.H. Manson and S. Perry [119]

10:15 Results of a pilot study on lowland gorillas (*Gorilla gorilla gorilla*) behaviors at the Dzanga-Sangha Reserve Bais in the Central African Republic. L.M. Watson [191]

10:30 Effects of rearing history and housing conditions on the social behaviors of zoo living Geoffry’s tamarins (*Saguinus geoffroyi*). C. Kuhar, A. Sironen, and T. Bettinger [99]

10:45 Personality profiles in zoo chimpanzees (*Pan troglodytes*). C. Guggenheim and J. King [77]

8:00AM – 11:00AM: Session 17-Workshop: Technology in the wild: A workshop on the technological advances in field primatology (J. Wallis, organizer) [8] (Explorer’s Room)

Participants: C. Knott, L. Nash, F. Nutter, E. Patel, J. Paterson, S. Pochran, M.X. Valderrama, C. Whittier

8:00AM- 10:00AM:Session 18-Roundtable Discussion: Encouraging minority participation in primatology: Launching an ASP initiative. (K.L.R. Rasmussen, organizer) (Mayor’s Chamber)

Participants: M. Bloomsmith, J. Gonzalez, L. Jacobsen, M. Kessler, A. Petto, S. Schapiro, K. Swartz

11:00AM – 12:00NOON: Featured Speaker: Stephen J. Suomi “How do jumpy monkeys survive?” [4] (University Room)

AFTERNOON

12:00NOON - 1:30PM: Lunch

ASP Board of Directors Meeting (Director’s Room)

1:30PM – 3:15PM: Session 19: Breeding and Reproduction, Part B (J.A. French, Chair) (University Room)

1:30 Seasonal aspects of sociosexual behavior in two chimpanzee populations: A comparison of Gombe (Tanzania) and Budongo (Uganda). J. Wallis and V. Reynolds [189]

1:45 Urinary cortisol profiles throughout development in male marmosets (*Callithrix kuhli*). J. French, K. Phillips, and B. Proskocil [67]

2:00 A multi-species comparison of the time spent in adolescence. T. Mueller [126]

2:15 Human reproduction, the evolution of the brain, and fat storage. J. Lancaster and D. Crumley [104]

2:30 Effect of season on occurrence of urethral prolapse in young nulliparous female squirrel monkeys (*Saimiri boliviensis boliviensis*). S. Gibson, T. Kuehl, L. Williams, and C. Abee [72]

2:45 Platelet-activating factor in nonhuman primate spermatozoa: A comparative analysis. W.E. Roudebush, C. Ito, E.T. Purnell, and X. Cui [154]

3:00 Presence of platelet-activating factor and its receptor in baboon (*Papio spp*) spermatozoa. W.E. Roudebush, C. Ito, E.T. Purnell, and X. Cui [155]

1:30PM – 4:00PM: Session 20-Roundtable Discussion: Environmental enrichment in the new millennium S.P. Lambeth and L. Brent (organizers) [9] (Explorer’s Room)

1:30PM – 3:30PM: Session 21-Workshop: Bringing Science to the Public: A workshop in giving effective presentations. (L.E. Miller, organizer; sponsored by the ASP Education Committee) [6] (Mayor's Chamber)

4:00PM – 5:30PM: ASP Business Meeting (Explorer's Room)

EVENING

6:30PM – 7:00PM: Board boat for Dinner Cruise

7:00PM – 10:00PM: Dinner Cruise

10:00PM – 11:00PM: Boat docked for final hour of party

Monday, August 16, 1999

MORNING

8:30AM – 1:00PM: Tour of Tulane Primate Center and Lunch