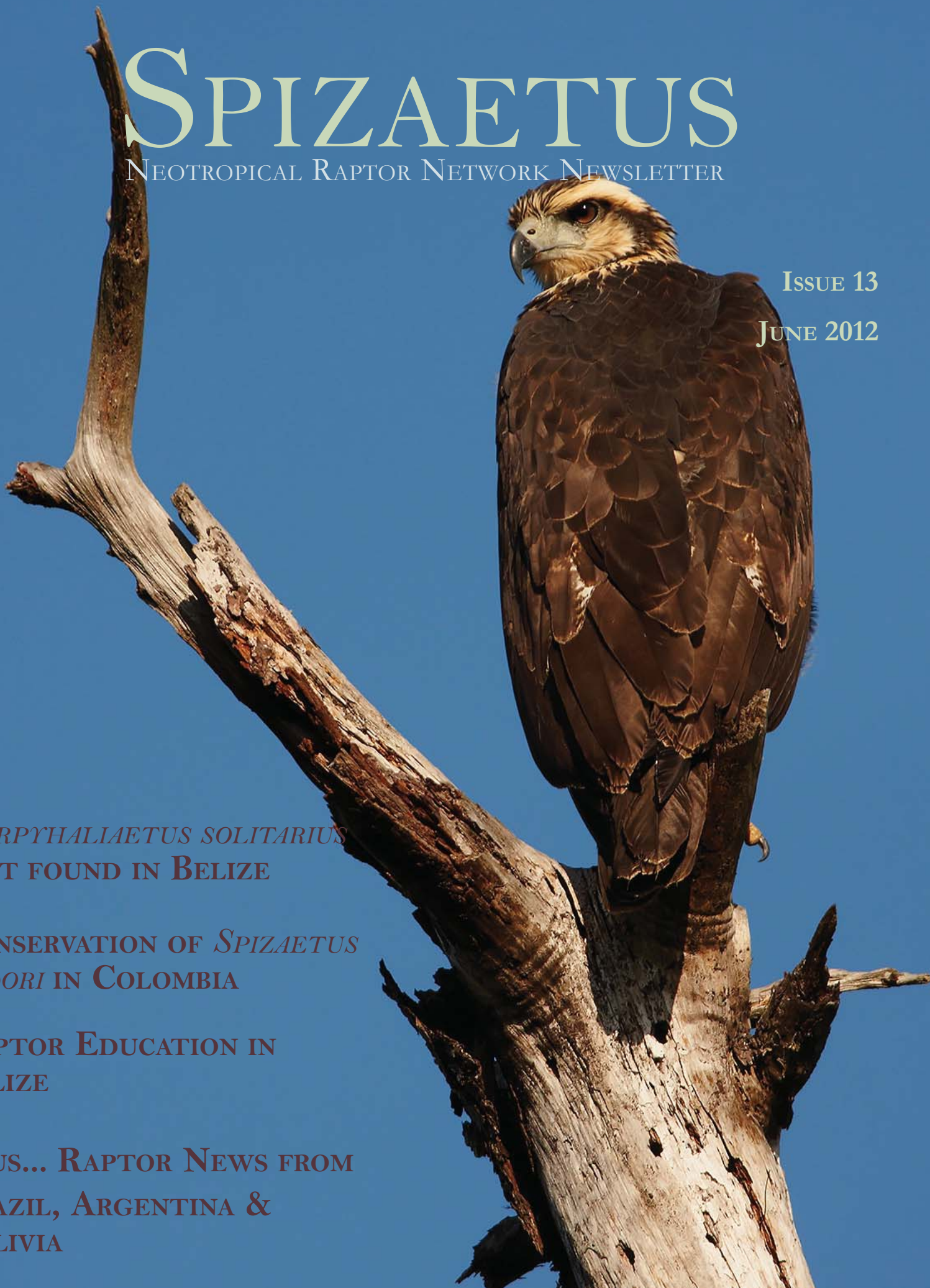
Spizaetus

Neotropical Raptor Network Newsletter

Issue 13

June 2012



Harpyhaliaetus solitarius nest found in Belize

Conservation of *Spizaetus isidori* in Colombia

Raptor Education in Belize

Plus... Raptor News from Brazil, Argentina & Bolivia

Table of Contents

The NRN is a membership-based organization. Its goal is to aid the research and conservation of Neotropical raptors by promoting communication and collaboration among biologists, ornithologists, raptor enthusiasts, and other conservationists working in the Neotropics.

Neotropical Raptor Network

Spizaetus: NRN Newsletter

Issue 13 © June 2012

English Edition

ISSN 2157-8958

Cover Photo:
Harpyhaliaetus solitarius
Mountain Pine Ridge, Belize.

Back Cover Photo:
Harpyhaliaetus solitarius
Mountain Pine Ridge, Belize

Graphic Design: Marta Curti
NRN Coordinator: Marta Curti

Editors/Translators:
Mosar Lemos, Aldo Ortiz, Hugo Paulini, Yeray Seminario, Marta Curti

An active nest of the rare Solitary Eagle *Harpyhaliaetus solitarius* discovered in Belize

By **Ryan Phillips**, Belize Raptor Research Institute (BRRI), harpiabz@yahoo.com.

Adult *Harpyhaliaetus solitarius* **vocalizing © R. Phillips**

Neotropical raptors are in critical need of study as basic natural history information on the nests, eggs, home range, area requirements, demographics and movements of many are still unknown (Bierregaard 1995, Bildstein et al. 1998). The Solitary Eagle (*Harpyhaliaetus solitarius*) has a patchy distribution from western Mexico to northwest Argentina where it is a very rare and local resident throughout (Ferguson-Lees and Christie 2001). Throughout its distribution fewer than 100 records have been confirmed over the past 150 years. It is among the least known raptors found in the region and therefore a priority species.

The Solitary Eagle occurs in sub-montane to montane pine and broadleaved forests, where, in Central America, it has been confirmed in Guatemala, Belize, Honduras, Nicaragua, Costa Rica, and Panama from only a handful of records. It is currently classified as Near Threatened by the IUCN due to its moderately small population size, which is estimated to be between 250-999 individuals (Birdlife International 2009). Based on further evidence of population trends it may be up-listed to vulnerable, but currently there is no data on the species to properly asses its status (Birdlife International 2009). In Belize it is listed as Critically Endangered, which means it is vulnerable to becoming extinct.

Although there have been numerous reports from Belize of the Solitary Eagle, the first well-documented record occurred in 1997 within the Mountain Pine Ridge area by Steve Howell. This was followed by the first photo documentation in 2004 in the Mountain Pine Ridge Forest Reserve by Chris Benesh (Jones 2005). While there have been numerous records from Belize, all but a few are from the Mountain Pine Ridge area, which makes this an ideal location to study it.

Outside of single records, only a few papers have ever been published on this species further exemplifying the importance of any studies on this vulnerable eagle. Up until our discovery of a nest in 2011, only two Solitary Eagle nests had been previously located. These were found in Sonora, Mexico in 1947 and 1958, respectively, and either the eggs or adults were collected for museum specimens, therefore no data were collected on the species' nesting biology (Harrison and Kiff 1977).

On 30 June, 2011, after seven years of searching for the elusive Solitary Eagle nest in the Mountain Pine Ridge of Belize, the BRRI team, led by Roni Martinez, with assistance from Blancaneaux Lodge and The Peregrine Fund, located the only

A nearly fledged nestling. © R. Phillips

Questions to be Answered by the Solitary Eagle Project

- **What are the area requirements for adults and juveniles?**
- **How many individuals can a given area maintain?**
- **What is the current population size?**
- **What are the threats?**
- **Has the population declined?**
- **How far do juveniles disperse?**
- **Is their scattered distribution isolated?**
- **Are there two subspecies (South America/C. America/Mexico)?**
- **Do non-breeding and breeding range habitats differ?**
- **Do nesting pairs prefer transition zones between pine and broadleaf forest?**
- **Are they restricted to pine forest for breeding?**
- **Do they prefer a specific habitat for foraging?**
- **Is the current designation of Near Threatened the appropriate status?**
- **Is there interspecific or intraspecific competition resulting in mutual exclusion?**

known nest in 52 years. Though in 2009 a pair of eagles was observed in the area, including a recently fledged juvenile, the nest was not located.

The discovery of this nest, with a single approximately two to three month old nestling, is a big step forward in the conservation of the Solitary Eagle. We can now begin to understand this unknown species and its requirements, so that management strategies can be implemented and its conservation status can be better understood. The overarching goal of this study is to gather knowledge on the Solitary Eagle that will allow us, in conjunction with local wildlife management agencies, to design and implement sound conservation practices for this species, which may include but not be limited to habitat conservation and environmental education. Objectives include studying this species' habitat usage, breeding biology, feeding habits, movements, distribution, conservation status, dispersal, and home range through nest monitoring, point-counts, and radio telemetry.

Since the discovery of the Solitary Eagle nest on June 30th, we have made nearly 100 hours of observations of the nestling, fledgling, and dispersal periods. Prior to this study, there was only anecdotal information on the diet of the Solitary Eagle. Through direct observations of the nest we recorded twenty prey items brought to the nest by both the adult male and female. Sev-

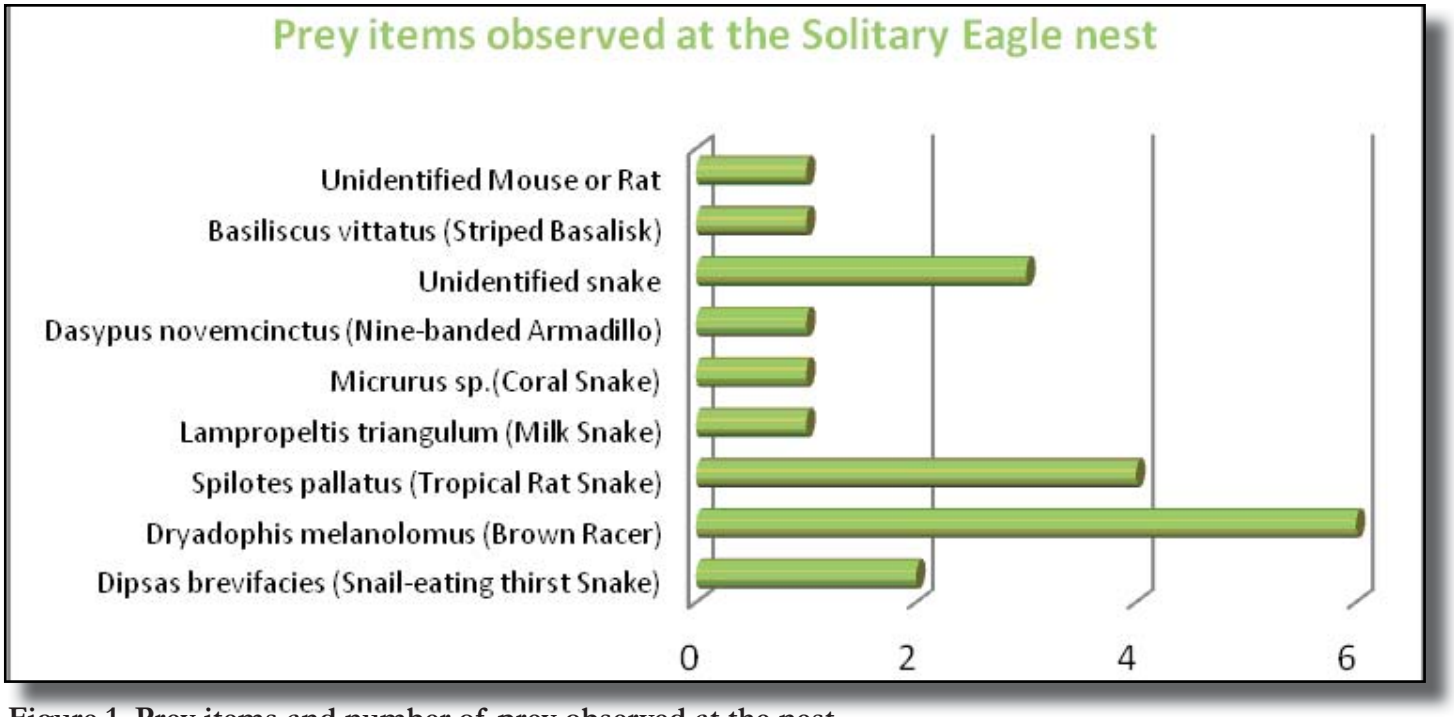


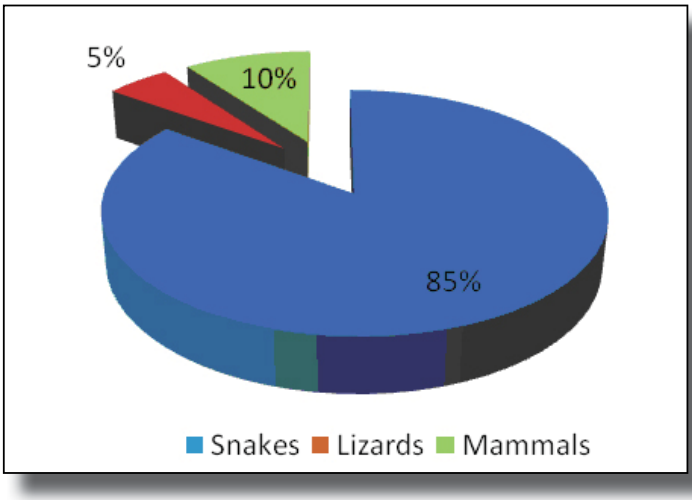
Figure 1. Prey items and number of prey observed at the nest

enteen of the twenty prey items were of snakes, and the other three were a single observation of a Nine-banded Armadillo (*Dasypus novemcinctus*), Striped Basalisk (*Basiliscus vittatus*), and an unidentified mouse or rat (Fig. 1) This proves that they are specialized reptilian feeders, but will opportunistically prey on the occasional mammal. The Tropical Rat Snake (*Spilotes pillatus*) and Brown Racer (*Dryadophis melanolomus*) were the two most abundant prey species, but a larger sample size is needed to determine how important these species are in their diet (Fig. 2).

The young was fed by both parents, who would bring in prey to the nestling between 1-3 times per day, usually between 12:00-16:00. On one occasion, both the adult male and female came into the nest from the same direction at the same time each carrying a snake. On most occasions, the male and female would bring prey to the nest at different times; rarely were both adults observed at the nest at the same time. The female was observed near the nest more frequently.

The nestling was first observed spreading its

Figure 2. Percentage of prey brought to the nest (n=20)



Above: An adult soaring over a waterfall near the nest. Below: Recently fledged juvenile. © Ryan Phillips

wings and lifting up off the nest, on July 10th. The nestling spent most of its day food begging or standing at the edge of the nest during the month of July. On August 4th, the nestling made its first flight from the nest tree. We estimated the nestling fledged at approximately 3.5 months of age. For the next month, the juvenile was observed not more than 200 meters from the nest frequently food begging. The adults continued to bring food to the nest, where the juvenile would fly to once it heard the parents. On August 16th, the juvenile began to look for prey. It was observed intently looking down at the ground at anything that moved. On August 26th, we observed its first attempt to catch prey when it at-

Adult soaring over the nest area © Ryan Phillips

tacked a Striped Basalisk, but it was unsuccessful. Since this is the first nest ever studied of this rare species, we decided not to radio-tag any of the individuals, in order not to disturb the nesting process. Like other forest eagles of the Neotropics, we assume that the dependency period is at least 6 months after fledging so we suspect they will not nest again until 2013.

We will continue to monitor the nest and when active again, will make observations througout the entire breeding cycle, as well as fit the juvenile and at least one adult with a satelittle transmitter, so we can learn about their movements, home-ranges, habitat, ecology, juvenile dispersal patterns, and seasonal behaviors. If we are able to radio-tag the juvenile we can better determine if the Solitary Eagle's patchy distribution is isolated or if it may function as a metapopulation. These findings will be critical in the conservation of this majestic eagle.

References

Bierregaard, R.O., Jr. 1995. The status of raptor conservation and our knowledge of the resident diurnal birds of prey of Mexico. Transactions of the North American Wildlife and Natural Resources Conference 60:203-213.

Bildstein, K., W. Schelsky, J. Zalles, and S. Ellis. 1998. Conservation status of tropical raptors. Journal of Raptor Research 32:3-18.

Birdlife International. 2009. *Harpyhaliaetus solitarius*. In: IUCN 2010. IUCN Red List of Threatened Species. Version 2010.3. <www.iucnredlist.org>. Downloaded on 15 September 2010.

Clark, W.S., H.L. Jones, C.D. Benesh, and N.J. Schmitt. 2007. Field identification of the Montane Solitary Eagle (*Harpyhaliaetus solitarius*). Birding 38:66-74.

Clinton-Eitniear, J. 1986. Status of the large forest eagles of Belize. Birds of Prey Bulletin 3:107-110.

Clinton-Eitniear, J. 1991. The Solitary Eagle *Harpyhaliaetus solitarius*: a new threatened species. Birds of Prey Bulletin 4:81-85.

Ferguson-Lees, J., & D.A. Christie. 2001. Raptors of the world. Houghton Mifflin Company, Boston, Massachusetts, USA.

Harrison, E.N., and L.F. Kiff 1977. The nest and egg of the Black Solitary Eagle. Condor 79:132-133.

Jones, H.L. 2005. Central America. North American Birds 59:162-165.

Pereira, H. 2002. Forecasting bird extinctions in Costa Rica. Center for Conservation Biology Update 14:1, 8-9.

Ramos, M.A. 1986. Birds in peril in Mexico: the diurnal raptors. Birds of Prey Bulletin 3:26-42.

* * *

Current Knowledge of the Black-and-chestnut Eagle *Spizaetus isidori* in Colombia.

By **Santiago Zuluaga Castañeda,** student, Departament of Biological Sciences, Universidad de Caldas, Calle 65 # 26-10, A. A. 275, Manizales, Co**lombia,** santiago.1710720106@ucaldas.edu.co

The Black-and-chestnut Eagle (*Spizaetus isidori*) is found all along the Andes, from north-eastern Colombia to the north of Argentina (Ferguson-Lees & Christie 2001) and is one of the most threatened raptors in all of its distribution range. Because it is found in low population densities and has high territory requirements - with an estimated 10,000 hectares of mature forest needed to maintain a viable pair (Thiollay 1991) - it is considered to be one of the raptors most sensitive to habitat fragmentation and degradation.

Adult *Spizaetus isidori* © Photo Archive (CRARSI)

In Colombia, it is estimated that approximately 63% of suitable habitat for *Spizaetus isidori* has been lost; however, the reduction of its population could exceed this percentage (Marquez & Renjifo 2002). Additionally, the juveniles of this species easily acquire the habit of hunting poultry and domestic mammals, causing conflicts in rural communities, thereby making them susceptible to being injured or killed with relative ease (Márquez & Renjifo 2002; Córdoba-Córdoba et al. 2008).

Currently, no conservation measures exist that focus on resolving the problems facing the Black-and-chestnut Eagle in Colombia. It is estimated that this long-lived species has lost more than 30% of its population in three generations. The International Union for Conservation of Nature (IUCN) and BirdLife International classify it as endangered on a national

Sub-aduilt *Spizaetus isidori* in the Jardín-Antioquia Municipality, western mountain range, Colombia. © Luis G. Olarte

level (Márquez & Rengifo 2002) and vulnerable on a global scale based on criteria C2a(i), which estimates that no subpopulation of this species contains more than 1,000 mature individuals.

Based on this, and coupled with the fact that it is one of the least known neotropical raptors (Valdez & Osborn 2004), we believe that any national or international conservation effort for the Black-and-chestnut Eagle must begin by updating the knowledge of this species in the different countries in which it is found.

This paper provides a review of the published and current unpublished data on the Black-and-chestnut Eagle in Colombia as a means to update the status of our knowledge of this species; and discusses some priorities, needs and research challenges to be overcome to ensure the recovery and long-term conservation of this species in Colombia.

Based on published information gathered from books, field guides and journals that contain original and reliable data on this species, we have, for the purposes of this paper, divided the diverse aspects of our knowledge of this species into six sub-themes: scientific publications, reproductive biology, distribution, habitat and population, and threats. The information obtained from the literature was further complemented by unpublished records, personal communications, and some observations by the author.

Scientific Publications:

In Colombia there is a lack of literature that furthers our knowledge of this species. Two of the most complete field studies that exist up until now were carried out in the second half of the 20th century. The first is called "Nuevas Observaciones sobre *Oroaetus isidori* (Des Murs)" (Lehmann, 1959) ["New Observations on *Oroaetus isidori*],

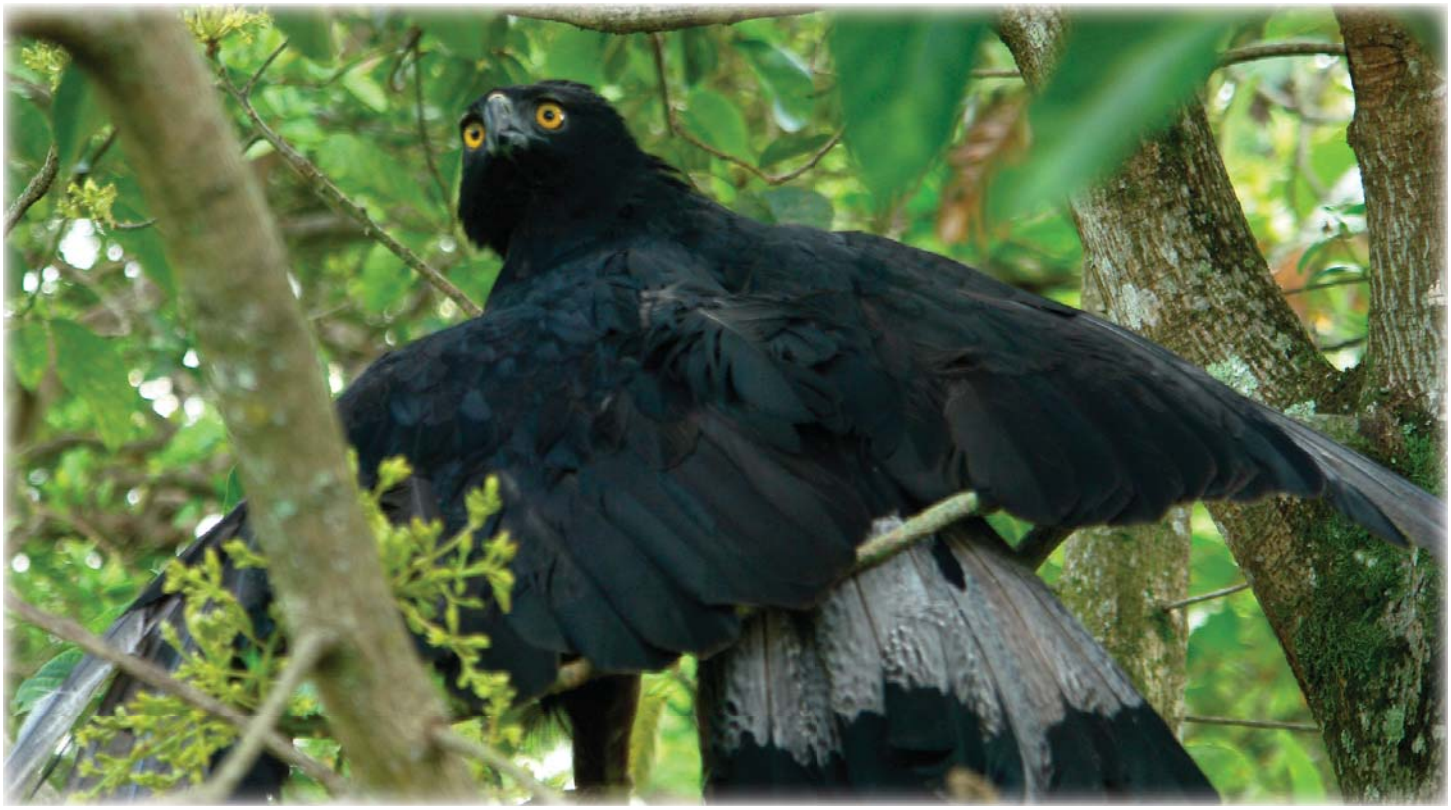
and the second is "Notas sobre la Distribución y Anidación del Águila Poma, *Oroaetus Isidori*, En Nariño" (Strewe, 1999) ["Notes on the Distribution and Nesting of *Oroaetus isidori* in Nariño]. These publications contribute to a vast part of the current knowledge about this species in Colombia.

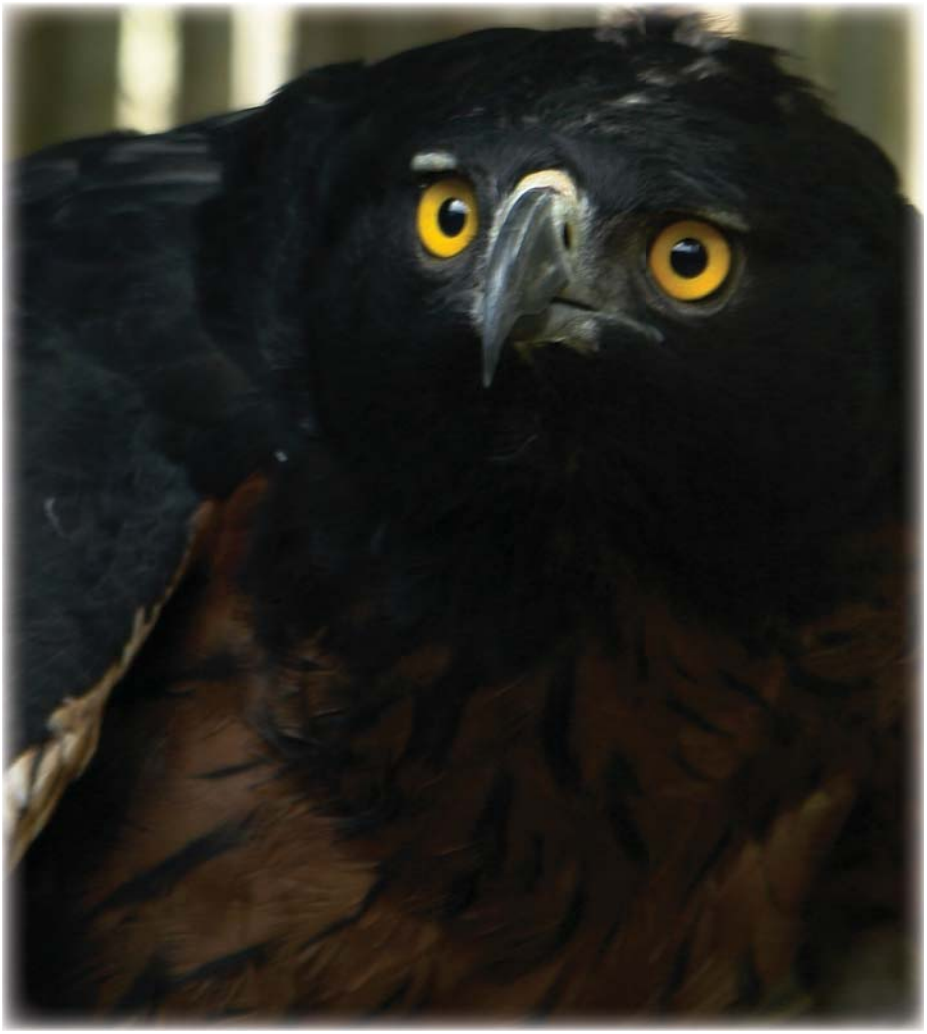
Other important publications include those by Márquez & Renjifo, (2002); Márquez et al. (2005); and Córdoba-Córdoba et al. (2008), in which these authors present newly collected information on the species; bring to the forefront certain problems between humans in rural areas and this species; and document sighting in specific areas within this eagle's range.

Reproductive Biology:

There are seven nesting records for this species in Colombia. The first nest was found in 1936 in the western mountain range, Department of Cauca. Four more nests were later located in the Department of Huila in 1950, 1957, 1958, and 1959 (Lehmann 1959), respectively. In 1997 in the Valle de Río Miraflores, Department of Nariño, another nest was found (Strewe 1999), and in 2010 one more was discovered in the Campohermoso Municipality, Department of Boyacá (Márquez y Delgado 2010). Nests have been documented at between 2,000 and 2,200 masl

Adult *Spizaetus isidori* © Photo Archive (CRARSI)





Adult *Spizaetus isidori* **© Photo Archive (CRARSI)**

(Lehmann 1959), with only one recorded at 1,750 masl (Strewe 1999). Observations done at these nests indicate that these birds produce only one chick per breeding cycle (Lehmann 1959; Strewe 1999). The adults take good care of their young, and have been observed feeding them squirrels and large birds for the first eight weeks of their lives. However, the young birds remains close to the nest for six months or more, which indicates the juveniles of this species have a prolonged dependency period.

Distribution:

In Colombia, this species is found in the three mountain ranges at between 1,600 and 3,000 masl (Márquez et al. 2005). It inhabits cloud forest slopes with high rainfall at the mid-mountain, principally in areas dominated by oak (*Quercus sp.*) and *Cecropia* (Lehmann 1959). This species has been sighted in the Departments of Magdalena, Cesar, Antioquia, Caldas, Risaralda, Tolima, Boyacá, Caquetá, Cauca, Cundinamarca, Huila, Meta, Nariño, Santander and Norte de Santander.

Habitat and Population:

Its historical range in Colombia is estimated at 378,620 km² (Márquez & Renjifo, 2002), however, the destruction of its forest habitat, which increased dramatically in 1996 and 1998 (Strewe 1999) and still continues, has left this species with less than 10% of its potential habitat in Colombia, which was estimated at only 37,000 km² in 2002 (Márquez & Renjifo, 2002). In the southwest region of the country, population density for this species has been estimated at one or two pairs per 100 km². Assuming this density and 100%

occupancy of potential habitat, and the absence of poaching, we estimate the population of *S. isidori* in Colombia to be between 740 and 1,480 individuals (which is most likely an overestimate) (Márquez & Renjifo, 2002).

Threats:

It is believed that the main threat to the species is forest fragmentation, however, as mentioned above, juveniles and adults have been known to prey on poultry and domestic mammals in areas adjacent to their hunting grounds. This causes conflicts with humans in rural communities, which puts these eagles at great risk for being injured or killed (Márquez & Renjifo 2002). Another problem is sport hunting (Guerrero et al. 2004, Ballesteros et al. 2005, Córdoba-Córdoba et al. 2008) an illegal practice that has serious impacts on this species' populations.

Research needs and challenges:

The lack of knowledge of this species raises some research needs and challenges, including:

- Identifying the sources of greatest threat to the Black-and-chestnut Eagle in Colombia. We already know some locations in which individuals of this species are being killed for taking domestic animals.

- Generating field studies of wild populations, and assessing their impact on livestock production systems, as this is where much of the pressure on the species stems from.

-Identifying and monitoring wild populations to better understand this species and create appropriate management actions.

- Developing solutions to problems affecting this species in rural environments, where various conflicts have already been identified.

- Conducting genetic studies of wild populations and individuals in captivity, to understand the genetic diversity of the population and establish both *in situ* and *ex situ* management plans.

Acknowledgements

Thanks to the Colombian ornithologist and conservationist, Dr. Federico Carlos Lehmann, for his legacy and contribution to our knowledge of this species in Colombia and his participation in the proposal to consider this species as a national emblem. Most especially we thank the Centro de Rehabilitación de aves Rapaces San Isidro (CRARSI), Maria Angela Echeverry, for her contributions, Marta Curti, for her continued assistance, and Hernan Vargas and Angel Muela for their comments on the manuscript.

References

Ballesteros, H. F., C. A. Ríos, J. J. Hernández, R. I. Restrepo, L. E. Gallego, F. López, L. A. Rendón,

J. Ruiz, Y. Y. Rodríguez, J. E. Ramírez, & J. E. Rojas. 2005. Plan básico de manejo 2005-2009 Parque Nacional Natural Tatamá. Parques Nacionales naturales de Colombia, Dirección Territorial Noroccidente, Santuario, Colombia.

Córdoba-Córdoba, S., M. A. Echeverry-Galvis, & F. Estela. 2008. Nuevos registros de distribución para el Águila Crestada (*Spizaetus isidori*) y el Águila Iguanera (*S. tyrannus*) para Colombia, con anotaciones para su identificación. Ornitología Colombiana 7: 66-74

Fregusson-Lees, J. & Christie D. A. 2001. Raptors of the World. Houghton Mifflin Company, Boston, Massachusetts. USA.

Guerrero, L. A., M A. Moreno, E. Gallego, G. Marin, R. Walker, Orozco, F. E, O. García, G. R. López, & M. Zamora. 2004. Plan básico de manejo 2005-2009 Santuario de Fauna y Flora OTAN-Quimbaya. Parques Nacionales naturales de Colombia, Dirección Territorial Noroccidente, Medellín-Colombia.

Lehmann, F. C. 1959. Contribuciones al Estudio de la Fauna de Colombia XIV. Nuevas observaciones sobre *Oroaetus isidori* (Des murs). Novedades Colombianas 1(4): 169-195

Marquez, C & H. Delgado. 2010. Alimentación, ecología y conservación del águila de Isidori (*Spizaetus isidori*) en Colombia. Informe para The Peregrine Fund. Centro de Aves Rapaces Neotropicales. Pp: 1-22.

Márquez, C. & L. M. Renjifo 2002. Oroaetus isidori. en Renjifo, L. M., A. M. Franco-Maya, J. D. Amaya-espinel, G. Kattan & López-Lánus, B. (eds). 2002. Libro rojo de aves de Colombia. Serie Libros rojos de especies amenazadas de Colombia . Instituto de Investigación de Recursos Biológicos Alexander von Humboldt y Ministerio del Medio Ambiente. Bogotá, Colombia.

Strewe, R. 1999. Notas sobre la distribución y anidación del águila poma, *Oroaetus isidori*, en Nariño. Bol. SAO 10 (18-19):45 52

Thiollay, J. M. 1991. Altitudinal distribution and conservation of raptors in southwestern Colombia. Journal of Raptor Research 25: 1-8.

* * *

Raptor Education Soars in Stann Creek District, Belize

By **Jamal Andrewin-Bohn,** Environmetnal Educator, The Belize Zoo & Tropical Education Center.
e-mail:education@belizezoo.org

Following the unprecedented discovery of a rescued juvenile Solitary Eagle (*Harpyhaliaetus solitarius*) in the Stann Creek District of Belize, The Belize Zoo (TBZ) in collaboration with the Belize Raptor Research Institute (BRRI) began a raptor outreach education drive in the area.

The juvenile eagle was shot by a farmer from the Alta Vista community, when it was mistakenly perceived to be attempting to hunt a flock of nearby ducks. The eagle was not killed, but fell from its nest after being grazed by the bullet. It was then taken to Belize Bird Rescue where, despite receiving optimum care and showing gradual improvement, it died days later due to internal bleeding.

Despite the loss of the juvenile, its presence, along with the sighting of both parents days later, certainly indicates the possibility of a population in the area. This followed on the heels of the recent discovery of a Solitary Eagle nest in the Mountain Pine Ridge area of Belize - the first nest found for this species in more than 50 years.

Following an initial visit by BRRI officials in late December to the community where the bird had been shot, The Belize Zoo followed up with the first in a series of educational campaign visits in January. While officials from BRRI met with the farmers in the Alta Vista community, TBZ targeted the schools in the area.

Juvenile Solitary Eagle "Alto" © Daniel Velazques

St. Matthew's RC and Holy Angels Primary Schools in Pomona Village were visited in mid January. A Powerpoint presentation was given

Students of Holy Angels Primary School in Pomona, Stann Creek
© The Belize Zoo

to the students and teachers, which gave them a good introduction to raptors: how one is defined, examples of raptors, and what key features they require to hunt efficiently (eyes, wings, talons, beaks).

We brought along a pair of Harpy Eagle wings from a handmade costume which we used to engage the students; they were given the chance to display to their classmates the approximate wingspan of a full-grown Harpy. After discussing what raptors eat, we went on to highlight their vital importance in regard to population and disease control. We followed this with the story of the juvenile Solitary Eagle (nicknamed "Alto" for convenience). It was stressed that these eagles pose no real threat to domestic animals (using the example of Alto, whom the farmer admitted was merely observing the ducks, not actively hunting them), and, due to their rarity in the region, would be far more beneficial alive, in terms of research and eco-tourism (bird watching) opportunities in the communities.

After the presenation we handed out posters with information on raptors and why they should be protected. Both the presentation and subsequent poster distribution were met with an overwhelmingly positive reception, with numerous questions from both students and teachers, including more sophisticated questions about migration patterns, and feeding habits.

A follow up visit is planned for later in the year by both TBZ and BRRI officials, with the aim of engaging more community members. We hope to continue a long-term far reaching education program, so as to ensure a fighting chance for the population of this elusive raptor in the forests of Belize.

* * *

Raptors of Aparecidinha, a Mountainous Region of Santa Teresa, Espírito Santo, Brazil

By **José Nilton da Silva**, Departamento de zoologia do Museu de Biologia Mello Leitão, Avenida José Ruschi, n 04, Centro. Santa Teresa – ES, Cep: 29650-000. E-mail: josnsilva@yahoo.com.br

There are an estimated 9,700 species of birds on the planet (Sibley & Monroe, 1990). Brazil alone is home to approximately 1,832 of these, 98 of which are raptors (CRBO, 2011). This high biodiversity of avifuana may be due to the greater amount of food availability in warmer regions, affected by the succession of periods of rain and drought (Sick, 1997; CRBO, 2011).

The floristic composition of a forest is an important factor that determines the wealth and distribution of birds, since different species exhibit variations in habitat use and foraging behavior (Karr, 1990). In the case of raptors, it is known that they generally require large areas of land in order for their ecological requirements to be met (Terborgh, 1992).

In Brazil, studies that include bird inventories are fairly common (Book Review XVII Congress

Harpagus diodon: **a species commonly recorded during the study © José Nilton da Silva**

Pulsatrix koeniswaldiana, **a nocturnal species recorded during the day and at twilight, it is considered common in the region. © José Nilton da Silva**

of Ornithology, 2009), although such studies are still needed in areas of forest fragmentation, where faunistic composition is unknown. Even so, bird survey results are never 100% accurate, as birds are constantly moving and the probablity of a researcher not finding certain species in an area, even though they occur there, is very high (Sick, 1997) .

The State of Espirito Santo is located in southeastern Brazil. Here, 654 bird species (Simon, 2009) have been recorded, representing 36.31% of the total composition of birds in Brazil. Among these 654 species, 9.17% are raptors, from the families Accipitridae, Pandionidae, Falconidae, Cathartidae, Tytonidae, and Strigidae (Simon, 2009).

The municipality of Santa Teresa, located in the mountainous region of Espirito Santo, has 407 species of birds (Willis & Oniki, 2002), heterogeneously distributed across the county. Despite having a highly fragmented landscape due to the expansion of agriculture and the cultivation of eucalyptus (Simon, 2006; Silva, 2010) there remains about 40% vegetation cover in a mosaic pattern. Within this mosaic is the town of Aparecidinha. The diversity of birds of prey here can be linked to the fact that it is a mountainous region and one of the better preserved areas of Santa Teresa (Smith, in press).

Despite such a high level of diversity, however, little is known about the local raptors, since research on this group of birds is lacking (Smith, 2011; Novaes et al. 2010). Thus, our goal was to inventory the raptor species of Aparecidinha.

Materials and Methods

Aparecidinha (19 ° 56'10 "S and 40 ° 36'06" W) is located at altitudes of 958m to 1000m with a total area, including all disturbed areas and fragments, of approximately 401 ha. It has about 45% vegetation cover (about 155 h.) in mostly secondary growth stage.

Table 1. Raptor species recorded in Aparecidinha.

Family	Species	Common Name	Record
Cathartidae			
	Coragyps atratus	Black Vulture	V
	Cathartes aura	Turkey Vulture	V-P
	Cathartes burrovianus	Lesser Yellow-headed Vulture	V
Accipitridae			
	Leptodon cayanensis	Gray-headed Kite	A-V
	Elanoides forficatus	Swallow-tailed Kite	A-V
	Harpagus diodon	Rufous-thighed Kite	A-V-P
	Accipiter poliogaster	Gray-bellied Hawk	A
	Accipiter superciliosus	Tiny Hawk	V
	Accipiter striatus	Sharp-shinned Hawk	A-V
	*Amadonastur lacernulatus**	White-necked Hawk	A-V
	*Pseudastur polionotus**	Mantled Hawk	A-V
	*Urubitinga urubitinga **	Great Black Hawk	V
	*Heterospizias meridionalis**	Savanna Hawk	A-V
	Rupornis magnirostris	Roadside Hawk	A-V-P
	Geranoaetus albicaudatus	White-tailed Hawk	A-V
	Buteo brachyurus	Short-tailed Hawk	A-V
	Spizaetus tyrannus	Black Hawk-eagle	A-V-P
Falconidae			
	Caracara plancus	Southern Caracara	A-V-P
	Milvago chimachima	Yellow-headed Caracara	A-V-P
	Herpetotheres cachinnans	Laughing Falcon	A-V
	Micrastur ruficollis	Barred Forest Falcon	A-V-P
	Micrastur semitorquatus	Collared Forest Falcon	A-V
	Falco rufigularis	Bat Falcon	A-V-P
	Falco femoralis	Aplomado Falcon	V
Strigidae			
	Megascops choliba	Tropical Screech Owl	A-V
	Megascops atricapilla	Black-capped Screech Owl	A-V
	Pulsatrix koeniswaldiana	Tawny-browed Owl	A-V-P
	Athene cunicularia	Burrowing Owl	A-V
	Asio clamator	Striped Owl	A-V

Key: **A** - Audio record; **V** - Visual record; **P** - Photographic record

* See CBRO 2011

Table 2. Distribution of raptor species per 1,000/km2.

Location	Area	No. of Species	No. of species/1000 km2
Brazil	8,514,877 km2	98	0.011
Espiritu Santo	46,184 km2	60	1.29
Santa Teresa	675 km2	38	56.29
Aparecidinha	401 km2	29	72.31

The study was conducted from October 2008 to March 2010, with almost weekly trips to the field. Each survey lasted for 10h; 8h during the day and 2h at night. We conducted 48 surveys for a total of 480 hours. During the fieldwork, 15 transects were covered, each with 18 listening and observation points. We used 10x50, 20x50, and 10X25 binoculars; cameras; and tape recorders to document our observations. Some listening points were located high enough that they also served as good locations from which to observe the forest canopy, thereby facilitating raptor sightings. Four points were selected with these characteristics.

Results and Discussion

Of the sixty raptor species known to be found in Espirito Santo, we recorded 29 species (Table 1) from the Cathartidae, n = 3; Accipitridae, n = 14; Falconidae, n=7; and Strigidae, n=5 families.

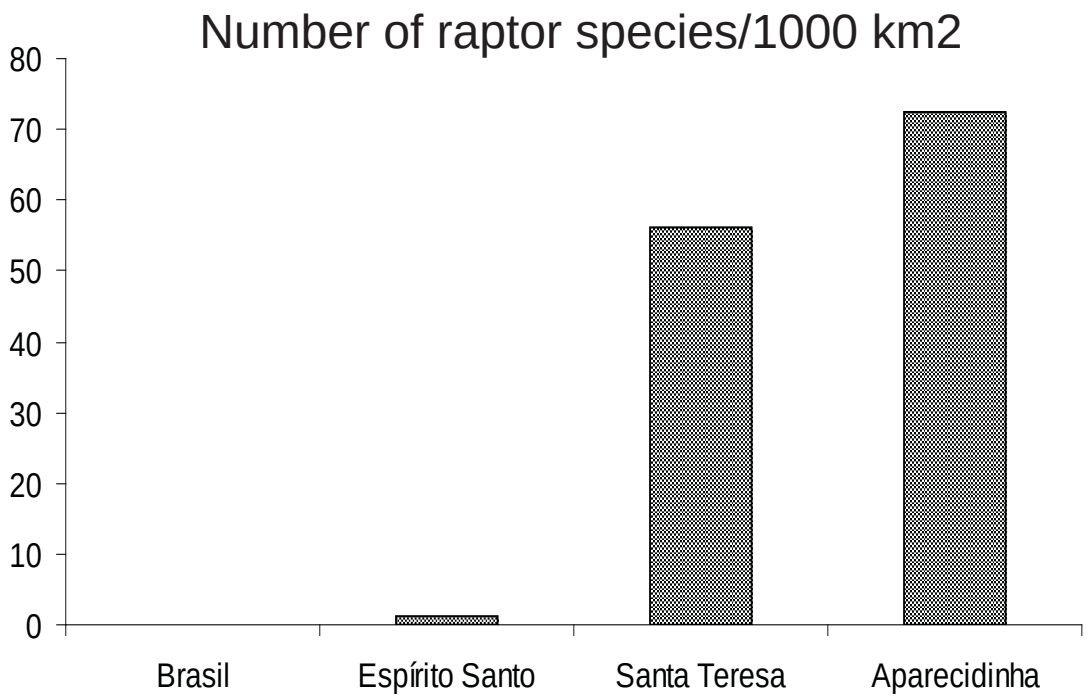
The majority of the records are from audio and visual records obtained directly from the lookout points. All records for the *Micrastur* species were obtained during the first hours of the morning or at the end of the day, during twilight hours. All of these records were auditory, except in the case of *Micrastur semitorquatus* which was observed twice during the study, and was heard numerous times.

Species from the Cathartidae family were recorded during all field surveys. However, *Cathartes burrovianus* was detected with less regularity than *Cathartes aura* and *Coragyps atratus*.

Over 90% of the records for the Strigidae species were obtained during the twilight hours and at night. Only *Pulsatrix koeniswaldiana* and *Athene cunicularia* were recorded during the day. Both species, however, were also recorded during twilight hours.

Four endemic species were documented during the study: *Amadonastur lacernulatus*, *Pseudastur polionotus*, *Pulsatrix koeniswaldiana*, and *Megascops atricapilla*. These species are considerend endemic to the Atlantic Forest (Sick, 1997; Sigrist, 2007; Simon, 2009), and *Amadonastur lacernulatus* is on the national list of endangered species (Simon, 2009).

Some species were recorded quite frequently



throughout the study: *Cathartes aura, Coragyps atratus, Geranoaetus albicauldatus, Harpagus diodon, Rupornis magnirostris, Caracara plancus, Milvago chimachima,* and *Pulsatrix koeniswaldiana*. These are all considered common in the region.

Other species, including *Accipter superciliosus, Accipter poliogaster, Amadonastur lacernulatus, Urubitinga urubitinga, Micrastur semitorquatus, Falco femoralis* and *Asio clamator* were documented less frequently, with some species being recorded only during two surveys.

Though Aparecidinha still has a signficant amount of forest, increasing forest fragmentation may cause raptor species to disappear from the area, since they require large tracts of habitat in order for their ecological needs to be met (Terborgh, 1992). Thus we emphasize the importance of preserving forest fragments near Aparecidinha, because even with a highly fragmented landscape region, it still harbors a great diversity of avifauna (Silva, 2010) including many species of birds of prey.

Acknowledgements

Thanks to the local residents for allowing us to enter onto their properties, and to the zoological and technical sectors of the Museu de Biologia Mello Leitão for their support with materials and in preparing this manuscript.

References

Comitê Brasileiro de Registros Ornitológicos (CBRO). 2011. Listas das aves do Brasil. 10ª Edição, 25/1/2011, Disponível em <http://www.

cbro.org.br>

Karr, J.R. 1990. Interactions between forest birds and their habitas: a comparative synthesis. In: Keast A (Ed) Biogeography and ecology of forest bird communities. SPB Academic Publishing, pp 379-386.

Novaes, T.D., Flores, F. M., Silva, J. N., Mignone, E.C., Passamani, J., Vieira, L.A., Novaes, I.P.S. 2010. Registros recentes de *Harpia harpyja* e de espécies de *Spizaetus* (Falconiformes: Accipitridae) na Reserva Biológica Augusto Ruschi, Santa Teresa, ES, Brasil. Boletim do Museu de Biologia Mello Leitão 28:143 - 147.

Sibley, C.G. & Monroe, B.R. Jr. 1990. Distribution and taxonomy of birds of the world: New Haven: Conn 14:1-1111.

Silva, J.N. 2010. Composição de bandos mistos de aves da Mata Atlântica da região serrana do estado do Espírito Santo sudeste do Brasil. Atualidades Ornitológicas, 155: 12-15.

Silva, J. N., Volpi T A, Martins, R. F. 2011. Aves de rapina diurnas da Estação Biológica de Santa Lúcia: uma analise nas diferentes estações climáticas, Santa Teresa Espírito Santo, Brasil. Spizaetus, 12:18 - 24.

Simon, J.E. 2006. Efeito da fragmentação da Mata Atlântica sobre comunidades de aves na região serrana de Santa Teresa, Estado do Espírito Santo, Brasil. Tese de Doutorado. Curso de Pós-graduação em Ciências Biológicas, Universidade Federal do Rio de Janeiro (UFRJ), Rio de Janeiro, RJ.

Simon, J.E. 2009. Lista de aves do Espírito Santo. In: livro de resumos do XVII Congresso Brasileiro de Ornitologia, Aracruz – ES.

Willis, E.O. & Y. Oniki. 2002. Birds of Santa Teresa, ES, Brazil: Do Humans add or subtract species? Espírito Santo: Papéis Avulsos de Zoologia, 42: 193-264.

Sick, H. 1997. Ornitologia brasileira: uma introdução. Rio de Janeiro: Nova Fronteira 912p.
Sigrist, T. (2007) Aves do Brasil oriental. Vol.1. Pp. 448. Avis Brasilis. São Paulo.

Terborgh, J. 1992. Maintenance of diversity in tropical forests. Biotropica 24: 283-292.

* * *

Aerial Talon-locking by Roadside Hawks (*Rupornis magnirostris*) in Cochabamba, Bolivia

By **Diego R. Méndez Mojica,** Asociación Armonía, Santa Cruz de la Sierra, Bolivia, e-mail: aetus14@yahoo.com

Aerial talon-locking and subsequent tumbling between two raptors, known as "cartwheeling" (Farquhar et al., 1994), is considered primarily an aggressive act in defense of territory or food (Simmons & Mendelsohn, 1993; Simmons, 2004), but has also been documented as part of courtship and play (Chatto, 1985; Borello & Borello, 2004; Murn et al., 2009). This behavior has been mainly recorded between individuals of the same species and has been documented in *Accipiter, Aquila, Hieraaetus, Buteo, Geranoaetus, Circus, Falco* and *Haliastur* species (Dawson, 1978; Jones, 1991; Figueroa, 2003; Bluff, 2011). This paper documents the first record of cartwheeling between two Roadside Hawks (*Rupornis magnirostris*) in Bolivia.

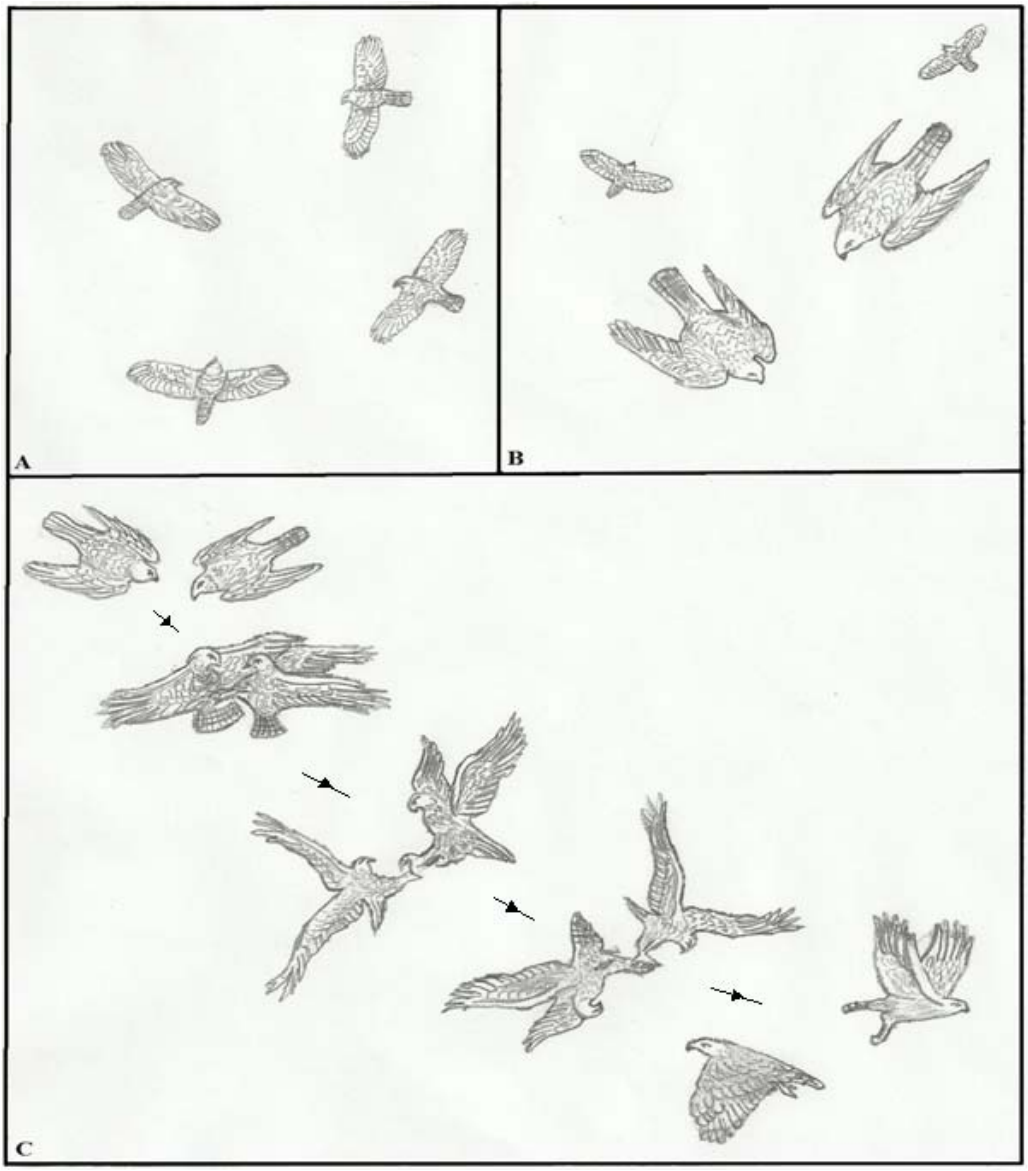
On 6 October 2010, at about 11:15, we observed four Roadside Hawks vocalizing and flying up over the campus of the Universidad Mayor de San Simon in Cochabamba, Bolivia (17 ° 23 '37" S 66

Rupornis magnirostris © **Diego R. Méndez**

º 08 '43" W). The four individuals were adults, but we couldn't identify their genders. While two of the hawks remained at a stable height, the other two continued to gain altitude, then dove, criss-crossing each other swiftly. Moments later they began to pass each other again, getting closer and closer each time. When they were quite close, they faced each other, hooked talons, and started to fall, making four full turns and losing altitude fast. They then separated without showing any sign of injury or loss of aerodynamic control (Fig. 1). Once separated, they flew in opposite directions, each accompanied by another hawk. The entire observation lasted about 10 minutes, and the only vocalizations we heard occurred prior to the incident.

Subsequently, we located the nest of presumably one of these pairs, on the university campus, about 345 m from where the encounter took

Figure 1. Aerial talon-locking between two Roadside Hawks (*Rupornis magnirostris*).



A. Four Roadside Hawks (2 pairs) fly over, vocalizing agitatedly.

B. Two hawks, each one part of a distinct pair, begin to dive.

C. They lock talons and spin, falling rapidly, then separate without any apparent injury.

Figure 2. The yellow circle (17º 23' 37" S 66º 08' 43" W) indicates where the encounter was observed. the red circle shows the location of the nest.

place. Considering the presence of a nest and that this observation occured right before the start of this species' breeding season (Santos et al., 2009), this encounter was surely an act of aggressive territorial behavior.

Cartwheeling in buteoninae is considered common (eg Kilham, 1981; Heywood, 1986; Towill, 1999; Dickerman, 2003). But despite this fact, and the fact that 26 of the 35 Neotropical species of this group of raptors are found in Bolivia (Hennessey et al., 2003, Amaral et al., 2009, Remsen et al., 2012), there is no documentation of this behavior, neither for buteoninae or for any other raptor species in the country. This shows that, in general, raptors have not been studied thoroughly in Bolivia, and highlights the need for systematic research on their behavior and other aspects of their biology.

Acknowledgements

To Travis Rosenberry (The Peregrine Fund Research Library) and Wendy Hicks (Scottish Birds/ Scottish Ornithologists' Club) who provided the bibliographic references. To Rodrigo W. Soria who reviewed the draft of this article.

References

Amaral, F.R., F.H. Sheldon, A. Gamauf, E. Haring, M. Riesing, L. F. Silveira, & A. Wajntal. 2009. Patterns and processes of diversification in a widespread and ecologically diverse avian group, the buteonine hawks (Aves, Accipitridae). Molecular Phylogenetics and Evolution 53:703-715.

Bluff, L. A. 2011. Cartwheeling by Whistling Kites *Haliastur sphenurus*. Australian Field Ornithology 28:49-50

Borello, W.D & R.M. Borello. 2004. Two inci-

dents of talon-grappling and cartwheeling in the Tawny Eagle *Aquila rapax*. Ostrich 75: 320-321

Chatto, R. 1985. Talon grappling by Whistling Kites *Haliastur sphenurus*. Australian Bird Watcher 11:135.

Dawson, J. P. 1978. Mutual cartwheeling by sparrowhawks. British Birds 71:219-220.

Dickerman, R.W. 2003. Talon-locking in the Red-tailed Hawk. Journal of Raptor Research 37:176.

Farquhar, C.C., W.S. Clark, R.G. Wright & M. Coello. 1994. First record of interspecific cartwheeling between large raptors: *Buteo poecilochrous* and *Geranoaetus melanoleucos*. Journal of Raptor Research 28:274-275

Figueroa Rojas, R. A. 2003. Aerial talon-grappling between the White-throated Hawk (*Buteo albigula*) and Red-backed Hawk (*Buteo polyosoma*) in central-south Chile]. Hornero 18:53-55.

Hennessey, A.B., S.K. Herzog, & F. Sagot. 2003. Lista anotada de las Aves de Bolivia, 5th ed. Asociación Armonía/BirdLife International. Santa Cruz de la Sierra, Bolivia.

Heywood, A. 1986. Buzzards talon grappling and tumbling to ground. British Birds 79:429.

Jones, A. M. 1991. Talon linking and cartwheeling display of Booted Eagles. British Birds 84:59-60.

Kilham, L. 1981. Red-shouldered Hawks whirling with talons locked in conflict. Raptor Research 15:123-124.

Murn, C., P. Betchley & C. Robert. 2009. Talon-locking and cartwheeling as a prelude to copulation in Tawny Eagles *Aquila rapax*. Gabar 20 (2) 12-14

Remsen, J.V.Jr., C.D. Cadena, A. Jaramillo, M. Nores, J.F. Pacheco, J. Pérez-Emán, M.B. Robbins, F.G. Stiles, D.F. Stotz, & K.J. Zimmer. Version [8 February 2012]. A classification of the bird species of South America. American Ornithologists' Union. http://www.museum.lsu.edu/~Remsen/SACCBaseline.html (Accesed 17-02-2012)

Santos, W.M., J. Ferreira Copatti & F.R. Rosado. 2009. Nidificação de Gavião Carijó, *Rupornis magnirostris* (Falconiformes, Accipitridae) no Município de Peabiru (Paraná, Brasil). SaBios: Rev. Saúde e Biol. 4 (2): 52-55

Simmons, R.E. & J.M. Mendelsohn. 1993. A critical review of cartwheeling flights of raptors. Ostrich 64: 13-24

Simmons, R. 2004. The last grasp: death by cartwheeling. Africa - Birds & Birding 9:16

Towill, J. 1999. Interlocking of talons between Common Buzzards. Scottish Birds 20:40.

* * *

The Center for the Study and Conservation of Birds of Prey in Argentina (CECARA): Ten Years Working for the conservation of Neotropical Raptors

Miguel Ángel Santillán 1, **José Hernán Sarasola** 1,2 y **Maria Soledad Liébana** 1,2. 1 Centro para el Estudio y Conservación de las Aves Rapaces en la Argentina (CECARA) Av. Uruguay 151. 6300 Santa Rosa - La Pampa. Argentina. 2 Instituto de Ciencias de la Tierra y Ambientales de La Pampa (INCITAP) Consejo Nacional de Investigaciones Científicas y Técnicas de Argentina (CONICET) Av. Uruguay 151. 6300 Santa Rosa - La Pampa. Argentina.

Photos courtesy of CECARA

The Center for the Study and Conservation of Birds of Prey in Argentina (CECARA) was established on October 3, 2001 within the sphere of the Faculty of Natural Sciences, National University of La Pampa (FCEyN, UNLPam, Argentina). Its creation was promoted by researchers from Argentina and the United States, as a means to fill the need for field research on the problem of raptor conservation in Argentina.

The main objectives were to develop a sound scientific knowledge base for the great diversity of raptors and their habitats in Argentina; to train scientists capable of carrying out and expanding research programs; and to disseminate results to the general public and institutions with executive power. During the austral summer of 1996, a few years before CECARA was formed, the Pampas region of Argentina became infamous in regard to the conservation of raptors in the Neotropics when the mass poisoning of Swainson's Hawks (*Buteo swainsoni*) with organophosphate insecticides occurred. Approximately 20,000 hawks were poi-

soned in agricultural areas in the central part of the country. The study and conservation of this hawk in its non-breeding habitat was the first order of business for CECARA researchers, and their work generated valuable information on various aspects of the ecology of the species that were previously unknown.

Over these ten years, the working group has grown, and is currently a reference point for people interested in our area of research, and a space for training of undergraduate and graduate students from Argentina and other countries.

Among other projects, this team is engaged in studying and promoting the conservation of the Crowned Eagle (*Harpyhaliaetus coronatus*) in semiarid environments in central Argentina. The study focuses on learning about the reproductive biology and causes of mortality for this endangered species.

The conservation of raptors in agroecosystems and anthropogenic environments is also of high priority to CECARA. Current research interests include studying the effects of agricultural frontier expansion and changes in land use on the ecology of raptor species that occupy these environments, such as Aplomado Falcon (*Falco femoralis*), American Kestrel (*Falco sparverius*), and Chimango Caracara (*Milvago chimango*).

CECARA researchers have carried out studies on habitat selection, movements, food habits and health status on other species including Ferruginous Pygmy Owl (*Glaucidium brasilianum*), Austral Pygmy Owl (*Glaucidium nanum*), White-tailed Kite (*Elanus leucurus*), Turkey Vulture (*Cathartas aura*), Black Vulture (*Coragyps atratus*), Southern Caracara (*Caracara plancus*), Burrowing Owl (*Athene cunicularia*), and Black-chested Buzzard Eagle (*Geranoaetus melanoleucus*).

CECARA collaborates with researchers from different universities and research centers both nationally and internationally. Within this team of researchers and technicians are teachers from the Universidad Nacional de La Pampa and researchers and fellows of the National Council of Scientific and Technical Research of Argentina (CONICET). CECARA engages in valuable collaboration with students studying natural resource and environmental engineering and biological sciences, and promotes the training of graduate students in the conservation of threatened and endangered wildlife.

For more information, please contact: CECARA, Avda. Uruguay 151, 6300 Santa Rosa, La Pampa Argentina. www.cecara.com.ar or cecara@exactas.unlpam.edu.ar

* * *

Conversations from the Field

By **Markus Jais**

Markus Jais has been interested in nature since he was a kid. His main interests are the ecology and conservation of predators like big cats, wolves and large birds of prey, particularly eagles. He runs the www.europeanraptors.org website and is a contributor to www.africanraptors.org. He recently interviewed Ryan Phillips, Executive Director of the Belize Raptor Research Institute, for the NRN. Here is an exerpt from that interview.

Markus Jais: *You started the Belize Raptor Research Institute (BRRI) in 2008. What are the goals of the organization?*

Ryan Phillips: Our mission is to help protect Neotropical raptors throughout the Americas utilizing the "sound science" approach. BRRI strives to learn about raptors in the wild through extensive field research while raising awareness through educating and training local and international communities about raptor conservation. Our objectives are to better understand Neotropical raptors through field research; provide educational outreach and information to local communities; train future conservationists and biologists; provide volunteer and internship opportunities; and form partnerships with local and international wildlife conservation groups to help protect and better manage raptors in the wild. We are currently studying the Stygian Owl, Solitary Eagle, and the three Hawk-eagle species found in Belize.

Ryan Phillips in Belize © BRRI

MJ: *What threats to raptors exist in Belize?*

RP: Shooting is the biggest threat to raptors here. Belize is still relatively intact and has much forest remaining, so habitat loss is not as big a threat like in most other Central American countries. However, Belize is a rapidly growing country and this will become a much bigger issue in the future. But, for species with large home-ranges, such as the Solitary Eagle, immatures need to disperse over

huge areas and therefore need large contiguous tracts of forest. This is important for species with low population sizes and potentially isolated populations to maintain genetic diversity and population viability. Connectivity is of concern as Central America and Mexico have lost a lot of their forest.

MJ: *What do you see as the future priorities for raptor research and conservation in Belize in the coming years?*
RP: Currently, the Belize government is reassessing its protected areas, which could pose a great threat not only to raptors, but to all biodiversity in Belize. Belize is growing hyper exponentially so the need for more resources and more land will increase dramatically. Priorities will include working closely with the Forest Department to justify preserving these protected areas and not converting them to developed areas. Before we can do this we must learn all we can about the species and come up with sound management and action plans. Also, the involvement of local peoples is a must. There must be incentives for Belizeans to protect their biodiversity, which can be accomplished through training locals in conservation biology and field research. All too often conservation organizations have no or limited community involvement, but through education and research opportunities this can change. Raptor conservation in Belize is going to take community involvement, pride, working closely with the government and conservation organizations, and sound research and management. I feel there is a bright future for raptors in Belize, as Belizeans take great pride in their country.

MJ: *Cat conservationists from Panthera are working on a Jaguar corridor across the Neotropics. Belize is one of the countries along the corridor and there is a planned southern and central Jaguar corridor in Belize. Can this initiative also have positive effects on raptors like the Harpy Eagle and other species?*
RP: Actually this corridor, which links the northern and southern portions of Belize, was purchased and established as a protected area this year. It is now called the Labouring Creek Jaguar Corridor Wildlife Sanctuary. http://newswatch.nationalgeographic.com/2010/08/10/belize_sets_aside_land_for_jaguar. This was such a critical acquisition by Panthera and others that not only benefits jaguars, but all species in Belize, especially Tapirs, all the cat species, Harpy Eagles, and Crested Eagles, just to name a few. As I talked about above, connectivity will pose great threats in the future in Belize and already is having a grave impact on populations throughout Central America. This acquisition is a great leap forward in conserving the biodiversity in Belize by using the Jaguar as an umbrella species. In the past we were not focused on connectivity and linking populations, but now we are making strides in this growing discipline of corridor ecology.

MJ: *How can people help the BRRI?*

RP: BRRI is a 501 (c) 3 non-profit organization, so we are funded by private donations and grants. Currently, we are looking for funding to build a headquarters to house our field assistants, staff, and other researchers in the Mountain Pine Ridge where we have 15 acres. This will also assist in raptor conservation, as we can have schools and education groups visit the facility to learn about raptors and get them excited about raptors. This would be the hub for raptor conservation in the region. With your help we can make this dream a reality. To learn more, you can contact us at belizeraptorresearchinstitute@yahoo.com.

MJ: *What was your most amazing experience with raptors?*

Ryan Phillips training local biologists © BRRI

RP: Wow, what a great question. I have so many memorable raptor moments, but probably the most amazing was seeing three of the rarest raptors in the neotropics tangling. A soaring adult Solitary Eagle carrying a Basilisk lizard was calling continuously to let the juvenile Solitary know it had food, when all of sudden a stooping juvenile Black-and-White Hawk-Eagle comes out of nowhere and starts bombing the Solitary. When the eagles would come close to one another they would both flip upside down, but did not lock talons. These went on for about 5 minutes then a recently released Orange-breasted Falcon (part of The Peregrine Fund's conservation project for this species) came in to the mix calling and stooping the Black-and-White Hawk-Eagle. In the same frame I had all three species. I enjoyed this with my raptor friends, Marta Curti, Yeray Seminario, Roni Martinez, Jenn Sinasac, and Geraldo Garcia. Roni has a great video of me screaming like a little kid in the background! We were all blown away! But seeing my only wild Crested Eagle, observing a Harpy Eagle feeding on a porcupine, watching the only known Solitary Eagle nest, and observing a female adult Ornate Hawk-Eagle feeding her chick are all up there.

* * *

Featured Artist: Nigel Shaw

From a young age, Nigel's passion for birds and art was evident. His interest in birds started with casual birdwatching, which led him to more in depth birding and finally to bird banding. Nigel has held a bird banding permit with the Canadian Wildlife Service for 30 years. For the last 15 of those his focus has been on birds of prey. He is still involved in some passerine projects but the bulk of his work has been with diurnal and nocturnal raptors. He runs a spring and fall raptor migration banding station which includes an owl migration banding site in late fall. This has allowed Nigel to collect references that are invaluable to his style of work. Additionally, a network of other researchers from other countries has supplied him with the information and references needed for him to be able to create paintings of birds he has never seen or worked with. However, this past November Nigel was able to join a ringing group in Peru for 9 days, which allowed for great photo opportunities and reference shots of his own, which he will use to further guide the direction of his art career. After his experiences on the expedition, he began planning exhibits that not only showcase his art, but that will also

display his photos and data, thus adding a strong educational component to these shows. This way the general public can learn about the work being done in other parts of the world, with unfiltered facts and data presented in a very visually stimulating venue.

Nigel belongs to the Artists For Conservation group. Their goals are in sync with what Nigel hopes to accomplish through his art. This year they awarded Nigel the 13th Flag Expedition. He will be heading to South Africa in February to an area that has a huge concentration of wintering raptors. He will be completing a journal of his experiences on the trip, as well as producing many paintings. He will be banding with South African researchers, and gathering data and references to produce a show along the same lines as the one he created after his trip to Peru.

Nigel's work can be seen at www.natureartists.com/shawn.htm

Neotropical Raptor Network Will Participate in a Joint Conference on Raptors

The Neotropical Raptor Network is collaborating with the Raptor Research Foundation and World Working Group on Birds of Brey and Owls to host a joint raptor conference to be held in **Bariloche, Argentina from 21-25 October, 2013**.

The conference will be held at the Hotel Panamericano Bariloche and is hosted by the Universidad Nacional del Comahue, Club de Observadores de Aves de Bariloche, and Sociedad Naturalista Andino Patagonica. The five day program will include keynote speakers, lectures, posters, symposia and workshops.

Bariloche, Argentina is a picturesque city nestled on the shores of Nahuel Huapi Lake, and surrounded by rugged mountains and lush forests. There are many opportunities for hiking, boating, and birding, with the likelihood of seeing Andean Condors. More than 1,000 species of birds, including 80 species of diurnal and nocturnal raptors, can be observed in Argentina.

The conference website will be available in August. Stay tuned!

* * *

Left: Nahuel Huapi; Right: Volcan Puyehue © María del Mar Contaldi

Of Interest...

Websites

The Global Raptor Information Network (GRIN) is designed to provide information on diurnal raptors and to facilitate communication between raptor researchers and organizations interested in the conservation of these species.

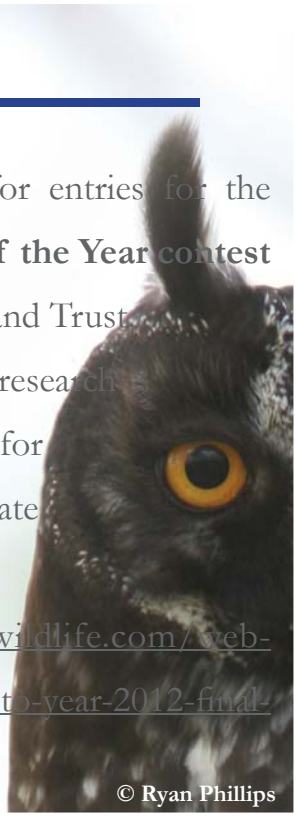
http://www.globalraptors.org/grin/indexAlt.asp


© Marta Curti

Contests

This is the last call for entries for the **Camera-trap Photo of the Year contest** sponsored by World Land Trust. Winners may receive a research grant of up to £3,000 for their project. Closing date is 13 July 2012.

http://www.discoverwildlife.com/web-form/camera-trap-photo-year-2012-final-call-entries


© Ryan Phillips

Grants

The Association of Field Ornithologists supplies small grants for studies on the life history of birds in the Neotropics. http://www.afonet.org/grants/index.html

The Rufford Small Grants Foundation provides grants for projects focused on conservation of nature and biodiversity. http://apply.ruffordsmallgrants.org/

The Ornithological Council provides grants for projects that integrate ornithological reserach and conservation. www.ornithologyexchange.org

© Yeray Seminario

SPIZAETUS
NRN NEWSLETTER

Issue 13, June 2012

ISSN 2157-8958

To join the NRN, please e-mail mcurti@peregrinefund.org, introducing yourself and stating your interest in Neotropical raptor research and conservation.

THE PEREGRINE FUND

Neotropical Raptor Network