

STRI newsletter

JUNE 29, 1990

SMITHSONIAN TROPICAL RESEARCH INSTITUTE, Apartado 2072, Balboa, Panamá

No. 26

SEMINARS

Tupper Center Auditorium

Tuesday, July 3, noon seminar speaker will be Truman P. Young, University of California at Davis.

Mpala Ranch and research in dry highland ecosystems in Kenya.

Abstract

I will give a brief introduction to Mpala Ranch and the Laikipia Ecosystem, followed by examples of recent research.

1. Population biology of the shrub *Tarconanthus camphoratus* in an agro-forestry context, with estimates of cropping intervals for sustained-yield charcoal production in a "natural" ecosystem.

2. Experimental and descriptive studies of thorns as inducible defenses against giraffe herbivory.

3. An examination of energetic and social constraints on feeding ecology in male and female giraffes.

NEXT WEEK

Tuesday, July 10, Walter Wilzinsky, University of Texas, will give a talk on his work on frogs.

PEOPLE

Arrivals

■ Michael Ryan, University of Texas, Austin, July 1 - 31, to carry out studies of communities and female choice in frogs in Gamboa.

Departures

♦ July 1 - August 1, Henk Wolda, staff scientist, and his wife Tina for the Netherlands to visit some colleagues at research institutes and universities and on annual leave.

♦ July 1 - September 30, Yira Ventocilla, paleontology research technician, to the SI National Museum of Natural History in Washington, D.C. to receive further laboratory training.

On Leave

Ricardo Beteta, June 28 - July 13

Flor Carvallo, July 5 - 13

Miguel Estribi, July 1 - August 6

Maria Lorena Ossa, July 5 - 20

Joseph Wright, June 20 - July 28

UPCOMING EVENTS

July 1- Application deadline for International Exchanges Program.

July 4 - U.S. Independence Day is a STRI holiday.

July 16 - Anniversary of the establishment of the Canal Zone Biological Area (BCI).

ANNOUNCEMENTS

Lo Que Estamos Haciendo

Este mes el conferencista del programa para los empleados será el Dr. Nicholas Smythe, con el tema *La domesticación del paca o conejo pintado*. Se llevará a cabo el viernes 6 de julio a las 3:30 p.m. en el auditorio del Centro Tupper. Favor confirmar su asistencia a más tardar el jueves 5. Tanto el personal permanente nuevo como el personal bajo contrato están cordialmente invitados a participar en este programa. Los interesados deben comunicarse con Marissa Crespo en la Oficina de Educación.

Atención Asegurados del Area del Canal

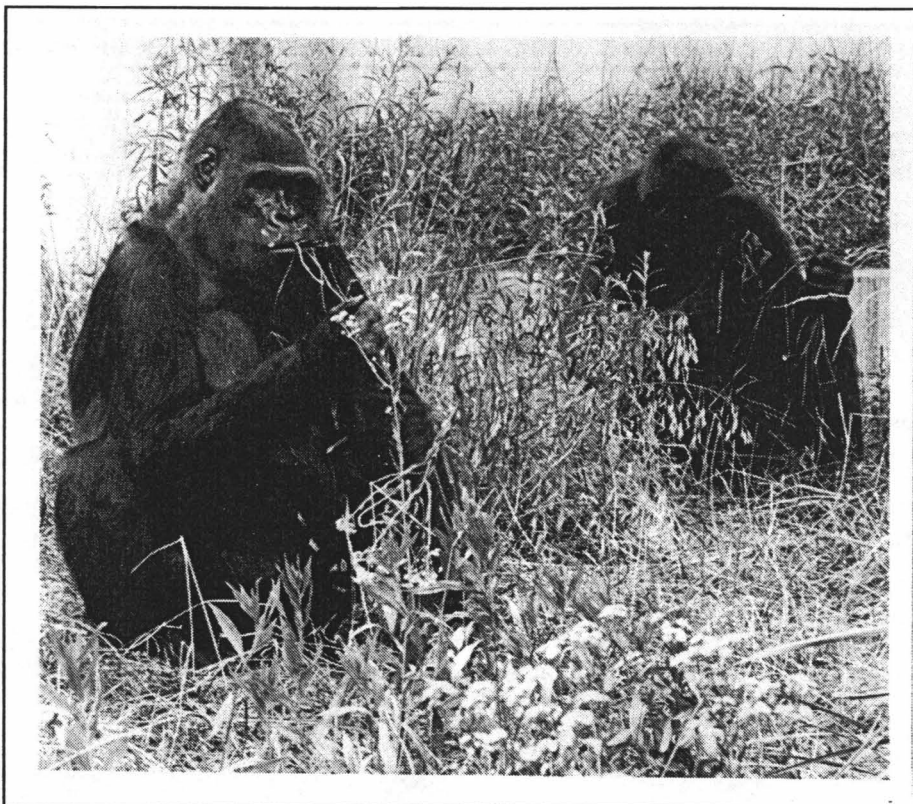
Se informa a los asegurados del Pan-American Life Ins. Co., cubiertos bajo el plan de beneficio del área del canal (beneficios médicos), que desde el 1 de julio no se aceptará el carnet de la Compañía Mutua de Omaha. Los que no tengan su carnet deben dirigirse a las oficinas ubicadas en el edificio Banco de Boston en Vía España (planta baja), a retirar el nuevo.

STRI Telephone Directory

STRI personnel please report any change of address /telephone number since February 1990 to Maria Luz Calderon, Education Office, Tupper. The information is required for final 1990 directory.

New Role for Zoos

Adapted from the
Smithsonian News Service



The need for zoos to provide homes for gorillas has become increasingly urgent in recent decades. Wild lowland gorillas live in equatorial Africa, where their tropical forest habitat is fast disappearing. Farmers have increasingly encroached on gorilla habitat in this region to plant crops.

In turn, as their natural food sources are destroyed, the gorillas raid cultivated lands and are killed by farmers in the process. Many zoos are attempting to raise animals such as gorillas so that if and when there is adequate protected habitat, they can be returned to the wild.

Raising these large, social, intelligent creatures in zoos poses unique problems. Much of higher primate behavior is learned rather than instinctive. As with humans, a gorilla baby is not born knowing how to attract and keep a mate. It is just this ability to learn that sets the primate intellect above that of most other animals.

In their home range, lowland gorillas live in breeding groups called harems. A harem is led by an adult male silver-back, named for the impressive mane of silver-black hair that spreads down his back from the

neck to the thighs. The rest of the harem consists of at least one sub-adult male, or black-back, and anywhere from one to seven adult females and offspring of various ages. The silver-back plays a central role in most of the troop's daily activities.

"He usually leads the group through the forest, and he defends his females in interactions with males of other groups," Dr. Ben Beck, acting associate director and a primatologist at the Smithsonian Institution National Zoo says. "He's extraordinarily solicitous toward the young and usually ends up playing with the young animals during rest periods."

The interaction with adults is a key facet of a young gorilla's behavioral growth. "Social experience early in life with male and female gorillas of different ages does seem to be really important in later adult social and sexual competence," Beck says. Unfortunately, many zoo gorillas do not get this opportunity. Prior to 1981, the U.S. zoo community lacked a coordinated effort to breed gorillas. Gorilla breeding was sporadic, and since most gorillas brought into zoos from the wild were babies taken from their parents, they had to be hand-raised. When the next generation was born, so was a classic Catch-22. Nearly all of those young also

had to be hand-raised since their parents had never learned from other gorillas how to raise young.

"Hand-raised primates become imprinted on their keepers," notes Lisa Stevens, collection manager for primates at the National Zoo. That is, the gorillas adopt the social behavior of their human keepers. "In some cases, they develop strong sexual preferences for humans, so when they reach sexual maturity they are more interested in humans than in other gorillas."

Then in 1981, the American Association of Zoological Parks and Aquariums established the gorilla Species Survival Plan, an agreement among member zoos to manage their individual populations of gorillas as one large group. This agreement facilitated mate selections and animal relocations that were in the best genetic and behavioral interests of the entire North American population.

So it was that *Kuja* and *Mandara* came to the **National Zoo** from Milwaukee in October 1985. It took two full years before they could be put in the same enclosure with an adult. First, they had to adjust to their new and larger enclosure, building up strength and coordination as they cavorted among the branches and logs of their naturalistic indoor and outdoor enclosures.

Finally, the introductions were made. Doug Donald, a keeper who helped with the introductions, says that *Tomoka*, a hand-raised silver-back gorilla, was the best candidate to play surrogate father to *Kuja* and *Mandara*.

"We didn't have any females to introduce the young to at the time so we chose *Tomoka* because he was our most laid-back adult male," Donald recalls. This was the first time young had ever been introduced to a non-related silver-back male, and the fact that *Tomoka* was hand-raised made him a safer bet, Donald says. The Zoo's other adult-male gorilla, *Nikumba*, had been caught in the wild and was more unpredictable.

The introductions were a success. Later, *Mesou*, an older female, arrived from Milwaukee, and *Augustus*, known as *Gus*, then a 5-year old male, arrived from Boston. They were introduced into the growing family in the same fashion. Since her arrival, *Mesou*, who was considered beyond her reproductive years, has shown a sexual interest in the Zoo's two silver-backs.

Since their introduction into the troop, some interesting changes have taken place. According to keeper Melanie Bond, silver-backs have a strong instinct to break up conflicts and *Tomoka* is no exception. While keeping the peace among *Mesou*, *Mandara*, *Gus* and *Kuja*, he reigns with a gentle hand, relying mostly on posturing and facial expressions to maintain order. He also rarely responds to the sexual advances of *Mandara*, who has recently entered her mating years.

Gus, an adolescent, is allowed by *Tomoka* to copulate with *Mandara*, much as a silver-back sometimes allows his black-back son to mate within a wild harem. *Kuja* is learning to roughhouse with *Gus* and is gaining the skills that a full-grown male needs to contend for a mate.

Keepers hope that *Mesou* will adopt the role of aunt if *Mandara* and *Gus* become parents. "In gorilla families in the wild, there appears to be support, mother to daughter or sister to sister, when a female gives birth," Bond says. "We hope that there is a close enough bond between *Mandara* and *Mesou* that she will provide this 'aunting' behavior and give the support that *Mandara* might need, especially as a first-time mother."

Although the gorilla troop at the **National Zoo** is only a rough approximation of the ideal situation, as Bond points out, "Compared to what these animals had in the past, their lives are much richer and more natural today."

Tupper Restaurant Update

The Tupper Restaurant is announcing a new schedule from 9 a.m. to 5 p.m.

To better its service and in response to customer suggestions, the restaurant is now offering a daily salad special.

Come and support this in-house service!

Noticias sobre el Restaurante Tupper

El Restaurante del Centro Tupper anuncia su nuevo horario de 9 a.m. a 5 p.m.

Para mejorar su servicio y a petición de los usuarios, el menú diario ahora ofrece un plato de ensalada, para los que comen livianos.

Aprovechen la oportunidad de este servicio y patrocinen el restaurante de STRI!

STRI LIBRARY NEW BOOK LIST

Ancient forests of the Pacific Northwest (EA Norse, 1990) **SD387.O43N67 1990X STRI.**

Aquaculture : the farming and husbandry of freshwater and marine organisms (JE Bardach et al., 1972) **SH135.B24 STRI.**

Bibliography of soil taxonomy, 1960-1979 (GD Bailey, comp., 1987) **QZ5074.S7B582 1987 STRI.**

Biological role of plant lipids (International Symposium on the Biological Role of Plant Lipids (8th : 1988 : Budapest, Hungary), 1989) **QK898.L56I565 1988X STRI.**

Bruchidae, strakowce (Insecta, Coleoptera) (L. Borowiec, 1988) **QL596.B7B73 1988 STRI.**

Cell biology of mammalian egg manipulation : proceedings of a symposium held in Copenhagen, Denmark, October 1988 (T. Greve et al., eds., 1989) **QL951.C393 1989 STRI.**

Chemicals in the aquatic environment : advanced hazard assessment (L. Landner, ed., 1989) **QH545.W3C438 1989X STRI.**

Contaminated sediments : lectures on environmental aspects of particle-associated chemicals in aquatic systems (U. Frstner, 1989) **TD878.F67 1989X STRI.**

Cytochemical and immunological approaches to plant cell biology (EL Vigil & CR Hawes, eds., 1989) **QK725.C997 1989 STRI.**

Early Pliocene benthic foraminifers from the Salina Basin, southeastern Mexico (B. Kohl, 1985) **QE772.K79 1985 STRI.**

Energy politics in Colombia (R. De La Pedraja, 1988) **HD9502.C72D43 1989X STRI.**

Fish as farmers : an experimental study of herbivory by a coral reef damselfish (GV Irvine, 1983) **QL638.P77I72 1983a STRI.**

A Guide to bird behavior (DW Stokes, 1979-) **QL698.3.S87 v.3 1979 STRI.**

Handbook of hazardous waste management for small quantity generators (RW Phifer & WR McTigue, Jr., 1988) **TD811.5.P47 1988X STRI.**

Hydrodynamics of coastal zones (SR Massel, 1989) **GB451.2.M27 1989X STRI.**

Investigations on Cetacea (G. Pilleri, ed., 1989) **QL737.C4P55 v.22 STRI.**

Marine planktology (Z Zhong et al., 1989) **QH91.8.P5C518 1989 STRI.**

Mesoscale/Synoptic coherent structures in geophysical turbulence : proceedings of the 20th International Liege Colloquium on Ocean Hydrodynamics (International Liege Colloquium on Ocean Hydrodynamics (20th : 1988), 1989) **GC200.I57 1988X STRI.**

Methods in bryology (Bryological Methods Workshop (1987 : Mainz, Rheinland-Palatinate, Germany), 1988) **QK532.42.B916 1988 STRI.**

Molecular genetics of early *Drosophila* and mouse development (MR Capecchi, ed., 1989) **QH543.M644 1989X STRI.**

Mycotoxins : chemical, biological, and environmental aspects (V. Betina, 1989) **QP632.M9B47 1989X STRI.**

Northwest European micropaleontology and palynology (DJ Batten & MC Keen, eds., 1989) **QE719.N87 1989 STRI.**

Oxygen transport to tissue XI (K. Rakusan et al., 1989) **QP99.3.O9I5 1988X STRI.**

Palaeobiology : a synthesis (DEG Briggs & PR Crowther, eds., 1990) **QE711.2.P15 1990 STRI.**

The Pannonian Basin : a study in basin evolution (LH Royden & F. Horv th., eds., 1988) **QE260.P19 1988 STRI.**

Receptors, membrane transport, and signal transduction (AE Evangelopoulos et al., eds., 1989) **QH603.C43N387 1988X STRI.**

Seedling physiology and reforestation success : proceedings of the Physiology Working Group, Technical session : Society of American Foresters National Convention, Portland, Oregon, USA, October 16-20, 1983 (ML Duryea & GN Brown, eds., 1984) **SD409.S413 1984X STRI.**

Advances in Genetics (JG Scandalios & TRF Wright, eds.) v.27, : Genetic regulatory hierarchies in development (TRF Wright, ed., 1989) **Serials section STRI.**

Fourth of July Trip

Boquete Tour

Leaves Panama City on July 6 and returns on July 8.

Tour Price \$165.00 Adults

\$ 95.00 Children under 12

For more information contact Carmen Emiliani at the Valent Recreation Center 75-6500 or PTY TOURS, Inc. Tel: 69-0774, Fax: 69-1553.

STRI IDs / Tarjetas de Identificación de STRI

Persons with new STRI IDs should return old yellow ones to America Staff (Tupper), Alejandro Arze (Tivoli) or Alejandro Hernandez (BCI).

Las personas que han sacado su nueva tarjeta de identificación deben regresar la vieja amarilla a América Staff en Tupper, Alejandro Arze en Tivoli o Alejandro Hernández en BCI.