Bibliografía sobre el Parque Internacional La Amistad

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Wildlands conservation in Central America [Conservación de áreas silvestres en Centroamérica] / Hartshorn, G.S. (Duke University, Box 90630, Durham, NC 27708-0630, US <E-mail: ghartsho@duke.edu>).
In: Tropical rain forest: ecology and management. Sutton, S.L.; Whitmore, T.C.; Chadwick, A.C. (eds.)
Oxford: Blackwell Scientific Publ., 1983. p. 423-444. (British Ecological Society Special Publ. Series; v. 2).
1. Conservation efforts in Belize have been oriented towards tiny wildlife sanctuaries for bird-watching on the mainland and protecting seabird rookeries on small mangrove islands. Half-Moon Caye National Monument protects one of the few true coral atolls in the Western Caribbean. Although representative forest ecosystems are not protected, the low population pressure and the emphasis on pine exploitation do not yet pose serious threats to the broad-leaved forests. 2. In 12 years, Costa Rica has developed a model system of twenty-two functional national parks and equivalent reserves. Though close to its goal of protecting 10% of the country, the Costa Rican National Park Service is having difficulty consolidating the national parks system due to numerous private land-holdings (23% of the parks area)- and the 1; very serious national economic problems. Costa Rica's part of the Friendship International Park (La Amistad) has recently been declared a biosphere reserve by UNESCO. 3. El Salvador's few conservation units have been seriously degraded by population pressures and the current civil war. Montecristo National Park contains the only significant forest remaining in the country, but the park suffered from uncontrolled logging and slash and burn agriculture long before this civil war. 4. Guatemala has established sixteen national parks since 1955, but only four meet the recommended international criteria. The Tikal World Heritage Site is the most significant conservation unit in Guatemala; most of the other conservation units are non-functional 'paper parks'(e.g. Rio Dulce) or too small to effectively protect critical habitats or populations (e.g. Quetzal biotope). Terrorism and civil warfare have greatly reduced the government presence in conservation units. Guatemala's conservation efforts, continue to suffer from the assassination of Mario Dary, the country's leading conservationist. 5. In the past -few years Honduras has made impressive progress in conservation, highlighted by establishment of the Rio Plátano Biosphere Reserve. Rio Plátano is the most significant conservation unit in northern Central America, particularly because of its pristine nature and large size. 6. After the 1979 revolution, Nicaragua's new government created a National Park Service (SPN) to administer the two existing national parks. SPN is actively evaluating thirty-five wildlands for conservation potential and designation as conservation units. 7. Panama's national parks and equivalent reserves cover nearly 12% of the country; however, most of the conservation units are merely 'paper parks'. The remote Darién World Heritage Site remains intact because of its inaccessibility, but construction of the Pan-American Highway to the Colombian border would seriously threaten the integrity of an area that might be the most biologically rich in the world.
Localización: Biblioteca OET: S884. Biblioteca Conmemorativa Orton: AS

50028.

Proyecto de desarrollo integrado Reserva de la Biosfera La Amistad (Talamanca): Plan de trabajo 1989-1990 / Costa Rica. Ministerio de Recursos Naturales, Energía y Minas. Comisión Coordinadora Proyecto La Amistad, San José, CR.
San José: MIRENEM, 1989. 90 p.
Este documento es producto del II Taller de Planificación Integrada para el Desarrollo de la Reserva de la Biosfera La Amistad, realizado con la participación de funcionarios de las diferentes instituciones que ejecutan trabajos de campo en las distintas áreas bajo la cobertura del Proyecto. Se contó también con el apoyo técnico de Conservación Internacional y del personal técnico asignado por las organizaciones. Este documento constituye el primer "Plan de Trabajo" para el período 89-90; producto del proceso de planificación y coordinación, que consolida los esfuerzos a nivel inter-institucional e interdisciplinario para la gestión de la Reserva de la Biosfera La Amistad. En este plan, se identifican las actividades factibles de realizar durante 1989-1990, según los recursos técnicos y financieros del proyecto, así como las actividades que requieren ser ejecutadas para este período, pero no cuentan a la fecha, con apoyo financiero. Asimismo se establecen los mecanismos de control, ejecución y seguimiento necesarios para garantizar la implementación del Plan, no sólo para el campo sino también a nivel de coordinación central; se clasifican además los niveles de participación de las organizaciones gubernamentales, no gubernamentales y la Secretaría Técnica del Proyecto. Las actividades a ejecutar, según los componentes identificados, estan programadas para realizarse durante un período de dos años, a través de los cuales, las instituciones involucradas, junto con la Secretaría Técnica, continuarán con este proceso de coordinación e integración, en procura de un mayor beneficio tanto para las instituciones como para las comunidades que están ubicadas dentro de la Reserva de la Biosfera La Amistad.
Localización: Biblioteca OET: AD 565.

On the trail of the golden frog: with Warszewicz and Gabb in Central America [Sobre el rastro de la rana dorada: con Warszewicz y Gabb en Centroamérica] / Savage, J.M. (Rana Dorada Enterprises, S.A., PMB 304, 3401 Adams Avenue, Suite A, San Diego, CA 92116-2490, US <E-mail: savy1@cox.net>).
In: Proceedings of the California Academy of Sciences (ISSN 0068-547X), v. 38, no. 14, p. 273-288. 1970.
Those who have viewed at first hand the steep, dark-green, forest-covered slopes of the Cordillera de Talamanca-Chiriquí of Costa Rica and Panama, with their ever changing aspect of sun and cloud, moon and mist, bright blue sky and bright green mantle, driving rain and boiling fog, come away with a feeling of overpowering awe and mystery at the variety of nature and the magic of the human soul. It is not surprising that the primitive peoples in this region also regarded the mountains and their forests with mystical reverence, so near and yet towering abruptly upwards to 4,000 meters from their lowland valley habitations. Among the Bribri, Cabécar, Boruca, Chánguina, and Chiriquí, when the chicha has been drunk, the night grows late and dark, and the fires die down to burning embers, the wisest old man of the tribe tells his engrossed listeners of a beautiful miraculous golden frog that dwells in the forests of these mystical mountains. According to the legends, this frog is ever so shy and retiring and can only be found after arduous trials and patient search in the dark woods on fog shrouded slopes and frigid peaks. However, the reward for the finder of this marvelous creature is sublime. Anyone who spies the glittering brilliance of the frog is at first astounded by its beauty and

overwhelmed with the excitement and joy of discovery; almost simultaneously he may experience great fear, The story continues that any man who finds the legendary frog finds happiness, and as long as he holds the frog happiness will follow him everywhere. The story tellers record many men who have scaled the highest peaks and searched the darkest forests for even a glimpse of the golden frog, but only a few ever see it. Fewer still capture the cherished creature and hold him for a few moments, and a very few are able to carry him with them for a longer period of time. One story tells of the man who found the frog, captured it, but then let it go because he did not recognize happiness when he had it; another released the frog because he found happiness too painful. Like the Indians of Talamanca and Chiriquí, each human being is also on a mission searching for the golden frog. Field biologists in particular seem always to be searching for mystical truth and beauty in nature, and frequently at some unperceived level, for that happiness promised by the Indian seers. The present paper is appropriately about two 19th Century scientists who joined this search in the very regions where the golden frog abounds, and we may assume that for a time, at least, they captured that joy guaranteed to beholders of the frog. Both Josef Warszewicz and William M. Gabb were pioneer collectors of herpetological materials from lower Central America. Since they were among the first to sample the region, many of the animals they collected became types of previously undescribed species, most of which remain recognized as valid today. Neither of these men was a zoologist, and both collected in regions not visited again by herpetological collectors until the present century. Confusion and doubt as to the origin of their collections have clouded the issue of the validity of certain names and the synonymy of others subsequently described. In the present paper the routes followed by the two pioneers and the sources of their materials are delineated for the first time.
Localización: Biblioteca OET: S77.

Paleoecology and regional patterns of evolution in neotropical forest butterflies [Paleoecología y patrones regionales de evolución en mariposas de bosques neotropicales] / Brown, K.S., Jr. (Universidade Estadual de Campinas. Instituto de Biologia, Departamento de Zoologia, Sao Paulo, BR).
Proceedings of the Fifth International Symposium of the Association for Tropical Biology, Macuto Beach, Caracas VEFebruary 8-13, 1979.
In: Biological diversification in the tropics. Prance, G.T. (ed.)
New York: Columbia University Press, 1982. p. 255-308. ISBN: 0-231-04876-9.
Extensive biogeographical and ecological data on present and past Neotropical forests are analyzed to reveal 1) quantitative centers of biological endemism (corrected for hybridization) for polytypic species in two groups of aposematic butterflies; and 2) regions of high probability for the permanence of forest systems ("paleoecological forest refuges") during the cold, dry period at the end of the last glacial age. The two independent formulations show a strong geographical correlation, including a correlation in areas where present ecological conditions are different from those surmised to have prevailed in the past. A finer analysis of these patterns supports the assumption that the fundamental evolutionary patterns were established in areas smaller than those occupied by the biotas today. The analysis shows that regional endemism and species diversity are very different phenomena in these organisms; species diversity tends to reach maxima in isolated points near the peripheries of the centers of endemism, and shows good correlation with favorable present-day ecological conditions but not with the paleoecological refuge model. Criteria and methods are suggested for the relation of paleoclimate, soil classes, and vegetation types to recent paleoecology, and for reliable biogeographic sampling and analysis of patterns of evolution in the Neotropical forests.

Localización: Biblioteca OET: S7614.

Costa Rica's endangered felines [Felinos amenazados en Costa Rica] / Vaughan-Dickhaut, C. (University of Wisconsin-Madison. Department of Wildlife Ecology, Madison, WI 53706, US <E-mail: cvaughan@facstaff.wisc.edu>).
In: The Nature Conservancy News (ISSN 0028-0852), v. 34, no. 1, p. 18-23. 1984.
The largest cat of the New World, the jaguar was revered as a powerful and savage god by pre-Columbian civilizations. It prefers tropical and subtropical forests but also has been reported in mangrove, scrub thickets, and swamps-even in open woodland. Its social organization is very similar to that of other large solitary cats, such as leopards and tigers: males occupy home ranges (between 19 and 26 square miles in size) that overlap with those of several females. Presumably, they associate with the females only during the mating season. Studies of jaguars in captivity indicate that one to four young are born at any time of the year; gestation periods vary from 93 to 105 days. Following birth, the mother remains with the cubs and may change shelters if the least disturbed. About six weeks later, her offspring begin following her in hunting expeditions; they remain hidden in thick vegetation. At nine to ten months of age, the cubs are half-grown-they probably remain with their mother until she is ready to give birth again. A jaguar is considered mature when it is three years old. Six wild feline species, including the jaguar (Felis onca), are found in Costa Rica and in most tropical Latin American countries. The others are the ocelot, the margay, the puma, the jaguaroundi, and the little spotted or tiger cat. All four spotted cats (jaguar, ocelot, margay, and little spotted cat) are classified as vulnerable throughout their ranges by the International Union for Conservation of Nature and Natural Resources (IUCN). The jaguaroundi is of "indeterminate status," according to IUCN-although the U.S. Fish and Wildlife Service lists it, and the Costa Rican puma, as endangered in Costa Rica, Panama, and Nicaragua. The ocelot (Felis pardalis) is the best known of Costa Rica's small to medium-sized felines. Found from the southern tip of Texas to Paraguay and northern Argentina, it varies greatly in coat pattern, color, and size throughout its range. Males average about 29 pounds in weight and about 45 inches in length. Although its choice of habitat is similar to that of the jaguar, the ocelot is considered more adaptable: at times it lives in second-growth woodland, near towns, and in abandoned fields. It is principally nocturnal and seeks daytime resting sites in tree hollows, branches, or caves. It feeds mostly on rodents and reptiles. The ocelot hunts primarily on the ground, but it is also an excellent climber and occasionally searches for prey in trees. The margay (Felis wiedii) is perhaps the rarest of the wild felines in Costa Rica. Because of physical similarities, it is sometimes called the little ocelot. No ecological studies of this species have been carried out, so what little information exists is based on few observations. Occurring from Mexico to northern Argentina, the margay is believed to be principally arboreal and nocturnal, inhabiting heavily forested areas. It preys on small birds, frogs, lizards, mice, and rats. Almost nothing is known about the natural history of the little spotted cat (Felis tigrina), which is found from central Costa Rica to Brazil. Males average the size of a hefty domestic cat. The four spotted cat species have been greatly affected by commercial hunting throughout Latin America. In Costa Rica, one ocelot pelt was worth six months'salary to a field worker, and many rural Costa Ricans earned or supplemented their living by hunting spotted cats. However, since its creation in 1973, the Convention on International Trade in Endangered Species (CITES) has stopped much of the traffic in these species or their hides. (Currently ratified by 82 countries, CITES provides a complex mechanism for regulating trade in endangered and

threatened plants and animals, including their by-products.) Costa Rica was one of the first countries to ratify this important international treaty, in September 1975. Because many of the world's largest importers of Latin American spotted feline furs (nations such as the United States, Italy, France, West Germany, and Japan) participate in CITES, trade in any of Costa Rica's spotted cats is illegal. All six of the country's endangered cats are protected locally by a wildlife law that prohibits capturing or killing them. It is also illegal to maintain any of these animals in captivity, except in a zoological park. In the last five years, Costa Rica's Wildlife Department has confiscated numerous skins and live cats in an effort to enforce the regulations. Today, there is no public dealing in hides or live animals; only a few years ago, furs were bartered openly in market places and leather shops, and live ocelots were sold by newspaper advertisements. People found guilty of killing or skinning a wild feline now receive jail sentences or stiff fines or both, and their firearms are confiscated. Nonetheless, studies are needed to determine if these measures are adequately protecting the wild populations. Although commercial exploitation has significantly affected the native cats of Latin America, habitat destruction is the major threat to many species. Fifty percent of the Earth's tropical rain forests, which embrace extensive portions of the wild felines' ranges, occur in Latin America. The destruction of these forests-owing to logging, fuel-wood gathering, and conversion of land to raise crops and feed cattle-is now calculated at 50 acres a minute, or over 26 million acres a year (half the size of California). At this rate, half of the world's remaining tropical forests will be destroyed in the next two decades. Only legally established and actively protected wilderness areas will remain as habitats for the imperiled cats. Costa Rica has established more than 45 protected natural areas to date. These lands are located in a range of ecological zones-from lowland rain forests, through mid-elevation cloud forests, up to high-mountain oak forests and subalpine treeless zones. Most encompass habitat for the country's six wild cat species. Corcovado National Park on the Osa Peninsula represents the most biologically complex wild region in Costa Rica. The park's more-than-ten vegetational associations vary from a swampy section in the center of the park, which harbors caimans and endangered American crocodiles, to lowland forests that support towering (180-foot) tropical trees. Hilly forested areas surround these lowlands on three sides. More than 350 bird species have been reported within Corcovado's boundaries. Vast regions of the 100,586-acre park-refuge for large herds of white-lipped peccaries-remain unexplored. It is not uncommon to see jaguar tracks, or the animal itself, around the administration center at Corcovado.
Localización: Biblioteca OET: S8734. LS.

Areas potenciales para unidades de conservación de recursos naturales en Costa Rica / Centro Científico Tropical. Apdo. 8-3870, San José, CR.
San José: Centro Científico Tropical, 1982. 307 p.
Introducción: El Gobierno de Costa Rica, en una de las actividades tendientes a la planificación de los recursos naturales del país, solicitó al Centro Científico Tropical, por medio del Ministerio de la Presidencia, un estudio ecológico, tendiente a determinar necesidades y áreas que todavía conservan sus recursos poco o nada alterados, cuyas características ameritan su inclusión en el sistema costarricense de unidades de conservación protegidas. Los estudios del Centro Científico Tropical, fueron dirigidos a un objetivo fundamental, cual era justificar la selección de las áreas que se deben considerar dentro del sistema nacional de parques y reservas equivalentes, incluyendo los estudios ecológicos del propuesto Parque Internacional fronterizo "La Amistad". Dar prioridad a la creación de estas áreas potenciales y a la ampliación de las ya existentes; que fueren representativas de ecosistemas frágiles o

que alberguen especies de plantas y animales escasos y en peligro de extinción, o que requieran territorios extensos para poder mantener poblaciones genéticamente viables a largo plazo, que a su vez representen las mejores características de las distintas regiones naturales del país, para así sobrevivir a las presiones de una sociedad en expansión y explorativa. Además de la determinación de nuevas áreas potenciales de conservación y evaluación de las ya establecidas, se ha incorporado un estudio especial de la región del extremo noreste del país, en relación con las condiciones ambientales, los recursos naturales presentes y los acontecimientos más recientes de la colonización espontánea en la región. Por sus condiciones físicas tan adversas a la agricultura y lo lejos con relación al centro del país, esta región ha escapado hasta el presente a las invasiones grandes de colonos y madereros que caracterizan a las fronteras agrícolas del país. Aún mantienen recursos naturales de gran valor genético para el mejoramiento de nuestra agricultura y silvicultura del futuro, enfocadas a las oportunidades reales para el desarrollo nacional de nuestros recursos naturales.
Localización: Biblioteca OET: AD 273.

Protección de espacios naturales y crisis en Centroamérica / Soler-Insa, J. (Universidad de Barcelona. Departamento de Geografía, Barcelona, ES).
In: Geoistmo (ISSN 1016-8176), v. 1, no. 1, p. 111-118. 1987.
From 1974 onwards, there emerged initiatives in Central America of utmost importance in the conservation of wilderness areas. The area has undergone a marked development in the creation and management of protected wilderness areas, in which are preserved zones of great cultural and biological importance. This is an event worthy of mention, given the context of a generalized economic and socio-political crisis, which scarcely offers an adequate context for the implementation of an efficient policy environmental conservation. Such circumstances force local governments to reconsider and reform the role played, by protected wilderness areas, in order to, on the one hand, envisage policies guaranteeing the duration of a natural and cultural heritage. And, on the other hand to contribute to an improvement of the socio- economic conditions of the population, in order to foment a balanced development of the Region (eco-development).
Localización: Biblioteca OET: G.

Debt or equity? [¿Deuda o equidad?] / Borrelli, P.
In: The Amicus Journal (ISSN 0276-7201), no. Fall, p. 42-49. 1988.
After years of experimenting with ways of encouraging developing nations in Latin America and elsewhere to protect tropical forests, several U.S.-based conservation organizations have come up with an innovative scheme for turning bad debts into good deeds. It is called the debt-for-nature swap, a simple label for what can be a complicated financial transaction in which an indebted country is forgiven a small portion of its foreign debt in exchange for some kind of commitment to protect a portion of its environment. Such transactions are funding a number of ambitious new programs in Latin America. Even so, some argue that swaps may not be ethical or in the economic best interest of debtor nations.
Localización: Biblioteca OET: S322.

Planning and managing a multi-component, multi-category international biosphere reserve: the case of the La Amistad/Talamanca range/Bocas de Toro wildlands complex of Costa Rica and Panama / Morales, R.; Barborak, J.R.; MacFarland, C.G.
International Biosphere Reserve Congress. 1st, Minsk, Byelorussia RU26

Set.-2 Oct 1983.
In: Conservation, science and society
París: UNESCO/PNUMA, 1984. v. 1, p. 168-177. (Natural Resources Research - UNESCO/PNUMA; no. 21).
This paper describes ongoing efforts to establish and manage a lateral biosphere reserve containing a complex of natural and cultural reserves along the Costa Rica-Panama border. It is the largest, most diverse wildland area remaining in southern Central America, home to indigenous peoples maintaining subsistance lifestyles and containing most of the two countries' hydroelectricity generating potential. The history of conservation efforts in the region and the considerable problems encountered in its planning and integrated management are described. Management priorities are outlined, such as land ownership consolidation, boundary adjustment, completion of individual reserve management plans and overall reserve management guidelines, implementation of resource protection, environmental education/extension and applied research programmes, and improved inter-agency cooperation in reserve management. Long-term management goals for the biosphere reserve are reviewed, including, improving land utilization practices in and near the area, investigating and applying native people's knowledge of wild genetic resources, producing sustainable economic benefits for reserve inhabitants and national populations through integrated management of the reserve, and, assuring lasting protection of the region's outstanding natural and cultural resources. Threats to reserve integrity are described, including plans for pipelines, mining, and road construction, archaeological site looting, poaching and spontaneous colonization. International assistance in reserve planning and management, including biosphere reserve and World Heritage Site designation, is seen as stimulating local support for reserve protection and opposition to development projects which threaten the reserve.
Localización: Biblioteca Conmemorativa Orton: CATIE M828pl. AS 50824.

The Talamanca Biosphere Reserve [La Reserva de la Biosfera de Talamanca] / Sánchez, J.M.
In: Biocenosis (ISSN 0250-6963), v. 1, no. 2, p. 16-17. 1984.
(No abstract).
Localización: Non available. Copias: Wildlife Review Abstracts.

La Amistad International Park, Costa Rica - Panama [Parque Internacional La Amistad, Costa Rica - Panamá] / Silberman, M, (ed.). / Presidencia de la República de Costa Rica, San José, CR.
San José: Presidencia de la República de Costa Rica, 1982. 31 p.
(No abstract).
Localización: Biblioteca Conmemorativa Orton: 333.783097286 A517.

Ecology of mature and recovering Talamancan Montane Quercus forests, Costa Rica [Ecología de los robledales de altura (bosques de Quercus) maduros y en recuperación en la Cordillera de Talamanca, Costa Rica] / Kappelle, M. (Utrecht University. Copernicus Institute for Sustainable Development and Innovation, Department of Science, Technology and Society, Padualaan 14, 3584 CH Utrecht, NL <E-mail: m.kappelle@chem.uu.nl>).
Amsterdam: University of Amsterdam, 1995. 270 p.
Dissertation, Doctoraan, Tropische Oecologie, University of Amsterdam (The Netherlands).
Esta tesis doctoral contiene los resultados de una investigación realizada sobre diferentes aspectos de la ecología de los robledales de altura (bosques de Quercus spp. en la Cordillera de Talamanca, Costa Rica. Los temas tratados abarcan los campos de la biogeografía, zonificación

altitudinal, fitosociología, diversidad de plantas, sucesión secundaria, recuperación después de la tala, uso de la tierra y conservación ambiental. [This dissertation contains the results of a study concerning different aspects of the ecology of the montane Quercus forest of the Cordillera de Talamanca in Costa Rica. Main ecological themes dealt with are in the spheres of biogeography, altitudinal zonation, phytosociology, plant diversity, secondary sucession, recovery after clearing, land use and environmental conservation].
Localización: Biblioteca OET: Tesis 213.

The Los Santos Forest Reserve: A buffer zone vital for the Costa Rican La Amistad Biosphere Reserve [La Reserva Forestal Los Santos: Una zona de amortiguamiento vital para la Reserva de la Biósfera La Amistad costarricense] / Kappelle, M.; Juárez-Ruiz, M.E. (Utrecht University. Copernicus Institute for Sustainable Development and Innovation, Department of Science, Technology and Society, Padualaan 14, 3584 CH Utrecht, NL <E-mail: m.kappelle@chem.uu.nl>).
In: Ecology of mature and recovering Talamancan montane Quercus forests, Costa Rica
Amsterdam: University of Amsterdam, 1995.
Dissertation, Doctoraan, Tropische Oecologie, University of Amsterdam (The Netherlands).
Se discuten varias opciones para un desarrollo socioeconómico sustentable en la Reserva Forestal Los Santos. Esta reserva, que abarca un área de 62,000 ha, sirve como zona de amortiguamiento para los bosques megadiversos, que se encuentran en la Reserva de la Biósfera La Amistad, sitio de patrimonio mundial. En términos prácticos, se recomienda promover la regeneración natural de los bosques secundarios en áreas deforestadas y abandonadas en la Reserva Forestal Los Santos. Esto con el fin de restaurar la ecología en la frontera boscosa-agrícola en el límite suroccidental de la Reserva de la Biósfera de la Amistad, y de crear a la vez un nuevo recurso forestal para que sea utilizado de una forma sustentable: tanto la producción de madera y leña en los bosques secundarios, como el desarrollo del ecoturismo en áreas de recuperación son fuentes potenciales de ingreso adicional para los residentes de esta zona marginalizada. Sin embargo, para llevar a cabo tal alternativa es de suma importancia tanto la participación activa de la población local, que vive en la Reserva Forestal Los Santos, como de los políticos, que toman las decisiones a nivel local, regional y nacional.
Localización: Biblioteca OET: S3298.

Neotropical emerald moths of the genera Nemoria, Lissochlora and Chavarriella, with particular reference to the species of Costa Rica (Lepidoptera: Geometridae, Geometrinae) [Polillas esmeralda neotropicales del género Nemoria, Lissochlora y Chavarriella, con particular referencia a las especies de Costa Rica (Lepidoptera: Geometridae, Geometrinae)] / Pitkin, L.M. (The Natural History Museum. Department of Entomology, Cromwell Road, London, SW7 5BD, GB <E-mail: l.pitkin@nhm.ac.uk>).
In: Bulletin of the British Museum Natural History. Entomology Series (ISSN 0524-6431), v. 62, no. 2, p. 39-159. 1993.
The classification of the Neotropical species of the New World genus Nemoria is reviewed and species previously assigned to its junior synonym Racheospila are transferred to Nemoria and to various other genera. Lissochlora is recalled from synonymy with Racheospila and 2 genera are newly synonymized with Nemoria. One genus (Chavarriella gen. nov.) and 25 species of Nemoria and Lissochlora (one Mexican and 24 in Costa Rica) are described as new. Other changes include 32 species synonyms and 149 new combinations. The Costa Rican species of Nemoria, Chavarriella and Lissochlora are revised and keys, based on external features, are provided

for their identification. External features and genitalia of each species are illustrated. All other known Neotropical species of these genera are catalogued.
Localización: Biblioteca OET: B. Biblioteca de Inventario (INBio).

Neither oak nor alder, but nearly: the history of Ticodendraceae [Ni roble ni tampoco aliso, pero casi: la historia de Ticodendraceae] / Hammel, B.E.; Burger, W.C. (Instituto Nacional de Biodiversidad, Apdo. 22-3100, Santo Domingo de Heredia, CR <E-mail: bhammel@inbio.ac.cr> <E-mail: bhammel@inbio.ac.cr>).
In: Annals of the Missouri Botanical Garden (ISSN 0026-6493), v. 78, no. 1, p. 89-95. 1991.
The newly described monotypic family Ticodendraceae is endemic to Mesoamerica, where it ranges from southern Mexico to central Panama. Although locally common in some areas very close to old collecting sites (at least in Costa Rica), few collections from prior to 1985 are known. Recent funds for exploration and concentration on the arborescent flora may account for the "rediscovery" of Ticodendron during the 1980s. It may also have been overlooked by botanists because it looks so familiar, like an oak or an alder. Most evidence suggests that it can be placed comfortably in the Fagales. Ticodendron is most common in the narrow strip of wet montane Atlantic slope forests between 750 and 1,500 m, where it often grows in association with endemic taxa of Alfaroa, Oreomunnoa, Nysa, and other remnants of the Tertiary Laurasian flora. Further study and survey of this area will surely provide insight into the composition of that ancient flora surviving in Mesoamerica.
Localización: Biblioteca OET: S3023. NBINA-963.

Onypterygia donato, a new species from Costa Rica (Coleoptera: Carabidae: Platynini) [Onypterygia donato, una nueva especie de Costa Rica (Coleoptera: Carabidae: Platynini)] / Ball, G.E.; Shpeley, D. (University of Alberta. Department of Biological Sciences, CW-405 Biological Sciences Building, Edmonton, AB T6G 2E3, CA).
In: Proceedings of the Entomological Society of Washington (ISSN 0013-8797), v. 94, no. 4, p. 403-408. 1992.
Based on a unique combination of structural features (especially color pattern of elytra and reduction of the flight mechanism), the new species Onypterygia donato is described (type locality, Costa Rica, Province of Puntarenas, la Amistad Biosphere Reserve) and distinguished from its putatively closest relatives, O. championi Bates and O. iris Chaudoir.
Localización: Biblioteca OET: S5014.

Altamira: fauna silvestre y comunidades, una puerta abierta al futuro / Universidad Nacional. Programa Regional de Manejo de Vida Silvestre, Heredia, CR.
Heredia: Universidad Nacional, 1995.
Localización: Biblioteca del BIODOC: no. 1124.

Biosphere reserves in tropical America / Unesco / Conservation International, [s.l.],
[s.l.]: Unesco / Conservation International, 1992.
Documentary takes viewers on tour of 5 Latin American biosphere reserves: La Amistad Biosphere Reserve, Costa Rica; Maya Biosphere Reserve, Guatemala; Beni Biosphere Reserve, Bolivia; Montes Azules Biosphere Reserve, Mexico; and Atlantic Forest Biosphere Reserve, Brazil.
Localización: Non available.

Estrategia para el desarrollo institutional de la Reserva de la Biosfera La Amistad [Strategy for the institutional development of La Amistad Biosphere Reserve] / Costa Rica. Ministerio de Recursos Naturales, Energía y Minas Costa Rica. Ministerio de Planificación Nacional y Política Económica / Conservation International / Organization of American States, San José, CR.
Costa Rica: Ministry of Natural Resources, Energy and Mines / Ministry of National Planning and Economic Policy / Organization of American States / Conservation International, 1990. 174 p.
Presenta la estrategia para el manejo institucional de la Reserva de la Biosfera La Amistad, cuyos objetivos son: guiar el proceso de planificación por parte de la Comisión Coordinadora de la Reserva de la Biosfera La Amistad, tomando en consideración las acciones a nivel nacional y regional por parte de otras organizaciones; dar lineamientos de estrategias, políticas y acciones a nivel interinstitucional; y orientar y facilitar el diseño de un esquema de manejo adecuado para la Reserva de la Biosfera La Amistad, entre otros.
Localización: Biblioteca OET: 639.9597286 C873e; Biblioteca Conmemorativa Orton: 333.950997286 S898.

The Ichneumonidae of Costa Rica. 1: Introduction, keys to subfamilies, and keys to the species of the lower pimpliform subfamilies Rhyssinae, Pimplinae, Poemeniinae, Acaenitiinae and Cyllocerinae [Los Ichneumonidae de Costa Rica. 1: Introducción, claves para las subfamilias y claves para las especies de las subfamilias pimpliforme menores Rhyssinae, Pimplinae, Poemeniinae, Acaenitiinae y Cyllocerinae] / Gauld, I.D. (The Natural History Museum. Department of Entomology, London SW7 5BD, GB <E-mail: idg@mhm.ac.uk>).
In: Memoirs of the American Entomological Institute (ISSN 0065-8162), v. 47, p. 1-589. 1991.
Illustrated keys are provided for the identification of the 25 subfamilies of Ichneumonidae present in Central America - here defined as countries south of Mexico and north of Colombia. The systematic position of the Ichneumonidae within the Hymenoptera is outlined, and a brief discussion of the evolutionary biology of the family is presented. Synopses of the biology of all the subfamilies are given. The 161 species of the lower pimpliform subfamilies - Rhyssinae, Pimplinae, Poemeniinae, Acaenitinae and Cylloceriinae - that occur in Costa Rica are keyed. Previously known genera and species are redescribed, and Nomosphecia and Leptopimpla are recorded from the New World for the first time. Four new Costa Rican genera are described, Umanella, Ticapimpla and Flacopimpla, in the Pimplinae, and Rodrigama in the Poemeniinae, and 118 new Costa Rican species are described. Information is given about the distribution, habitat preference and host ranges of the species. Faunal comparisons are made between different sites in Costa Rica; sites below 2000 metres are found to have considerable species overlaps, whilst sites above this altitude resemble each other but share very few species with lower altitude sites. The lower pimpliform fauna of Costa Rica is briefly compared with those of some other tropical and temperate countries; tropical areas tend to have proportionally fewer species that attack deeply concealed hosts and more that parasitize weakly concealed ones than do temperate regions. Sites in Costa Rica are shown to have a greater species-richness than comparable sites in temperate regions.
Localización: Biblioteca OET: 595.79 G269i:CRO. LS.

Exchanging debt for nature: investing in conservation [Intercambiando deuda externa por naturaleza: invirtiendo en conservación]
In: Ecology chronicle: twenty-four windows on the Man and the Biosphere

Programme 1989-1990
Paris: UNESCO, 1991.
(No abstract).
Localización: Biblioteca OET: S1018.

La Amistad (Costa Rica): institutional development of the "Friendship" Biosphere Reserve
In: Ecology chronicle: twenty-four windows on the man and the Biosphere Programme 1989-1990
Paris: UNESCO, 1991.
(No abstract).
Localización: Biblioteca OET: S1021.

Reserva de la Biosfera La Amistad / Rodríguez, N.
In: Biocenosis (ISSN 0250-6963), v. 7, no. 1, p. 30-32. 1990.
El Area de Conservación "Reserva de la Biosfera La Amistad (RBA)", se ubica en la Cordillera de Talamanca, y representa el territorio de mayor riqueza y potencial de recursos naturales y culturales de Costa Rica. En esta cordillera se encuentra el bosque virgen más extenso del país, así como el pico más alto de Centroamérica, el Chirripó, con 3820 m.s.n.m. En ella convive una alta diversidad de especies animales y vegetales, muchas de las cuales corren peligro de extinción en todo el territorio nacional, mientras que otras son únicas de este territorio. Además, en esta área vive cerca del 65% de la población indígena del país. Estas características tan especiales condujeron a que la Cordillera de Talamanca fuera declarada por la UNESCO Reserva de la Biosfera, el 12 de agosto de 1982 y un año después, Sitio de Patrimonio Mundial, con lo cual se convirtió en un lugar especial para la humanidad.
Localización: Biblioteca OET: B.

El PILA, un paraíso ecológico
In: Talamanca, v. 3, p. 6-7. 1992.
El Parque Internacional La Amistad (PILA) se localiza en la Cordillera de Talamanca, al sureste de Costa Rica y se extiende hasta el noreste de Panamá. Su extensión abarca aproximadamente 193.929 ha, lo que representa un 3.8% del territorio costarricense. Esta cordillera divide al PILA en dos vertientes: Atlántica y Pacífica, en las que ocupa el 87% y el 13% de su territorio respectivamente. El Parque Internacional La Amistad (PILA) reúne la mayor diversidad biológica del país y constituye una de las regiones de bosque virgen más grande en Centroamérica. Este paraíso ecológico es el área natural protegida más grande de Costa Rica. En tan sólo una década, el PILA ha logrado convertirse en una región científicamente privilegiada, pues conforma una Reserva de la Biosfera que conserva vivos e intactos numerosos ecosistemas.
Localización: Biblioteca OET: TAL.

The ecological committee of Fila Pinar / Wolf, E.C.
In: Tropicus, v. 6, no. 1, p. 8-9. 1992.
From the hillside above the new community center, the landscape around the rural settlement of Fila Pinar is a colorful mosaic of coffee plantations. But just a few steps away, a wild spring-fed stream winds through primary tropical rain forest. Unlike other remnant forest patches found in the fertile farming regions on Costa Rica's Pacific slope near La Amistad Biosphere Reserve, this one still stands because the people of Fila Pinar have chosen to keep it. Through a remarkable community effort, Fila Pinar's "Biosphere Reserve in miniature" has become a resource for environmental awareness and a source of pride to residents. Founded in

1965 as part of a government-sponsored farming settlement known as the Gutiérrez Braun Colony, Fila Pinar is home to some 70 families dependent on farming for their livelihoods. At the time of the original land grant, the government demarcated a 16-hectare (40 acre) parcel for community use. While surrounding communities quickly subdivided and cleared their communal plots, the residents of Fila Pinar decided to preserve their forest.
Localización: Biblioteca OET: TRO.

Talamanca 10 años: Reserva de la Biosfera La Amistad / Rodríguez, N.
In: Talamanca, v. 4, p. 6-7. 1992.
(No abstract).
Localización: Biblioteca OET: TAL.

Fila Pinar: una comunidad en busca del desarrollo renovable / Rodríguez, N. In: Talamanca, v. 4, p. 9. 1992.
(No abstract).
Localización: Biblioteca OET: TAL.

Manejo de áreas silvestres protegidas fronterizas en América Latina / Marchetti, B.; Oltremari-Arregui, J.; Peters, H.
Santiago: Oficina Regional de la FAO para América Latina y el Caribe, 1992. 120 p.
(No abstract).
Localización: Biblioteca OET: 639.95 M319m.

Incentives or restrictions for tropical forests conservation? / Brüggemann, J. 1990. 77 p. Dissertation, Ph.D, University of Sussex.
Tropical forest conservation policies involve decisions about how much should be preserved or used. Rather than considering the technical aspects, this paper unfolds and applies an analytical approach of the Rational Choice Paradigm (RCP) to analyze the form and the local-level Impact of tropical forest conservation policies in the case of a biosphere reserve in Costa Rica. The findings suggest that RCP can usefully be applied to conservation policies on the local-level. The analysis revealed that land insecurity, scarce resources and politic opposition constrain the success of a strategy that uses incentives and restrictions for tropical forest conservation.
Localización: Biblioteca OET: Tesis 185.

Biosphere reserves and the conservation of traditional land use systems in Central America
In: Ecology chronicle: twenty-four windows on the man and the Biosphere Programme 1989-1990
Paris: UNESCO, 1991. 3 p.
(No abstract).
Localización: Biblioteca OET: S1019.

Ecological monitoring: a vital need for integrated conservation and development programs in the tropics / Kremen, C.; Merenlender, A.M.; Murphy, D.D. (Stanford University. Department of Biological Sciences, Stanford, CA 94305, US).
In: Conservation Biology (ISSN 0888-8892), v. 8, no. 2, p. 388-397. 1994.
The integration of conservation with rural economic development is the latest proposed means of preventing loss of the earth's biodiversity and

of solving the dilemma of "People versus parks." International development agencies now recognize the need to preserve natural resources and biodiversity in concert with improving human well-being; likewise, conservation agencies acknowledge that parks cannot be protected over the long term without the consent and support of local inhabitants. Nonetheless, of 36 integrated conservation and development projects (ICDPs) reviewed by us and others, only 5 demonstrate that they have positively contributed to the conservation of wildlife. In this paper we promote ecological monitoring to (1) evaluate the ICDP paradigm and specific ICDPs, (2) provide feedback to guide the future course of ICDPs, and (3) integrate information relevant to both conservation and development Few ICDPs have included ecological monitoring programs to date, although several have plans to monitor in the future. We outline a flexible blueprint for ecological monitoring of ICDPs and provide an example from our ongoing work in Madagascar. To establish comprehensive ecological monitoring programs, we recommend that two types of monitoring be carried out at multiple levels of ecological organization and across diverse taxa. First, monitoring programs should assess the total effects of ICDPs on biodiversity and on overall ecosystem health by tracking indicator assemblages across space and through time (biodiversity monitoring). Second ICDPs should monitor the resources and ecological processes that will be directly affected by changes in human activities due to implementation of ICOPs by comparing target species diversity and abundance in unregulated areas. managed buffer zones, and core protected areas through time (impact monitoring). Comprehensive ecological monitoring is critical in shaping ICDP management plans and in furthering the integration of conservation and development.
Localización: Biblioteca OET: C.

A review of the genus Chloronia in Costa Rica, with the description of two new species (Neuropterida: Megaloptera: Corydalidae) [Revisión del género Chloronia en Costa Rica, con la descripción de dos nuevas especies (Neuropterida: Megaloptera: Corydalidae)] / Flint, O.S., Jr. (National Museum of Natural History. Department of Entomology, MRC 105, Washington, D.C. 20560, US <E-mail: flint.oliver@nnh.si.edu>).
In: Proceedings of the Biological Society of Washington (ISSN 0006-324X), v. 105, no. 4, p. 801-809. 1992.
The genus Chloronia, containing 10 previously described species, is limited to the Neotropical Region. Recent large collections from Costa Rica reveal the presence of 5 species in the country. Chloronia mexicana and C. gloriosoi are recorded for the first time from Costa Rica, and C. absona and C. osae are herein described. Chloronia mirifica is the most frequently encountered species and the only one previously recorded from Costa Rica.
Localización: Biblioteca OET: S2741. Museo de Insectos (UCR).

New treefrog from the Cordillera de Talamanca of Central America with a discussion of systematic relationships in the Hyla lancasteri group [Nueva rana arborícola de la Cordillera de Talamanca de Centroamérica con una discusión de las relaciones sitemáticas en el grupo Hyla lancasteri] / Lips, K.R. (Southern Illinois University. Department of Zoology, Carbondale, IL 62901-6501, US <E-mail: klips@zoology.siu.edu>).
In: Copeia (ISSN 0045-8511), v. 1996, no. 3, p. 615-626. 1996.
A new species of treefrog, Hyla calypsa, is described from the Cordillera de Talamanca of southeastern Costa Rica and western Panama. The species was included previously in H. lancasteri, but it can be distinguished from that species on the basis of adult and larval morphology, oviposition site, eggs and clutch characteristics, and vocalizations.
Localización: Biblioteca OET: S3051.

Revisión del género Hemerobius de Latinoamérica (Neuroptera, Hemerobiidae) [A revision of the Latin american species of the genus Hemerobius (Neuroptera, Hemerobiidae)] / Monserrat, V.J. (Universidad Complutense. Departamento de Biología Animal I, 28040 Madrid, ES <E-mail: artmad@eucmax.sim.ucm.es>).
In: Fragmenta Entomologica (ISSN 0429-288X), v. 27, no. 2, p. 399-523. 1996.
Mexican, Central and South American known species of genus Hemerobius Linnaeus, 1758 are revised and discussed. The synonymical listing and all known bibliographical references of each species are compiled. New data on morphology, distribution and biology in the most of species are given. Wings, male and female genitalia of all species are described and figured. 29 valid species are considered, jointed into groups of closer species, and a key to the identification is provided. Lectotypes and Paralectotypes are designated for some species; one nomen dubium (Hemerobius tibialis Navas, 1917), one revalidated species (Hemerobius discreties Navás 1917, sp.prop.) and 12 new synonymies are proposed as follows: Hemerobius frontalis Navás, 1932 (non Hagen, 1858) = Wesmaelius quadri fasciatius (Reuter, 1894) n. syn.; H. neglectus Hagen, 1861 (non Costa, 1855) = H. discretus Navás, 1917, n. syn.; H. mexicanus Navás, 1921 = H. discretus Navás, 1917, n. syn.; H. pallidultis Kimmins, 1928 = H. discretus Navás, 1917, n. syn.; H. pinnatus Navás, 1914 (non Navás, 1918) = H. tolimensis Banks, 1910, n. syn.; H. monticola Alayo, 1968 = H. darlingtoni Banks, 1938, n. syn.; H. hageni Navás, 1918 = H. bolivari Banks, 1910, n. syn.; H. hageni var. distincta Navis, 1920 = H. bolivari Banks, 1910, n. syn.; Schneiderobius bolivanus Kruger, 1922 (n. nud.) = H. bolivari Banks, 1910, n. syn.; H. skottsbergi Navás, 1924 = H. bolivari Banks, 1910, n. syn.; H. sjoestedti Navás, 1924 = H. bolivari Banks, 1910, n. syn.; H. topali Steinmann, 1965 = H. bolivari Banks, 1910, n. syn. The following 9 new species are described: H. martinezae n. sp. (Mexico, Costa Rica, Guatemala); H. solidarius n. sp. (Colombia, Venezuela); H. penii n. sp. (Costa Rica, Ecuador); H. nigridorsus n. sp. (Costa Rica); H. hernandezi n. sp. (Costa Rica, Mexico, Guatemala, Nicaragua, Panama, Venezuela, Colombia); H. gaitoi n. sp. (Costa Rica, Dominican Rep., Mexico, Guatemala, Ecuador, Venezuela, Brazil); H. stenopterus n. sp. (Chile, Argentina); H. montsae n. sp. (Bolivia, Peru); H. nekoi n. sp. (Chile). Biogeographical comments are included in order to explain the distribution of this genus in South-, Central-, and North America.
Localización: Biblioteca OET: S4594.

Bolitoglossa nigrescens (NCN) / Lips, K.R. (Southern Illinois University. Department of Zoology, Carbondale, IL 62901-6501, US <E-mail: klips@zoology.siu.edu>).
In: Herpetological Review (ISSN 0018-084X), v. 24, no. 3, p. 107. 1993.
Costa Rica: Puntarenas Province: Cantón Coto Brus: Parque Internacional La Amistad, near Cerro Frantzius, 1800-2000 m. 14-17 July 1990. Karen R. Lips, Craig Guyer, Sharon M. Hermann. Verified by Jay M. Savage (CRE 5179, 5236, UCR 10720-21); Zona Protectora Las Tablas along Río Cotón, 1700 m. 18 October 1992. Karen R. Slips and Christian Hartmann. Verified by Jay M. Savage (CRE 5357). Previously known from the Cordillera Central of Costa Rica and Volcán Barú, Chiriquí, Panamá. Extends range 125 km SE of nearest Costa Rican locality and 30 km N of nearest Panamanian locality.
Localización: Biblioteca del BIODOC: 598.1 Her.

An evaluation of the Mesoamerican species of Meriania (Melastomataceae: Merianieae) [Una evaluación de las especies mesoamericanas de Meriania (Melastomataceae: Merianieae)] / Almeda, F., Jr. (California Academy of

Sciences. Department of Botany, Golden Gate Park, San Francisco, CA 94118, US <E-mail: falmeda@calacademy.org>).
In: Proceedings of the California Academy of Sciences (ISSN 0068-547X), v. 48, no. 7, p. 141-152. 1993.
Meriania, one of 17 genera in the neotropical tribe Merianieae, ranges widely from southern Mexico, Central America, and the Greater Antilles south to the tropical Andes, the Guayana Highland region, and southeastern Brazil. In this study, Meriania is reported from Mexico for the first time, a new species, M. odorata is described from Costa Rica and Panama; and two species of Centronia, C. grandiflora, and C. phlomoides, are transferred to Meriania. This summary of the five Mesoamerican species includes a key, descriptions, geographical and phenological notes, diagnostic illustrations, and citation of representative specimens.
Localización: Biblioteca OET: S3792.

The importance of tropical montane cloud forests for endemic and threatened birds [Importancia del bosque nuboso tropical montano para especies de aves endémicas y amenazadas] / Long, A.J.; Hamilton, L.S, (ed.).; Juvik, J.O, (ed.).; Scatena, F.N, (ed.). (<E-mail: hamiltonx2@mindspring.com>).
In: Tropical montane cloud forests
New York: Springer-Verlag New York Inc, 1995. p. 79-106. ISBN: 0-387-94323-4.
BirdLife's Biodiversity Project has advanced the analysis of avian endemism throughout the world by collecting data on all land birds that have had, in historical times, a total global breeding range estimated at less than 50,000 km2 ("restricted-range species"), which is about the size of Costa Rica. The 50,000 km2 range size criterion is arbitrary, but produces a manageable sample of species that are most vulnerable to habitat destruction and need some form of protection. The Costa Rican and Panamanian higlands Endemic Bird Areas (EBAs), with 52 species, has one of the highest species numbers in the world, although it is only 30,000 km2 in size. Cloud forest is the principal habitat for 10 of the species, and most of the other endemics can be found in this habitat. The montane forests of Central America are relatively well protected with several large biosphere reserves such as El Triunfo in Chiapas, Mexico, and La Amistad Biosphere Reserve in the Cordillera de Talamanca of Costa Rica and Panama. Identifying key sites is essential for the conservation of biological diversity, and it is clear that many of the world's tropical mountain cloud forests are important for restricted-range and threatened bird species. BirdLife is making further additions and adjustments to its databases on biodiversity and threatened species and eventually hopes to store information on all bird species. The application of the Biodiversity Project methodology to the more widespread species would identify new areas and further refine those already highlighted by the project. Nevertheless, the Biodiversity Project and associated threatened species analysis already have laid the foundation for work to begin on improving the conservation status of many key areas.
Localización: Biblioteca OET: S3086. 574.52642 T856.

Four new species of Costa Rican Ceraeochrysa (Neuroptera, Chrysopidae) [Cuatro nuevas especies costarricenses de Ceraeochrysa (Neuroptera, Chrysopidae)] / Penny, N.D. (California Academy of Sciences. Department of Entomology, Golden Gate Pk, San Francisco, CA 94118, US <E-mail: npenny@calacademy.org>).
In: The Pan-Pacific Entomologist (ISSN 0031-0603), v. 73, no. 2, p. 61-69. 1997.
Four new species of Costa Rican Ceraeochrysa are described, and compared to closely related congeneric species.

Localización: Biblioteca OET: S4582.

Un bosque tropical montano nuboso: El robledal de altura en Costa Rica [A tropical cloudy mountain forest: the highland oak forest of Costa Rica] / Kappelle, M. (Utrecht University. Copernicus Institute for Sustainable Development and Innovation, Department of Science, Technology and Society, Padualaan 14, 3584 CH Utrecht, NL <E-mail: m.kappelle@chem.uu.nl>).
In: Revista Forestal Centroamericana (ISSN 1021-0164), no. 17, p. 18-23. 1996.
This article presents a general ecological vision of the Montane Cloud Forests in the Tropics, with emphasis on neotropical forests of the Cordillera de Talamanca, Costa Rica. It provides an ecological characterization of the tropical high'elevation forests, who discuss the sequence of these forests along an altitudinal gradient as well as their state of conservation. Finally, it reports on the results as well as the present necessities of scientific research in Costa Rica's high elevation oak forests. [Este artículo presenta una visión ecológica general de los bosques montanos nubosos en el trópico, con énfasis en los neotropicales y, particularmente, los bosques de roble (Quercus) de la Cordillera de Talamanca, Costa Rica. Ofrece una caracterización ecológica de estos bosques tropicales de altura, y discute la secuencia de éstos a lo largo de un gradiente altitudinal y su estado de conservación. Finalmente, reporta tanto los logros como las necesidades actuales de investigación científica en los robledales de altura en Costa Rica].
Localización: Biblioteca OET: S3299.

Zonificación altitudinal del Parque Nacional Chirripó, Cordillera de Talamanca, Costa Rica / Kappelle, M. (Utrecht University. Copernicus Institute for Sustainable Development and Innovation, Department of Science, Technology and Society, Padualaan 14, 3584 CH Utrecht, NL <E-mail: m.kappelle@chem.uu.nl>).
V Congreso Latinoamericano de Botánica; Resúmenes, La Habana, Palacio de las Convenciones CU24-29 de junio, 1990.
, 1990. p. 149-150.
El Parque Nacional Chirripó, en Costa Rica, forma parte de la Reserva de la Biosfera La Amistad y tiene una superficie de 50 150 ha. Aquí se encuentran el pico más alto (3 819 msnm) y el páramo más extenso de Centroamérica. La zonificación altitudinal de la vegetación y los suelos de las vertientes Pacífica (muy húmeda) y Atlántica (pluvial) fue estudiada a lo largo de dos transectos altitudinales con dirección SO-NE, cubriendo el rango altitudinal de 2 000 a 3 500 msnm. Se distinguieron tres zonas altitudinales y dos zonas de transición; el Páramo, una transición, el Bosque Tropical Montano, una transición y el Bosque Tropical Sub-Montano (Bosque Tropical Montano Bajo, según Holdridge). El Páramo, entre 3 100 y 3 500 msnm, está dominado por el bambú Chusquea (Swallenochioa) hasta 2 m de altura) y familias como Asteraceae, Cyperaceae, Poaceae y Rosaceae, acompañado por Arcytophyllum, Blechum (arborescente), Clethra, Comarostaphylis (Arctostaphylos), Diplotephium, Escallonia, Gaiadendron, Macleania, Myrrhidendron, Myrsine (Rapanea), Pernettya, Pentacalia, Puya, Senecio, Ugni y Vaccinium. El Bosque Montano (2 200/2 400 - 3 100/3 400 msnm) está dominado por tres especies de Quercus en el dosel (hasta alrededor de 40 m) y varias especies de Chusquea en el sotobosque (altura máxima: 6 m). Géneros arbóreos de importancia son Ardisia, Cleyera, Clusia, Dydymopanax, Drimys, Grammadenia (Rapanea), Ilex, Magnolia, Miconia, Nectandra, Ocotea, Oreopanax, Persea, Phoebe, Podocarpus, Prunus, Rhamus, Saurauia, Styrax, Symplocos, Vaccinium, Viburnum, Weinmannia y Zanthoxylum. Abundantes son arbustos de Ericaceae, Rubiaceae, Solanaceae y helechos arborescentes (Cyatheaceae, Dicksoniaceae) y palmas enanas (Geonoma). El Bosque Sub-Montano, entre 2

000 y 2 400 msnm se caracteriza por la ausencia de especies dominantes. Quercus está entremezclada con Lauraceae (Aiouea, Nectandra, Ocotea, Persea, Phoebe) y géneros como Alchornea, Billia, Clusia, Croton, Dendropanax, Eugenia, Guarea, Guatteria, Inga, Landenbergia, Lippia, Lozania, Meliosma, Miconia, Microtropis, Mollinedia, Parathesis, Rondeletia, Roupala, Symplocos, Tovomitopsis, Trichilia, Turpinia, Weinmannia y Xylosma. El sotobosque se compone de Chusquea, palmas (Chamaedorea, Geonoma, Prestoea), Araceae, Gesneriaceae, Musaceae y Rubiaceae. Resulta factible definir adecuadamente cada zona altitudinal florísticamente. Se nota diferencia en la fisionomía y la composición de cada vertiente. Además hay gran afinidad de los bosques de Chirripó con los bosques (selvas) equivalentes de los Andes colombianos.
Localización: Biblioteca OET: S3266.

Bosques tropicales de América Central [Tropical forests of Central America] / Ruiz de Larramendi, A.
Madrid: Incafo S.A., SM y UNESCO, 1991. 32 p. (Serie: El patrimonio de la humanidad).
Este libro constituye una introducción general para el lector no especializado a cuatro zonas en la América Central, que constituye actualmente patrimonio de la humanidad: el Parque Nacional Darién en Panamá, Parque Nacional La Amistad en Panamá y su contraparte costarricense Reserva de la Biosfera La Amistad y la Reserva de la Biosfera de Río Plátano en Honduras. El Parque Darién con 570 000 ha es un paso obligado para las especies de fauna y flora que se desplazan entre los dos subcontinentes americanos, incluyen una gran cantidad de hábitats que van desde el bosque tropical húmedo hasta los manglares costeros, pasando por marismas, bosques de altura y zonas costeras. La Amistad tiene del lado panameño 221 000 ha y del lado costarricense 1 000 000 de ha aproximadamente. Incluye por lo menos ocho ecosistemas diferentes entre los cuales destaca el páramo; es el único lugar de la América Central en que las glaciaciones del Cuaternario ha dejado huellas evidentes y engloba ocho zonas indígenas con cerca de 20 000 miembros. La Reserva de Río Plátano es uno de los últimos reductos de selva húmeda tropical en la región con un total de 350 000 ha donde habitan 2 000 indios misquitos. Hay allí restos arqueológicos de gran interés. La obra está lujosamente impresa en papel "cuché" grueso; la calidad en la reproducción de las fotografías en color, que son abundantes, es excelente. Hay además algunos mapas y recuadros con información interesante. Aunque no se trata de una obra de profundidad, sin duda constituye una útil introducción a esta región de gran importancia. [Resumen de libro por Julián Monge-Nájera de la Universidad de Costa Rica].
Localización: Non available.

Scientific research as a vital component of conservation management: examples from the Galapagos Islands and Costa Rica / MacFarland, C.G.
Madison, WI: University of Wisconsin, 1993. 275 p.
Dissertation, Ph.D, University of Wisconsin, Madison, WI (USA).
This dissertation consists of five papers which illustrate several key principles about the critical relationship between research and conservation management. In particular, it focuses on research in the areas of conservation biology and the design and implementation of national protected areas systems, in relation to the conservation management of endangered species and protected areas. The first principle is that scientific research is an absolutely vital component of the management process. This includes not just the obviously recognized and accepted applied research designed to answer specific management needs, but also basic research which increases knowledge and facilitates quality management in frequently unimagined and unpredictable ways. Two papers on

the population status and conservation methods for protecting the endangered Galapagos giant tortoises illustrate this point. Second, it is also critical that research and monitoring be continued both on communities, habitats, species and other natural components and processes of ecosystems, as well as on management programs as they are applied. This principle is frequently ignored with major negative results. The research paper on the establishment, planning and implementation of a national system of protected areas in Costa Rica is an example of why such continual monitoring and periodic more in depth studies/evaluations are needed. Third, quality research resulting in quality management programs, can best be achieved by maintaining the two functions in separate institutions to the maximum extent possible. The best results are achieved when management agencies promote and facilitate research, but do not try to design and conduct it themselves. The research is of far higher quality and more effectively and efficiently conducted when it is done by universities and other research institutions. The paper on planning of a system of biosphere reserves for Costa Rica is an example of this type of independent relationship and the value of research and conservation planning based upon it. The fifth paper, on the cleaning symbiosis between Galapagos giant tortoises and Darwin's finches, is included as an example of the more pure or basic scientific research which the author conducted during his career.
Localización: Non available.

Areas de conservación y sus parques nacionales: división por cantones y distritos / Castro-Moraga, B. (Asociación Preservacionista de Flora y Fauna Silvestre, Apdo. Postal 2106-1002 Paseo Estudiantes, San José, CR <Fax: 223-0851>).
San José: B. Castro Moraga, 1996. 55 p. ISBN: 9977-12-219-9.
Nuestro mayor anhelo es que los costarricenses sepan valorar su tierra para que las futuras generaciones reconozcan nuestro esfuerzo y así legarles nuestro mensaje. Un Area de Conservación es el resultado de una series de Parques Nacionales unidos en conjunto, en total existen en Costa Rica nueve Areas de Conservación. Ejemplo: Area de Conservación Guanacaste). En esta Area encontramos el Parque Nacional Santa Rosa, Parque Nacional Rincón de la Vieja, Parque Nacional Guanacaste; como puede observarse en esta Area existen tres Parques Nacionales, y están ubicados en el Area de Conservación Guanacaste. En el país podemos contar con nueve Areas de Conservación, cada Area tiene su propio mapa, al dorso usted puede ubicar los Parques con sus respectivos nombres. En este estudio está incluido también el mapa de Costa Rica, con sus respectivas divisiones por cantones y distritos.
Localización: Biblioteca OET: S10469. Biblioteca Luis D. Tinoco: 333.7 C355a. Biblioteca del BIODOC: 639.959.728.6.

Algunas notas biológicas de la familia Geometridae (Lepidoptera) de Costa Rica / Mora-Arias, R.A. (Instituto Nacional de Biodiversidad (INBio), Apdo. 22-3100, Santo Domingo de Heredia, CR <Fax: (506)244-2548>).
IV Congreso Costarricense de Entomología, San José CR17-21 de noviembre de 1997.
San José: ASENCO, 1997. p. 35.
El estudio se lleva a cabo en las Areas de Conservación Amistad-Pacífico (ACLA-P) y el Area de Conservación Arenal. El objetivo del trabajo es obtener datos biológicos de polillas de la familia Geometridae (planta hospedante, datos de prepupa, pupa y salida de adulto), tomar fotografías de larvas y adultos y conocer la distribución de las especies. El estudio se hizo con ayuda de parataxónomos. Se recolectaron larvas y se criaron hasta la salida del adulto. Se anotaron todos los datos de sus diferentes etapas. La distribución de las especies en el país se realizó por medio de

un programa de computadora y consultando literatura. Su historia natural fue determinada por observaciones en el campo. Todos estos son resultados parciales de un estudio más amplio el cual continúa en el INBio. El período de prepupa a pupa tarda de tres a cuatro días, de pupa a adulto 15 a 31 días dependiendo de la especie. Estos períodos pueden variar en condiciones naturales. Los geométridos se distribuyen en Costa Rica desde los cero. hasta los 3.491 msm. Se estiman aproximadamente 1.200 a 1.700 especies, en nuestro territorio. En las Areas de Conservación escogidas se encontraron 14 especies características para esas áreas. La mayoría de las larvas de Geometridae son miméticas y se alimentan de las inflorescencias y hojas de plantas hospedantes como acantáceas, lauráceas, melastomatáceas y piperáceas. También de hongos y musgos. Una base de datos de hospedantes se actualiza cada mes en INBio. Se conoce a Melanoptilon chrysomela que se alimenta de Croton draco (targuá), Euphorbiaceae, Himeromima aulis que defolia completamente a Trichilia havanensis (uruca), Meliaceae. Se distinguen hasta el momento cinco especies de voladores diurnos, tres de ellos pertenecen a la subfamilia Larentiinae. Algunas especies de Geometridae son gregarias otras no lo son. Todas las especies observadas hasta el momento producen seda.
Localización: Biblioteca OET: 595.7 R435re.

Restoring hope in the clouds [Restaurando la esperanza en las nubes] / Bowen, L. (Conservation International. 1015 18TH Street NW, Suite 1000, Washington, D.C, US).
In: People & the Planet (ISSN 0968-1655), v. 5, no. 4, p. 22-23. 1996.
The largest tract of cloud forest in Central America, spanning the Talamanca mountains in Costa Rica and Panama, is under pressure from a rapidly growing population. Lisa Bowen travelled to the area to report on a project which aims to help people in the buffer zone improve their incomes and protect the forest. La Amistad Biosphere Reserve spans the Talamanca Mountains from western Panama into southern Costa Rica. Covering 2.7 million acres, much of the area is undisturbed rain forest including the largest tract of high-elevation cloud forest in Central America. La Amistad's natural riches include 10,000 higher plant species, 400 bird species, 250 reptile and amphibian species and six species of tropical cats, including the jaguar. More than a third of La Amistad's plant species are found nowhere else on earth. The communities of Cerro Punta, Panama, and San Rafael, Costa Rica are sites for a project designed to protect La Amistad's rain forest habitat while helping local people improve their standard of living. Called AMISCONDE - combining Amistad (friendship), Conservation and Development - the project is sponsored by Conservation International, Clemson University, Texas A & M University, and McDonald's Corporation. Locally, it is co-ordinated by the Fundación para el Desarrollo Sostenible in Panama and the Tropical Science Centre in Costa Rica.
Localización: Biblioteca OET: P. LC.

Estrategia de desarrollo comunitario en la zona de influencia al ACLA-RP (Area de Conservación La Amistad-República de Panamá) / Gamboa-Valladares, B.
San José: MIRENEM / SPN / ACLA, 1994.
Localización: Biblioteca del BIODOC: no. 1441.

Diagnóstico situacional: componentes analizados para el diseño e implementación de una estrategia de desarrollo comunitario en la zona de influencia ACLA-RP (Area de Conservación La amistad-República de Panamá) / Gamboa-Valladares, B.; Navarro-Zonta, S.; González, G. de M.; Quirós, S.; Gamboa, M.

San José: MIRENEM / SPN / ACLA, 1993.
Localización: Biblioteca del BIODOC: no. 1442.

Costa Rica, un paraíso natural: guía didáctica audiovisual / Brenes-Rojas, M.C.; Rojas-González, C.M.; Díaz, H, (ill.). / Instituto Centroamericano para la Educación Audiovisual, Apdo. 1721-2100, San José, CR Fax (606)253-5911.
San José: Instituto Centroamericano para la Educación Audiovisual, 1996. 104 p y vídeo cassette VHS (52 min.). ISBN: 9968-9803-0-7.
Esta guía para el docente, elaborada como parte del programa de ciencias y estudios sociales del II, III y IV ciclos de la educación diversificada de Costa Rica, se complementa con un vídeo cassette para dirigir su observación y preguntas sobre cada una de los tópicos tratados. Contiene 42 temas escogidos para aprender de manera individual o en grupo, entre ellos: Costa Rica, puente biológico. El valor de los bosques. La vida del mar. La Isla del Coco. Los manglares. Bosque tropical seco. Volcanes: fuerza de la naturaleza. Talamanca: techo del universo tropical costarricense. Otros temas estudiados son los siguientes: 1. Recomendaciones para observar el vídeo. 2. La comunidad y la naturaleza. 3. Los parques nacionales. 4. Las áreas de conservación. 5. Las reservas biológicas. 6. El ecosistema. 7. ¿Cómo funcionan los ecosistemas en los parques nacionales? 8. El modelado terrestre. 9. El origen geológico de Costa Rica y su biodiversidad. 10. Las estructuras volcánicas de Costa Rica. 11. Fundamentación legal de los parques nacionales. 12. Parque Nacional Santa Rosa: escenario histórico y natural. 13. Parque Nacional Isla del Coco: sitio frecuentado por piratas. 14. Aspectos por considerar.
Localización: Biblioteca José Figueres F.: 507 C8375c.

Fragmenta Heteroptera Neotropica: IV. Fauna costaricana II (Insecta: Heteroptera) / Arnold, K. (Postfach 11 20, D-09466 Geyer/Erzgebirge, DE <E-mail: kurt_arnold@web.de>).
In: Faunistische Abhandlungen (Dresden) (ISSN 0375-2135), v. 20, no. 12, p. 275-278. 1996.
Faunistic data of 8 species of Heteroptera (Coreidae, Pentatomidae and Rhopalidae) of Costa Rica are given. Among them, 4 species of Rhopalidae are new for the fauna of this country.
Copias: Biblioteca Personal de H. Lezama (Museo de Insectos-UCR).

Financial and economic analyses of agroforestry systems and a commercial timber plantation in the La Amistad Biosphere Reserve, Costa Rica [Análisis financiero y económico de sistemas agroforestales y una plantación comercial de madera en la Reserva de la Biosfera La Amistad, Costa Rica] / Mehta, N.G.; Leuschner, W.A. (St. James Plantation, 3523 Beaver Creek Dr, Southport, NC 28461, US).
In: Agroforestry Systems (ISSN 0167-4366), v. 37, no. 2, p. 175-185. 1997.
A possible method of protecting biosphere reserve core zones is to encourage transition and buffer zone activities which are compatible with the core and which provide sufficient returns to the human population to make entry into the core zone unnecessary. The AMISCONDE project is promoting block plantations and coffee/tree agroforestry systems to do this, but did not analyze their financial or economic feasibility. Unprofitable systems will not be adopted without subsidy and are not sustainable after a project ends. Analyses show internal rates of return exceeding 30% for coffee/tree combinations both with and without project subsidies. Coffee/tree systems have significantly higher returns than coffee without trees, reduce the risk from coffee price fluctuations, and reduce the need for chemical fertilizers. Returns from a block plantation of cypress are a small fraction of coffee and coffee/tree system returns,

but still are positive and have the advantage of requiring much smaller initial investments. The systems analyzed seem likely to be sustainable and to contribute to project conservation and development objectives.
Localización: Biblioteca OET: S5602. BINA-115. LC.

A review of Scolytodes Ferrari (Coleoptera: Scolytidae) associated with Cecropia (Cecropiaceae) in the northern Neotropics [Revisión de Scolytodes Ferrari (Coleoptera: Scolytidae) asociado con Cecropia (Cecropiaceae) en el norte neotropical] / Jordal, B.H. (University of Bergen. Institute of Zoology, Allègaten 41, N-5007 Bergen, NW).
In: Journal of Natural History (ISSN 0022-2933), v. 32, p. 31-84. 1998.
The taxonomy of Cecropia-associated Scolytodes (tribe Ctenophorini) is reviewed. Five species are described as new to science: S. borealis (Nicaragua to Mexico), S. caudatus (Costa Rica), S. hondurensis (Honduras), S. pacificus (Isla del Coco) and S. suspectus (Panama). Scolytodes acuminatus Wood and S. punctifer Wood are elevated to species status. Scolytodes obscurus (Wood) is recorded from Central America and S. ovalis (Eggers) from Venezuela and Panama for the first time. Keys to adults of all associated species are provided. New character states for Scolytodes include a five-segmented antenal funiculus in some small species and that the two most distally placed, lateral teeth of the protibiae are of socketed origin, although embedded in cuticle. A tentative phylogenetic analysis indicated that some species associated wih Cecropia leafstalks had ancestors breeding in Cecropia branches. At least seven independent adaptive lines, however, could be traced into Cecropia indicating that the last common ancestor of the species treated herein, did not breed in Cecropia. However, several clades consisting of possible sister species which are parapatrically distributed, indicated that dispersal and subsequent speciation have taken place after the hypothesised ancestors evolved breeding in leafstalks.
Localización: Biblioteca OET: S3619.

Balancing the scales: guidelines for increasing biodiversity's chances through bioregional management [Balanceando las escalas: directrices para incrementar las oportunidades de la biodiversidad a través del manejo bioregional] / Miller, K.R. (World Resources Institute, 1709 New York Ave. NW, Washington, DC 20006).
Washington D.C: World Resources Institute, 1996. 73 p. ISBN: 0-915825-85-6.
Localización: Biblioteca Conmemorativa Orton: 333.95 M648b.

The AMISCONDE Initiative: restoration, conservation, and development in the La Amistad buffer zone [La iniciativa AMISCONDE: restauración, conservación y desarrollo en la zona de amortiguamiento La Amistad] / Lacher, T.E., Jr.; Calvo-Alvarado, J.C.; Bissonette, J.A, (ed.).; Krausman, P.R, (ed.). (Clemson University. Archbold Tropical Research Center, Clemson, SC 29634-1019, US <E-mail: jucalvo@itcr.ac.cr>).
International Wildlife Management Congress, San José CR19-25 Set 1993.
In: Integrating people and wildlife for a sustainable future
Bethesda, MD: Wildlife Society, 1995. p. 440-443. ISBN: 0-933564-12-0.
The Amistad Conservation and Development Initiative (AMISCONDE) is a 5 year pilot project in sustainable development located in the buffer zone of the La Amistad Biosphere Reserve that spans the border between Costa Rica and Panama. The central theme of the project is that local communities must benefit economically from projects of conservation and environmental restoration if they are to support these efforts politically and if they are to succeed over the long term. The site selection process required the evaluation of site suitability by a team of Costa Rican

experts. Sites were evaluated based upon a suite of biophysical, socioeconomic, cultural, and institutional characteristics. Five potential sites were selected for Costa Rica, and based upon an evaluation of site characteriics by the assessment team, the San Jerónimo-Zapotal site was selected. The site was a 6,000 ha watershed located in the buffer zone of the La Amistad Biosphere Reserve near the southern border of Parque Nacional Chirripó. There were 170 families located in the area. We list the research and development objectives of the initiative and summarize the site selection process and progress to date on the implementation of the initiative in San Jerónimo-Zapotal.
Localización: Biblioteca OET: 333.9515 I61.

The La Amistad Biosphere Reserve [La Reserva de la Biosfera La Amistad] / Castro-Chamberlain, J.J.; Ramírez-Umaña, M.; Saunier, R.E.; Meganck, R.A. (Tropical Science Center, Apdo. 8-3870, 1000 San José, CR <E-mail: jjcastro@racsa.co.cr>).
In: Conservation of biodiversity and the new regional planning. Saunier, R.E.; Meganck, R.A. (eds.)
Washington, D.C: OEA / IUCN, 1995. p. 113-126. ISBN: 0-8270-3592-6.
(No abstract).
Localización: Biblioteca Conmemorativa Orton: 333.95 C755co.

La Amistad Biosphere Reserve: Costa Rica and Panama [Reserva de la Biosfera La Amistad: Costa Rica y Panamá] / Chaverri-Polini, A.; Herrera-Fernández, B.; Herrera-MacBryde, O. (Universidad Nacional. Escuela de Ciencias Ambientales; Programa ECOMA; Apdo. 86-3000, Heredia, CR).
In: Centres of plant diversity: a guide and strategy for their conservation. Vol. 3: The Americas. Davis, S.D.; Heywood, V.H.; Herrera-MacBryde, O.; Villa-Lobos, J.; Hamilton, A.C. (eds.)
Cambridge: World Wide Fund for Nature & IUCN - The World Conservation Union, 1997. p. 209-214. ISBN: 2-8317-0199-6.
Location: In south-east Costa Rica and north-west Panama in the Talamanca range, including Pacific and Caribbean slopes and highest mountain in each country. Approximately within latitudes 8°16' - 9°48'N and longitudes 82°16' - 83°52'W. Area: 6126 km² in Costa Rica in Biosphere Reserve, over 4000 km² in Panama planned for inclusion. Altitude: 0-3819 m. Vegetation: Ten life zones in altutidinal gradient from tropical humid forest to subalpine rain páramo. Includes exuberant oak forests and over 90% of Central American páramos. Flora: Very rich - ca. 10,000 vascular plant species; high endemism - ca. 30%. Includes the conservation units of both countries with most diversity and endemism. Useful plants: Species for timber, thatching, artisanal crafts; watershed protection; wilderness; refuge for many faunal species, including endangered species; genetic resources; ecotourism. Threats: Conversion of forest to subsistence farms and pasturage; logging; human-set fires; growing of marijuana; pesticide runoff; mining prospects; planned transmontane highway and trans-isthmian oil pipeline. Conservation: A World Heritage Site. In Costa Rica: 3 National Parks, 1 Protected Zone, 2 Biological Reserve, 1 Forest Reserve, 7 Amerindian Reserves, 1 Botanical Garden. In Panama: existing units planned for Biosphere Reserve core are 3 National Parks, 1 Forest Reserve, 1 Protection Forest, 1 Amerindian Reserve. Other areas bing evaluated for addition.
Localización: Biblioteca OET: S5179. Biblioteca Conmemorativa Orton: 333.953 C397.

A review of the genus Liodema Horn (Coleoptera: Tenebrionidae) with description of a new species from Costa Rica and Panama [Revisión del género Liodema Horn (Coleoptera: Tenebrionidae) con descripción de nuevas

especies de Costa Rica y Panamá] / Triplehorn, C.A. (The Ohio State University. Department of Entomology, Museum of Biological Diversity, 1315 Kinnear Road, Columbus, OH 43212-1192, US).
In: Proceedings of the Entomological Society of Washington (ISSN 0013-8797), v. 100, no. 2, p. 324-330. 1998.
The five species of the New World genus Liodema are reviewed. A new species, L. explanatum is described from Costa Rica and Panama. The following synonymy is recorded: L. quadrinotatum (Laporte and Brulle), L. kirschi Bates, L. obydense Bates, n. syn., L. fulvum Bates, L. horni Bates, n. syn., L. proximum (Chevrolat), L. tergocinctum (Chevrolat), and L. inscriptum (Chevrolat), are all synonyms of L. maculatum (Fabricius); L. cruciatum (Chevrolat), L. hamatiferum (Chevrolat), n. syn., L. ramulosum (Chevrolat), n. syn., L. zimmermani Champion, n. syn., and L. flavo-variegatum Champion, n. sym., are all synonyms of L. serricorne Bates. Liodema irradians (Chevrolat) is transferred to Platydema n. comb. and L. tenuicorne (Chevrolat) is transferred to Crypticini (Tenebrionidae), n. comb.
Localización: Biblioteca OET: S8275.

Notes on neotropical Parathesis (Myrsinaceae) [Observaciones sobre Parathesis (Myrsinaceae) neotropicales] / Ricketson, J.M.; Pipoly, J.J. III. (Missouri Botanical Garden, POB 299, St Louis, MO 63166, US <E-mail: ricketson@lehmann.mobot.org> <E-mail: jpipoly@brit.org>).
In: Novon (ISSN 1055-3177), v. 7, no. 4, p. 398-405. 1997.
Parathesis costaricensis, P. glendae, and P. longipedicellata are described and illustrated, and their phylogenetic relationships are discussed. A key is provided to separate the new species. In addition, a new combination is made for Parathesis sinuata (from Colombia), and P. amazonica Mez is lectotypified. The genus Parathesis J. D. Hooker contains 100 species distributed from northern Mexico to Panama, the Caribbean, and throughout the Andes from Venezuela to Bolivia. The genus is defined by the unique glandular papillae of the calyx and corolla lobes, and bright yellow anthers. In preparation for our treatment of the genus Parathesis for Flora Mesoamericana, three new species from Costa Rica were discovered and are described herewith. A new combination from Colombia is also made, and Parathesis amazonica is lectotypified.
Localización: Biblioteca OET: S8657. Biblioteca Luis D. Tinoco: 580N.

Coniopterygidae (Neuroptera, Planipennia) from Costa Rica and Nicaragua [Coniopterygidae (Neuroptera, Planipennia) de Costa Rica y Nicaragua] / Meinander, M. (University of Helsinski. Finnish Museum, Department of Entomology, PB 17, FIN-00014 FI).
In: Brenesia (ISSN 0304-3711), no. 43/44, p. 61-70. 1995.
Aleuropteryx clavicornis, A. rugosa, Coniopteryx (Xeroconiopteryx) falcata are described. Nes synonyms are Semidalis arnaudi Meinander, 1972 = S. tricornis Johnson, 1980; S. mexicana Meinander, 1972 = S. hidalgoana Meinander, 1975 and S. sonorama Meinander, 1975; S. randoniensis Meinander, 1982 = S. intermedia Moserrat, 1983; S. manausensis Meinander, 1980 = S. problematica Monserrat, 1985. Eight species are recorded new for Costa Rica and from Nicaragua from where there no recorded 11 pp. are listed.
Localización: Biblioteca OET: B.

Taxonomic studies in foliicolous species of the genus Porina (lichenized Ascomycotina: Trichotheliaceae) - II. The Porina epiphylla group [Estudios taxonómicos de las especies foliícolas del género Porina (líquenes Ascomycotina: Trichotheliaceae) - II. El grupo epifílico Porina] / Lücking, R.; Vêzda, A. (Universität Bayreuth. Lehrstuhl für

Pflanzensystematic, D-95447 Bayreuth, DE <E-mail: rlucking@hotmail.com>).
In: Wildenowia (ISSN 0511-9618), v. 28, p. 181-225. 1998.
The taxonomy of foliicolous representatives of the Porina epiphylla group is revised. As a result of our studies of world-wide material, a more subtle species concept within the Porina epiphylla aggregate, i.e. species with 7-septate ascospores, is given. Thallus structure, perithecial morphology and development, and ascospore shape and size proved to be most valuable for species delimitation. A key to all known foliicolous species of the Porina epiphylla group, including facultatively foliicolous taxa, is presented. Eight species and one variety are described as new to science: Porina andreana, P. atropunctata, P. guianensis, P. mazosioides, P. minutissima, P. mirabilis, P. subepiphylla, P. subnucula, and P. lucida var. australiensis. The combination Porina foliicola (Bas.: Clathroporina foliicola) is formally proposed. P. radiata is introduced as a new name for the illegitimate younger homonym P. rugosa. Porina atriceps is reinstated as an autonomous species, and P. multiseptata is reduced to synonymy with P. virescens. P. distans is a sterile taxon, which most probably belongs to one of the several species in the genus producing cylindrical isidia, but cannot be identified at present. Notes on the distribution and ecology of the species are given, and the systematics and evolution of the group is outlined.
Localización: Biblioteca OET: S4016.

Generic composition, structure and diversity of secondary forests at Amisconde, the Pacific slope of the Cordillera de Talamanca, Costa Rica / Hooftman, D.A.P. (University of Zürich. Institute for Environmental Sciences, Winterturerstrasse 190, CH-8057 Zürich, CH <E-mail: hooftman@uwinst.unizh.ch>).
In: Revista de Biología Tropical (ISSN 0034-7744), v. 46, no. 4, p. 1069-1079. 1998.
Most Costa Rican forests have been intensively studied in recent years. One exception is the transition zone from lowland wet forest to the high elevation Quercus forest belt at the pacific slopes of the Cordillera de Talamanca. An inventory of secondary forest composition, structure and diversity was done on a specific slope (1150- 2300-m elevation) in the conservation and development project Amisconde. Thirteen plots of 500 m² were evenly spread along an elevation gradient. Specimens were collected of all woody individuals (3 cm DBH), dried, placed in a herbarium of morphospecies and afterwards identified. In total 90 genera within 49 families were found. The vegetation was separated in three forest types using TWINSPAN classification. Forest types were elevation based. Elevation and forest age showed (overall) no correlation with diversity using ANOVA, with the single exception of a positive correlation of the number of genera and elevation. This was opposite to the negative correlations mostly found on elevation gradients. The main factors for this positive correlation were the level of recent disturbance and the distance to primary forest, in combination with forest age.
Localización: Biblioteca OET: R.

Historia natural y presencia de la "planta insectívora" Drosera capillaris (Droseraceae) en Costa Rica [Natural history and occurrence of the "insectivorous plant" Drosera capillaris (Droseraceae) in Costa Rica] / Gómez-Pignataro, L.D.; Gómez-Laurito, J. (Academia Nacional de Ciencias y Organización para Estudios Tropicales, Apdo. 676-2050, San Pedro de Montes de Oca, CR <E-mail: ldgomez@hortus.ots.ac.cr> <E-mail: gomez-laurito@biologia.ucr.ac.cr>).
In: Revista de Biología Tropical (ISSN 0034-7744), v. 46, no. 4, p. 1033-1037. 1998.
The family Droseraceae is reported for the first time from Costa Rica

represented by Drosera capillaris Poiret. The species grows in vernal pools of hyperhumid savannahs of the Parque Nacional Amistad, Puntarenas Province. The population was small, of some 30 individuals that reduce dipterans to empty exoskeletons in 82 hr. Glandular secretion in higher when humidity is high and light is low. To date, the nearest locality reported for this species was Mexico.
Localización: Biblioteca OET: R. S5334.

Systematics of Costa Rican Meteorus (Hymenoptera: Braconidae: Meteorinae) species lacking a dorsope [Sistemática de las especies de Meteorus costarricenses (Hymenoptera: Braconidae: Meteorinae) que no poseen "dorsope" [un hoyo en la superficie dorsal del primer tergito metasomal]] / Zitani, N.M.; Shaw, S.R.; Janzen, D.H. (University of Wyoming. Department of Renewable Resources, Laramie, WY 82071-3354, US <E-mail: ninaz@uwyo.edu> <E-mail: braconid@uwyo.edu> <E-mail: djanzen@sas.upenn.edu>).
In: Journal of Hymenoptera Research (ISSN 1070-9428), v. 7, no. 2, p. 182-208. 1998.
This study of the genus Meteorus (Hymenoptera: Braconidae: Meteorinae) treats the 19 known Costa Rican species that lack a dorsope (a pit on the dorsa surface of the first metasomal tergite). Fourteen new species all attributed to Zitani are described and illustrated: M. alejandromasisi, M. camilocamargoi, M. coffeatus, M. corniculatus, M. rogerblancoi, M. sterictae, M. uno, and M. yamijuanum. An identification key to 19 species is provided, including the previously described species: M. congregatus Muesebeck, M. dimidiatus (Cresson), M. laphygmae Viereck, M. papiliovorus Zitani, and M. rubens (Nees). Biological information, host associations, and cocoon-forming behavior are included for M. congregatus, M. rubens and the new species M. alejandromasisi, M. camilocamargoi, M. desmiae and M. sterictae. This work provides the first record of Meteorus attacking Megalopygidae and Hesperiidae including Chiomara asychis (Stoll), Pyrgus sp., Staphylus azteca (Scudder), and Staphylus sp. Other new host records include the pyralids Desmia tages (Cram.), Omiodes stigmosalis (Warr.), and Stericta albifasciata (Druce), and the sphingids Manduca sexta (L.), and Unzela japix (Cram.). Meteorus congregatus, M. dimidiatus, and M. rubens are recorded for the first time in Costa Rica.
Localización: Biblioteca OET: S4428. Biblioteca de Inventario (INBio).

Plan maestro Proyecto AMISCONDE-Costa Rica / Calvo-Alvarado, J.C.; Bolaños, R.; Cervantes, S.; González, O.; Villalobos, L. (Instituto Tecnológico de Costa Rica. Escuela de Ingeniería Forestal, Cartago, CR <E-mail: jucalvo@itcr.ac.cr>).
San José: Centro Científico Tropical, 1992. 107 p.
Constituye este documento la primera versión del Plan Maestro del Proyecto AMISCONDE-Costa Rica. Describe con detalle los objetivos, actividades, filosofía del proyecto y otros aspectos necesarios. Es una primera aproximación la cual a través de la implementación permitirá un refinamiento del Plan Maestro. Presenta unas recomendaciones y señala que las probabilidades de éxito dependen de dos grandes aspectos: De la Unidad Ejecutora, de la cooperación de las instituciones de apoyo y de la activa participación positiva de la comunidad y del Apoyo de Conservation International, de los donantes (McDonald's) y otras instituciones binacionales asociadas a este proyecto. Este informe se ha estructurado en los siguientes apartados: Antecedentes; Planeamiento del estudio; Descripción biofísica del área; Descripción socioeconómica del área; Diagnósticos biofísicos y socioeconómicos; Descripción del Plan Maestro y Presupuesto.
Localización: Biblioteca Conmemorativa Orton: 333.95097286 P699.

Revisão do gênero Potnia Stål (Homoptera, Membracidae, Membracinae, Hoplophorionini) [Revision of the genus Potnia Stål (Homoptera, Membracidae, Membracinae, Hoplophorionini)] / Creao-Duarte, A.J.; Sakakibara, A.M. (Universidade Federal da Paraíba. Departamento de Sistemática e Ecologia, 83800990 Joao Pessoa, Paraiba, BR <E-mail: creao@dse.ufpb.br> <E-mail: sakaki@bsi.com.br>).
In: Revista Brasileira de Zoologia (ISSN 0101-8175), v. 13, no. 4, p. 1001-1021. 1996.
Fifteen species of Potnia Stål, 1866 are presented with descriptions, illustrations and a key for identification. The following nomenclatural changes are introduced: P. knightae sp.n. (from Guiana), P. miracyae sp.n. (from Costa Rica), P. diringshofeni sp.n. (from Brasil), P. webbi sp.n. (from Brasil), P. turrialbensis (from Costa Rica), P. pinheiroi sp.n. (from Brasil), P. tapuruquarensis sp.n. (from Brasil), P. cornigera sp.n. (from Brasil) and P. inca sp.n. (from Peru).
Localización: Non available. Copias: Biblioteca personal de C. Godoy (INBio): R44.

A new paradigm in conservation of biodiversity endangered biological phenomena [Un nuevo paradigma en conservación del fenómeno biológico de la biodiversidad amenazada] / Brower, L.P.; Meffe, G.K, (ed.).; Carroll, C.R, (ed.). (University of Florida, Gainesville, FL, US <E-mail: rcarroll@sparrow.ecology.uga.edu>).
In: Principles of Conservation Biology. Meffe, G.K.; Carroll, C.R. (eds.) Sunderland, MA: Sinauer Associates, Inc, 1994. p. 104-109. ISBN: 0-87893-519-3.
Introduces the concept of an "endangered biological phenomenon," in which a species will likely survive, but some spectacular aspect of its life history, such as a mass annual migration, is in jeopardy of dissapearing. Once a reasonably complete inventory of the biota of a region, or significant components of it, has been achieved, a monitoring program should be established. Such a program should be designed to detect trends in biodiversity and to identify impending problems to which attention should be directed. Without such a program, society cannot know whether its efforts to preserve biodiversity are succeeding, or where and why they are failing. The relationship between area and species richness has major practical implications for the location, design, and management of parks and reserves established and maintained to preserve biodiversity. There is increasing evidence that even the largest parks and reserves are too small to maintain viable populations of those species with the largest areal requirements. Many of the national parks of the United States have already lost their largest mammal species, and the trend continues. Therefore, additional studies of the species-area relationship and its causes are essential for informed management of reserves. Meanwhile, existing knowledge of species-area relationships is being used to establish reserves, a notable example being the megareserve system of Costa Rica, which is designed to preserve about 80% of the biodiversity of the country over the long term. Each megareserve includes natural areas and areas managed for economically valuable products. Some of them remain the homes of indigenous people who continue to use the environment in their traditional ways. The largest of the Costa Rican reserves, Talamanca Biosphere Reserve, is a mosaic of more than 500,000 hectares and includes three national or international parks, a large biological reserve, five Indian reservations, and two large forest reserves. Talamanca is part of the UNESCO Man and the Biosphere (MAB) program of worldwide Biosphere Reserves. Reserves are nominated by the national MAB committee of the country concerned. The nomination is reviewed by the MAB Bureau, and if accepted, the reserve is formally designated part of the MAB network. Some Biosphere Reserves cross national boundaries and are, therefore,

international; such is the case with La Amistad International Park, within Talamanca. Biosphere Reserves serve a range of objectives which include research, monitoring, training, education, and conservation. Many Biosphere Reserves include indigenous human populations that continue to utilize the area in ways that maintain the functional integrity of the ecological systems. The "ideal" Biosphere Reserve contains an undisturbed core area surrounded by peripheral zones which permit increasing levels of human-caused disturbances. However, few existing reserves actually have this structure. The mountainous La Amistad International Park is part of the Talamanca Biosphere Reserve of southern Costa Rica and northern Panama. This Biosphere Reserve contains some od the richest biodiversity in all Central America. At least 263 species of amphibians and reptiles and 40 species of birds have been recorded in the reserve.
Localización: Biblioteca OET: 333.9516 M495p.

Costa Rica's INBio: collaborative biodiversity research agreements with the pharmaceutical industry [El INBio de Costa Rica: acuerdo de colaboración de investigación de la biodiversidad con la industria farmacéutica] / Sittenfeld-Appel, A.; Villers, R. (Instituto Nacional de Biodiversidad (INBio), Apdo. Postal 22- 3100, Santo Domingo de Heredia, CR <E-mail: sitten@racsa.co.cr> <E-mail: rcarroll@sparrow.ecology.uga.edu>).
In: Principles of Conservation Biology. Meffe, G.K.; Carroll, C.R. (eds.) Sunderland, MA: Sinauer Associates, Inc, 1994. p. 500-504. ISBN: 0-87893-519-3.
Sustainability can arise from better understanding of local or regional biodiversity resources and their value to humanity at large. These resources are becoming better appreciated by drug companies and other industries, who are beginning to pay for the rights to use natural products found in developing countries. Such moneys are being turned back into conservation of these biotic resources, thereby sustaining them in the long term.
Localización: Biblioteca OET: 333.9516 M495p. NBINA-2469.

Management of conservation units: The Costa Rican National System of Conservation Areas [Manejo de unidades de conservación: el Sistema Nacional de Áreas de Conservación de Costa Rica] / Vaughan-Dickhaut, C.; Meffe, G.K, (ed.).; Carroll, C.R, (ed.). (University of Wisconsin-Madison. Department of Wildlife Ecology, Madison, WI 53706, US <E-mail: cvaughan@facstaff.wisc.edu> <E-mail: rcarroll@sparrow.ecology.uga.edu>).
In: Principles of Conservation Biology. Meffe, G.K.; Carroll, C.R. (eds.) Sunderland, MA: Sinauer Associates, Inc, 1994. p. 395-402. ISBN: 0-87893-519-3.
National planning can contribute to successful management of conservation areas by facilitating the coordination of resource and development agencies, by encouraging participation by private landowners in conservation decision making, and by supporting decentralized, flexible regional planning. Stable, long-term funding is essential so that national planning can be implemented.
Localización: Biblioteca OET: 333.9516 M495p.

A new species of Macoubea (Apocynaceae) from Mesoamerica [Una especie nueva de Macoubea (Apocynaceae) de Mesoamérica] / Morales-Quirós, J.F. (Instituto Nacional de Biodiversidad (INBio), Apdo. 22-3100, Santo Domingo de Heredia, CR <E-mail: fmorales@inbio.ac.cr>).
In: Novon (ISSN 1055-3177), v. 9, no. 1, p. 86-88. 1999.
A new species of Macoubea from Costa Rica and Panama is described and illustrated. Its relationships with the two South American species of the genus are discussed.

Localización: Biblioteca OET: S4572. Biblioteca de Inventario (INBio).

Fourteen new species of Elaphoglossum (Elaphoglossaceae) from Mesoamerica [Catorce nuevas especies de Elaphoglossum (Elaphoglossaceae) de Mesoamérica] / Rojas-Alvarado, A.F. (Universidad de Costa Rica. Jardín Botánico Lankester, Apdo. 1031-7050, Cartago, CR <E-mail: afrojasa@hotmail.com>).
In: Brenesia (ISSN 0304-3711), no. 47-48, p. 1-16. 1997.
Fourteen new species of Elaphoglossum are described on ths paper from Mesoamerica: E. cedraliense A. Rojas, E. coto-brusense A. Rojas, E. gaboanum A. Rojas, E. hammelianum A. Rojas, E. longistipitatum A. Rojas, E. luteum A. Rojas, E. maritzae A. Rojas, E. microproductum A. Rojas, E. nanum A. Rojas, E. panamense A. Rojas, E. pseudoerinaceum A. Rojas, E. resinosum A. Rojas, E. squamocostatum A. Rojas and E. tarbacense A. Rojas. Only E. gamboanum A. Rojas and E. squamocostatum A. Rojas are present outside this region.
Localización: Biblioteca OET: B.

El género Dichotomius (Coleoptera: Scarabaeidae) en Costa Rica [The genus Dichotomius (Coleoptera: Scarabaeidae) in Costa Rica] / Kohlmann, B.; Solís-Blanco, A. (Universidad EARTH, Apdo. 4442-1000, San José, CR <E-mail: bkohlman@earth.ac.cr> <E-mail: asolis@inbio.ac.cr>).
In: Giornale Italiano di Entomologia (ISSN 0392-7296), v. 8, p. 343-382. 1997.
This paper is the result of the study of the genus Dichotomius Hope (Coleoptera: Scarabaeidae) in Costa Rica. Ten species are reported, five of them are new. The known species are: D. agenor (Harold), D. centralis (Harold), D. costaricensis (Luederwaldt), D. satanas (Harold) and D. yucatanus (Bates). The new taxa are: D. amicitiae, D. annae, D. danieli, D. favi and D. rodrigoi. D. nevermanni (Luederwaldt) is considered an incertae sedis taxon. Photographs of the dorsal aspect of all species are included, as well as line drawings of important morphological characteristics and a distribution map. A drawing of the dorsal habitus for all new species is also included. An identification key is also presented.
Localización: Biblioteca OET: S4635. Biblioteca de Inventario (INBio).

Four new species of Erythrodes from Costa Rica and Panama [Cuatro nuevas especies de Erythrodes de Costa Rica y Panamá] / Dressler, R.L. (21305 NW 86th Avenue, Micanopy, FL 32667, US <E-mail: rdressl@nersp.nerdc.ufl.edu>).
In: Orquídea (Mexico City) (ISSN 0300-3701), v. 13, p. 255-260. 1993.
Erythrodes bimentata Dressler is from Monteverde, E. epiphytica Dressler is widespread on the Atlantic slope, E. roseoalba Dressler is from the San Ramón vicinity, and E. utriculata Dressler from 700 m in the Talamanca region. Feature line-drawings and color photos of live plants.
Localización: Biblioteca OET: O.

New Boraginaceae from tropical America 1: New species of Bourreria and Tournefortia from Costa Rica and a note on the publication of Cordia collococca [Nuevas Boraginaceae de la América tropical 1: Nuevas especies de Bourreria y Tournefortia de Costa Rica y un apunte sobre la publicación de Cordia collococca] / Miller, J.S. (Missouri Botanical Garden, P.O. Box 299, St. Louis, MO 63166-0299, US).
In: Novon (ISSN 1055-3177), v. 9, no. 2, p. 230-235. 1999.
Bourreria rinconensis and Tournefortia isabellina are described as new from Costa Rica. Keys are provided to the Costa Rican species of Bourreria

and the Central American species of Tournefortia sect. Cyphocema.
Localización: Biblioteca OET: S4674. NBINA-2594.

Distribución de Zamia skinneri, un producto no maderable de los bosques de Centro América / Maiocco-Nosetto, D.C.
Turrialba: CATIE, 1998. 85 p.
Tesis, Mag. Sc, Centro Agronómico Tropical de Investigación y Enseñanza, Turrialba (Costa Rica).
El Centro Agronómico Tropical de Investigación y Enseñanza (CATIE) y la Unión Mundial para la Naturaleza (UICN) establecieron en 1989 el Proyecto: "Conservación para el Desarrollo Sostenible en Centro América", denominado "OLAFO", implementando en Costa Rica un Area Demostrativa en la región de baja Talamanca. Durante el primer año se realizaron investigaciones etnobotánicas, en donde se identificaron 120 productos no maderables del bosque. Una de estas plantas es Zamia skinneri Warszewicz ex A. Dietrich, perteneciente a la familia Zamiaceae y la cual está inscrita en el Apéndice II de la Convención sobre el Comercio Internacional de Especies Amenazadas de Fauna y Flora Silvestre (CITES). La especie es originaria de Costa Rica, Panamá y Nicaragua y posee valor económico como producto ornamental, tanto en el mercado nacional como internacional. El estudio se realizó en los tres países mencionados y con el objetivo de caracterizar la distribución de las poblaciones naturales de la planta y sus requerimientos ambientales, se relevaron 13 zonas. Se implementaron 22 transectos para analizar los gradientes altitudinales y conocer el patrón espacial de la especie. Tomando como base éstos transectos, se aplicó el método de muestreo adaptativo. Las variables que inciden en la distribución y densidad de individuos de Zamia skinneri son, la luz, la temperatura, altitud, posición topográfica y la latitud. Asimismo las zonas altas del relieve como - parte superior de una fila, parte superior de un lomo o fila secundaria - presentan mayor cantidad de individuos por unidad de área que las laderas suaves (con pendientes menores a 30 por ciento) y llanos. Se diferenciaron dos grupos de zonas, el primero con niveles altitudinales bajos - desde 25 hasta 300 msnm - compuesto por San Rafael de Bordón y Corina en Talamanca, Refugio Nacional de Fauna Silvestre Barra del Colorado y Estación Biológica La Selva en Costa Rica; Parque Internacional La Amistad Panajungla en Panamá presenta una densidad estimada de 336 plantas por hectárea y distribución agregada. El segundo grupo con niveles altitudinales altos - desde 450 msnm hasta 950 msnm - compuesto por Area de Conservación Guanacaste y las zonas Cañón Mena, Orosi, Estación Biológica Pitilla; Finca Cote Arenal, Reserva Pocosol-Monteverde perteneciente a Costa Rica presentan una densidad estimada de 82 plantas por hectárea y distribución aleatoria.
Localización: Biblioteca OET: Tesis 368. Biblioteca Conmemorativa Orton: Thesis M227.

Tropical reserve design and biodiversity sampling: a physiographic approach for La Amistad Biosphere Reserve, Costa Rica / Rich, P.M.; Saving, S.C.; Sisk, T.D.; Sparrow, H.R.; Weiss, S.B. (The University of Kansas. Kansas Applied Remot Sensing Program, 2291 Irving Hill Drive, Campus West, Lawrence, KS 66045-2969, US <E-mail: prich@oz.ukans.edu>).
The Association for Tropical Biology & The Organization for Tropical Studies Annual Meeting. Abstracts, San Juan PRJun 1-4, 1993.
San Juan, PR: ATB/OTS, 1993. Addendum.
Integration of new and existing data from tropical reserves is urgently needed for improved conservation and research efforts. A cooperative project between the Center for Conservation Biology and Stanford University, the University of Kansas, and Centro para la Biología de la Conservación, Costa Rica, focuses on the development of GIS databases for scientific and management purposes in la Amistad Biosphere Reserve, on of

the largest, least developed regions of Mesoamerica. Initial efforts involve the physiographic inventory of two components of La Amistad: Las Tablas Protected Zone on the Pacific slope of the Talamanca Mountains, and Hitoy-Cerere Biological Reserve on the Atlantic slope. Basic coverages were constructed for elevation, slope, aspect, watercourses, land use, life zones (Holdridge classification), site locations for biological sampling, and potential solar radiation flux. Current work involves integration of results from ecological studies and ongoing biodiversity monitoring programs. Building on these coverages, a physiographic inventory is being conducted to delineate watersheds, classify and determine the extent of various habitat types, and to develop a topoclimatic model that relates habitat diversity to species diversity. Ultimate goals are to identify unique and threatened habitats, improve the focus and efficiency of field research, and investigate biophysical limits to species distribution.
Localización: Biblioteca OET.

Biodiversity conservation in Mesoamerica [Conservación de la biodiversidad en Mesoamérica] / Boza-Loría, M.A.; Hatch, L.U, (ed.).; Swisher, M.E, (ed.). (The Leatherback Trust Fideicomiso Baulas, Ap. 11046, 1000 San José, CR <E-mail: ecoamericas@amnet.co.cr>).
In: Managed Ecosystems: The Mesoamerican Experience. Hatch, L.U.; Swisher, M.E. (eds.)
New York: Oxford University Press, 1999. p. 51-60. ISBN: 0-19-510-260-6.
This chapter refers to the present problems of the protected areas that preserve a high percentage of the biodiversity in Mesoamerica. A book about possible solutions to many of these problems has been published in Spanish with a summary in English: Biodiversidad y Desarrollo en Mesoamérica (San José, Costa Rica: Proyecto Paseo Pantera, M.A. Boza, 1994, 240 pp.). This publication can be acquired by writing to Dr. Archie Carr, Regional Coordinator, Wildlife Conservation Society, 4424 NW 13th Street, Suite A-2, Gainesville, FL 32609.
Localización: Biblioteca OET: S4743.

The AMISCONDE Initiative: restoration, conservation, and development in the La Amistad buffer zone [La iniciativa AMISCONDE: restauración, conservacion y desarrollo en la zona de amortiguamiento La Amistad] / Lacher, T.E., Jr.; Calvo-Alvarado, J.C.; Vega, A, (ed.). (Clemson University. Archbold Tropical Research Center, Clemson, SC 29634-1019, US <E-mail: jucalvo@itcr.ac.cr>).
Memorias de una Conferencia Regional auspiciada por el Proyecto Paseo Pantera, Heredia CR17-20 Set. 1993.
In: Corredores Conservacionistas en la Región Centroamericana Gainesville, FL: Tropical Research and Development, Inc, 1994. p. 315-322.
The AMISCONDE Initiative is a five-year pilot project in sustainable development located in the buffer zone of the La Amistad Biosphere Reserve, which spans the border between Costa Rica and Panama. The central theme of the project is that local communities must benefit economically from projects of conservation and environmental restoration if they are to support these efforts politically and if the efforts are to succeed over the long term. The site selection process required the evaluation of site suitability by a team of Costa Rican experts. Sites were evaluated based upon a suite of biophysical, socioeconomic, cultural, and institutional characteristics. Five potential sites were selected for Costa Rica. Based upon an evaluation of site characteristics by the assessment team, the San Jerónimo-Zapotal site was selected. This site is a 6,000 ha watershed located in the buffer zone of the La Amistad Biosphere Reserve near the southern border of Parque Nacional Chimpó. There are 170 families located in the area. There are several research and development objectives in the

initiative: (1) cattle removal and stock/pasture improvement; (2) forest restoration and reforestation with native species; (3) introduction of suitable crops with market potential; (4) lending, subsidies, and other incentives to facilitate community involvement; (5) community infrastructure and organizational development; (6) scholarships for education and training opportunities; and (7) scientific research on forest restoration/regeneration, faunal recovery, and agricultural production. We will summarize the site selection process and progress to date on the implementation of the initiative in San Jerónimo-Zapotal.
Localización: Biblioteca del Programa de Conservación para el Desarrollo del INBio: PCD399.

A new species and a new record for the genus Xerula (Agaricales) from Costa Rica [Una especie nueva y un nuevo registro para el género Xerula (Agaricales) de Costa Rica] / Halling, R.E.; Mueller, G.M. (New York Botanical Garden. Institute of Systematic Botany, Bronx, NY 10458, US <E-mail: rhalling@nybg.org> <E-mail: gmueller@fmnh.org>).
In: Mycotaxon (ISSN 0093-4666), v. 71, p. 105-110. 1999.
Xerula hispida sp. nov. is described from Quercus-dominated forests of Costa Rica. It has been found in a number of sites throughout the country. The exact distribution outside of Costa Rica is unknown, but it is anticipated that it occurs in Quercus-dominated forests in other southern Central American countries. Xerula steffenii has also been collected in these forests, and a description of it is provided here. This is the first report of this latter taxon from Central America.
Localización: Biblioteca OET: S4869.

Lista de las plantas de los bosques nubosos subalpinos de la Cordillera de Talamanca en Costa Rica [A list of the subtropical alpine cloud forests of the Cordillera de Talamanca in Costa Rica] / Kappelle, M.; van Omme, W.L. (Utrecht University. Copernicus Institute for Sustainable Development and Innovation, Department of Science, Technology and Society, Padualaan 14, 3584 CH Utrecht, NL <E-mail: m.kappelle@chem.uu.nl>).
In: Brenesia (ISSN 0304-3711), no. 47-48, p. 55-71. 1997.
This paper presents a checklist of the vascular plant species found in the tropical subalpine cloud forests of the Costa Rican Cordillera de Talamanca. A total of 195 species in 74 families have been identified. The most diverse families are Asteraceae (25 spp.), Ericaceae (10), Rosaceae (10), Lomariopsidaceae (8), Polypodiaceae (7) and Lycopodiaceae (6), while the most species rich genera are Elaphoglossum (8 spp.), Polypodium (5), Chusquea (4), Hypericum (4) and Lycopodium (4). Woody plants comprise 50.2 %, whereas herbs and ferns make up 27.7 % and 22.1 % of the flora. respectively. Only 41 tree species were found (2 1.0 %).
Localización: Biblioteca OET: S4962.

Assessing and monitoring carbon offset projects: the Costa Rican case [Evaluación y proyectos de compensación de almacenamiento de carbono: el caso costarricense] / Trines, E.P. (Societé Generale de Surveillance (SGS), Mill Street, Oxford OX2 0JX, GB).
In: Commonwealth Forestry Review (ISSN 0010-3381), v. 77, no. 3, p. 214-218, 242. 1998.
Projects wishing to generate Emission Reduction Units (ERUs) have to demonstrate carbon achievements by providing information on the size of the project's carbon pools and the changes to these pools. This paper outlines how the Protected Areas Project (PAP) in Costa Rica deals with this issue. The PAP covers 27 of the national parks and biological reserves and aims to protect the area from land use and further degradation by buying the land, transferring the ownership to the state,

and actively protecting the entire area from encroachment and fire. The carbon achievements of the project are quantified using various assumptions for the required parameters. The scientific methodologies underlying these assumptions were assessed in the certification process conducted by SGS (Societe Generale de Surveillance), and values of the main parameters were verified. Specific emphasis was placed on the project's stratification using ecotypes, biomass estimates, determination of land cover, and deforestation rates. The outcome of the assessment overall was positive but some corrective action requests were raised to improve the availability and quality of the data sets used. This was reported to four independent peer reviewers who scrutinised the assessors' work and the report. After addressing the concerns articulated by the reviewers, SGS' professional judgement was approved.
Localización: Biblioteca OET: NBINA-636.

Talamanca-La Amistad: A natural bond between two countries [Talamanca-La Amistad: Un vínculo natural entre dos países] / Escobar-González, F.
In: UNESCO Courier (ISSN 0041-5278), no. 4, p. 40-42. 1996.
Bestriding Costa Rica and Panama, the Talamanca-La Amistad Cordillera is a patchwork of natural parks and reserves covering over 800,000 hectares. The region's natural wonders are described. Features the Talamanca-La Amistad Cordillera of Costa Rica and Panama. Legends; Geologic history; Climate; Flora and Fauna; Paramo Ecology; Quetzal; Archeological remains.
Localización: Biblioteca OET: S7795.

A new euliine genus from Costa Rica and Venezuela (Lepidoptera: Tortricidae) [Un nuevo género de euliine de Costa Rica y Venezuela (Lepidoptera: Tortricidae)] / Brown, J.W. (National Museum of Natural History. USDA / ARS, PSI, Systematic Entomology Laboratory, MRC-168, Washington, DC 20560, US <E-mail: jbrown@sel.barc.usda.gov>).
In: Journal of the New York Entomological Society (ISSN 0028-7199), v. 106, no. 4, p. 177-184. 1998.
Eubetia, new genus, is described and illustrated from Central and South America. The new genus includes two species: E. bigaulae, new species, (type species) from Venezuela, and E. boop, new species, from Costa Rica. Adults are superficially most similar to Anopina Obraztsov and Odonthalitus Razowski; male genitalia are most similar to Anopinella Powell. The male of E. bigaulae possesses a preponderance of putative secondary sexual characters, including the typical euliine foreleg hairpencil, a swollen area near the base of the forewing costa, a dense patch of elongate androconial scales on the lower surface of die forewing, modified scales in the anal and costal regions of the hindwing, and a band of specialized scales at the terminal edge of abdominal segment IX. In addition, the male of this species has an unusual row of dense, ascending scales on the lower frons, and forewing veins M-3 and CuA(1) are stalked; the latter two features are found in no other Euliini.
Localización: Biblioteca OET: S6324. NBINA-2691.

Dimorphopalpa, a new genus of tortricid moths from Central and South America (Lepidoptera: Tortricidae: Euliini) [Dimorphopalpa, un nuevo género de polillas tortrícidas de Centro y Suramérica (Lepidoptera: Tortricidae: Euliini)] / Brown, J.W. (National Museum of Natural History. USDA / ARS, PSI, Systematic Entomology Laboratory, MRC-168, Washington, DC 20560, US <E-mail: jbrown@sel.barc.usda.gov>).
In: The Pan-Pacific Entomologist (ISSN 0031-0603), v. 75, no. 2, p. 82-93. 1999.
Dimorphopalpa, new genus, is described from Central and South America. Five species are recognized: D. albopunctana, new species, from Costa Rica

and Venezuela; D. striatana, n. sp., from Costa Rica and Venezuela; D. striatanoides, n. sp., from Ecuador and Colombia; D. teutoniana, n. sp., from Brazil (type species): and D. xestochalca (Meyrick), new comb., from Colombia. Putative synapomorphies for species of the new genus include the following: 1) sexually dimorphic labial palpi; those of the male are moderate in length while those of the female are exceedingly elongate: 2) male genitalia with a pair of unique, sclerotized, ventrally projecting extensions of the tegumen between the base of the uncus and base of the gnathos; and 3) short, rounded valvae. Dimorphopalpa appears to be most closely related to Uncicida Razowski, with which it shares similar processes from the gnathos and a pair of lateral, rounded structures distally on the caulis of the acdeagus that represent the point of attachment to the juxta.
Localización: Biblioteca OET: S6325.

An integrated regional systems model of rural family and community conditions and land use decisions in the La Amistad Biosphere Reserve buffer zone in Costa Rica and Panama [Un modelo de sistemas regionales integrados de la familia rural, condiciones comunitarias y decisiones sobre el uso de la tierra en la zona de amortiguamiento de la Reserva de la Biosfera La Amistad en Costa Rica y Panamá] / Duffy, S.B. (Texas A&M University. Department of Wildlife and Fisheries Sciences, College Station, TX 77843-2258, US <E-mail: duffyab@aol.com>).
College Station, TX: The Texas A&M University, 1999. 330 p.
Dissertation, Ph.D, The Texas A&M University, College Station, TX (USA).
The purpose of this study was to develop, evaluate, and use an integrated regional systems model capable of simulating rural family and community conditions and land use decisions in the La Amistad Biosphere Reserve (LABR) buffer zone in Costa Rica and Panama. The study comprised 53 regional, community, and farm-level participants and used a combination of qualitative and quantitative research methods, including, document review, individual in-depth interviews, content analysis, and frequencies. A set of 80 key conditions, the distribution of land among six land-use classifications along a conservation-development continuum, a set of 104 land use decision variables and subvariables, including those most influential in farmers' decisions to allocate land to particular uses along the continuum, and a set of seven linkages among the variables and subvariables were identified. These data were used in the preliminary deterministic multivariate integrated systems model that simulated 10 years of land use-decisions and resultant shifts in hectares among six land-use classifications of an average zone farmer. The relative sensitivity of model output to changes in the model was evaluated with a sensitivity analysis of selected variables using the Panamanian scenario. The model was insensitive to changes in most variables and most sensitive to changes in the variables lumber price, coffee price, interest rates, and preference. The ability of the model to predict shifts in land use among land use classifications by country was determined through use with a factorial experimental design. Combinations of variables had effects through the timing and amount of financial resources available to and certain management strategies had varying impacts on land use. Buffer zone integrated conservation and development project management by study data were also explored. This study insights into the infrequently examined and little understood land use decision-making process in buffer zones by identifying forces, underlying causes, and interactions among them that influenced land use decisions and their different environmental impacts. The model needs to he refined, but its process and results are a foundation for future refinement that has the potential to improve management for the maintenance of biodiversity.
Localización: Non available.

Additions to the hepatic flora of Costa Rica II [Adición a la flora de hepáticas de Costa Rica II] / Dauphin-López, G.; Gradstein, S.R.; Bernecker-Lücking, A.; Morales-Zürcher, M.I. (Universidad de Costa Rica. Jardín Botánico Lankester, Apdo. 1031-7050, Cartago, CR <E-mail: gregoriodauphin@hotmail.com> <E-mail: sgradst@gwdg.de> <E-mail: andrea.bernecker@biologie.uni-ulm.de> <E-mail: aberneck@biologia.ucr.ac.cr><E-mail: aberneck@cariari.ucr.ac.cr> <E-mail: mimorale@biologia.ucr.ac.cr>).
In: Lindbergia (ISSN 0105-0761), v. 23, no. 2, p. 74-80. 1998.
Recent collections and research on Hepaticae in Costa Rica yielded 37 new species records for this country. These include the family Allisoniaceae and the genera Calycularia, Cylindrocolea, Luteolejeunea, Micropterygium, Mytilopsis, Neesioscyphus, Stenorrhipis and Thysananthus new to Costa Rica. Colura verdoornii Herzog & Jove-Ast is new to tropical america. Twenty additional species are reported as new for Central America. A summary of taxa reported for Costa Rica includes 33 families, 125 genera and 537 species, i.e. about 43% of the species known from tropical America. One new combination is proposed Oryzolejeunea saccatiloba (Steph.) Gradst.
Localización: Biblioteca OET: S8044. LC. Biblioteca Museo Nacional: QK533/L5.

Katydids of Costa Rica. Volume 1: Systematics and bioacoustics of the cone-head katydids (Orthoptera: Tettigoniidae: Conocephalinae sensu lato) [Chapulines de Costa Rica. Volumen 1: Sistemática y bioacústica de los chapulines cabeza de cono (Orthoptera: Tettigoniidae: Conocephalinae sensu lato)] / Naskrecki, P. (Harvard University. Department of Organismic & Evolutionary Biology, Museum of Comparative Zoology, Cambridge, MA 02138-2902, US <E-mail: p.naskrecki@conservation.org>).
Philadelphia, PA: The Orthopterists' Society, 2000. 163 p. ISBN: 1-929014-01-5.
Katydids (Orthoptera: Tettigoniidae) are some of the most conspicuous and abundant members of the Costa Rican fauna. Yet their biology and systematics still remain virtually unknown. This work, covering all Costa Rican taxa of the subfamily Conocephalinae s.l. (Conocephalinae + Agraeciinae + Copiphorinae), initiates a series of mnographic treatments of the Tettigoniidae of this country. Twenty genera and 52 species are described or redescribed. Four new genera and 21 species are described. The genera are: Lipotactomimus gen.n., Metacaputus gen.n., Pluviasilva gen.n., and Podacanthophorus gen.n. The new species are Conocephalus magdalenae sp.n., Lipotactomimus rowelli sp.n., Copiphora hastata sp.n., C. ottei sp.n., Metacaputus brenesi sp.n., Erioloides longinoi sp.n., E. acutidentis sp.n., E. sikesi sp.n., E. latiscobinus sp.n., E. duplidentis sp.n., Podacanthophorus alas sp.n., P. vargasi sp.n., P. maylinae sp.n., P. nelciae sp.n., Subria sylvestris sp.n., S. crassicerca sp.n., and S. scutellaris sp.n. One new subspecies (Copiphora brevicauda costaricensis ssp.n.) is also described. Sixteen species and 1 subspecies appear to be endemic to Costa Rica, but is is likely that they also occur in Nicaragua and Panama. Pictorial and tabular keys are provided for all genera and species of Costa Rica Conocephalinae s.l. and all species are fully illustrated. Costa Rican distribution maps are provided for all species. Sound data are provided for 25 species. Males of the genus Copiphora produce both airborne calls and substrate tremulations, while males of Lirometopum coronatum supplement their tremulations with drumming of their hind feet. Included with this publication is a CD-ROM containing additional color illustrations of species treated in the book, as well as the original sound recordings used to produce the oscillograms.
Localización: Biblioteca OET: 595.72 N254k LS.

Revision of the genus Horstiella (Acari: Acaridae): mites associated with neotropical Epicharis bees (Hymenoptera: Apidae) [Revisión del género Horstiella (Acari: Acaridae): ácaros asociados con abejas Epicharis neotropicales (Hymenoptera: Apidae)] / Ochoa-Pérez, R.; O'Connor, B.M. (U.S. Department of Agriculture / Agriculture Research Service. Systematic Entomology Laboratory, BARC-West, Beltsville, MD 20705-2350, US <E-mail: rochoa@sel.barc.usda.gov> <E-mail: bmoc@umich.edu>).
In: Annals of the Entomological Society of America (ISSN 0713-8746), v. 93, no. 4, p. 713-737. 2000.
The genus Horstiella is revised; one nominal species (H. armata Turk) and six new species, H. concentrica, H. megamyzidos, H. mourei, H. quadrata, H. snellingi, and H. variabilis, are described and illustrated. The species are associated with 14 species of bees of the genus Epicharis from the neotropical region, ranging from central Mexico through Brazil. Mite species are not restricted to single bee species, and two mite species may occur on the same host individual. The genera Horstia and Medeus are hypothesized to form the sister group of Horstiella. Phylogenetic analysis produced a single cladogram resolved at the species level. H. mourei and the species pairs H. armat-quadrata, H. concentrica-megamyzidos, and H. snellingi-variabilis are each associated with species in one or two subgenera of Epicharis. A key to the species of Horstiella is provided.
Localización: Biblioteca OET: S6959. NBINA-1037.

Revision of the Neotropical dung beetle genus Sulcophanaeus (Coleoptera: Scarabaeidae: Scarabaeinae) [Revisión de los abejones estercoleros del género Sulcophanaeus (Coleoptera: Scarabaeidae: Scarabaeinae)] / Edmonds, W.D. (P.O. Box 426, Marfa, TX 79843, US <E-mail: wdedmonds@csupomona.edu>).
In: Folia Heyrovskyana (ISSN 1210-4108), Suppl. 6, p. 1-60. 2000.
This paper reviews the five species groups of 14 constituent species of the Neotropical dung beetle genus Sulcophanaeus. Sulcophanaeus Olsoufieff, 1924 is a new junior subjetive synonym of Eucopricus Gistel, 1857 but is the valid name because of the latter's status as a nomen oblitum. Each species- group treatment includes group and species diagnoses and a key to constituent species. A short treatment of the genus includes a key to species groups. Lectotypes are designated for Sulcophanaeus leander (Waterhouse, 1810, S. imperator (Chevrolat, 1844), S. actaeon (Erickson, 1847) and S. columbi (MacLeay, 1819), as well as a neotype for S. menelas (Laporte, 1840). S. cupricollis (Nevinson, 1891) is a junior subjective synonym of S. noctis (Bates, 1887).
Localización: Biblioteca OET: S9128. NBINA-2100. Biblioteca de Inventario (INBio).

Solanum section Petota in Costa Rica: Taxonomy and genetic resources / Spooner, D.M.; Hoekstra, R.; Vílchez-Alvarado, B. (University of Wisconsin. Department of Horticulture, USDA ARS, 1575 Linden Dr, Madison, WI 53706, US <E-mail: dspooner@facstaff.wisc.edu> <E-mail: bosques@sloth.ots.ac.cr> <E-mail: bvilchez@itcr.ac.cr>).
In: American Journal of Potato Research (ISSN 0003-0589), v. 78, no. 2, p. 91-98. 2001.
Prior to 1996, worldwide holdings of germplasm of wild potatoes from Costa Rica amounted to just two collections; this country therefore formed a priority for collecting. We mapped all localities of wild potatoes from herbarium specimen data from Costa Rica and collected throughout the country. We made 13 collections, 10 of these with botanical seeds. These collections considerably extend the numbers of accessions and geographic range of the germplasm available from Costa Rica. The taxonomic identity of the species of wild potatoes (Solanum sect. Petota) in Costa Rica was

previously unresolved. Our fieldwork supports the concept that Costa Rican wild potatoes belong to a single species, S. longiconicum.
Localización: Biblioteca OET: S8021.

New species of Chrysopinae (Neuroptera: Chrysopidae) from Costa Rica, with selected taxonomic notes and a neotype designation [Nuevas especies de Chrysopinae (Neuroptera: Chrysopidae) de Costa Rica, con notas taxonómicas seleccionadas y designación de un neotipo] / Penny, N.D. (California Academy of Sciences. Department of Entomology, San Francisco, CA 94118, US <E-mail: npenny@calacademy.org>).
In: Entomological News (ISSN 0013-872X), v. 112, no. 1, p. 1-14. 2001.
Three new species are described: Chrysopodes (Neosuarius) crassipennis from 3 km SE of Río Naranjo, Guanacaste Province, Costa Rica; Leucochrysa (Nodita) amistadensis from Parque Internacional La Amistad, Puntarenas Province, Costa Rica; and Leucochrysa (Nodita) ratcliffei from Pandora, Limón Province, Costa Rica. The new name Leucochrysa (Leucochrysa) adamsi is proposed for the junior secondary homonym Leucochrysa navasi Banks, 1941 [nec. Leucochrysa navasi (Kimmins, 1940)]. A neotype is designated for a species of Costa Rican Chrysopinae - Leucochrysa (Nodita) indiga. Redescriptions are presented for Leucochrysa (Nodita) indiga and Leucochrysa (Nodita) maculata.
Localización: Biblioteca Luis D. Tinoco: 590E.

Phaseolus talamancensis, a new wild bean species (Leguminosae, Phaseolinae) from montane forests of eastern Costa Rica [Phaseolus talamancensis, una nueva especie de frijol silvestre (Leguminosae, Phaseolinae) de los bosques montanos del este de Costa Rica] / Torres-González, A.M.; Toro-Chica, O.; Debouck, D.G. (Centro Internacional de Agricultura Tropical (CIAT). Unidad de Recursos Genéticos, Apartado Aéreo 6713, Cali, CO <E-mail: d.debouck@cgiar.org>).
In: Novon (ISSN 1055-3177), v. 11, no. 2, p. 280-286. 2001.
A new species of Phaseolus (Fabaceae, Phaseolinae) has been found in the montane forests of the Cordillera de Talamanca in eastern Costa Rica, where it appears endemic. Distinctive traits include: radicant roots, purplish red internodes, veins of leaflets, primary bracts, inner face of standard, and wings. Differences with related taxa of Costa Rica and other parts of Central America are discussed, namely the smaller and rounded primary bracts as compared to P. macrolepis, and the radicant fibrous root system as compared to P. xanthotrichus.
Localización: Biblioteca OET: S8651. Biblioteca Museo Nacional: QK96 N69. Biblioteca de Inventario (INBio).

Rubiacearum Americanarum magna hama pars IV: New taxa and combinations in Elaeagia and Warszewiczia (Rondeletieae) from Mexico, Central America, and Colombia [Rubiacearum Americanarum magna hama pars IV: Nuevo taxa y combinaciones en Elaeagia y Warszewiczia (Rondeletieae) de Mexico, Centroamérica y Colombia] / Taylor, C.M. (Missouri Botanical Gardens, POB 299, St Louis, MO 63166 US <E-mail: charlotte.taylor@mobot.org>).
In: Novon (ISSN 1055-3177), v. 11, no. 2, p. 274-279. 2001.
The new species Elaeagia chiriquina of western Panama and E. glossostipula of western Panama and adjacent eastern Costa Rica, described and illustrated here, have been confused with several species of Elaeagia, but can be distinguished by details of the stipules, calf, and corolla. Elaeagia uxpanapensis Lorence of Oaxaca, Mexico, is here transferred to Warszewiczia based on details of its flower and fruit morphology. This species is also represented by populations disjunct in Costa Rica and northwestern Colombia; these southern populations differ in their larger fruits, and are here separated as W. uxpanapensis subsp. meridionalis.

Localización: Biblioteca OET: S8249. Biblioteca Museo Nacional: QK96 N69.

Systematics of Anopina Obraztsov (Lepidoptera: Tortricidae: Euliini) [Sistemática de Anopina Obraztsov (Lepidoptera: Tortricidae: Euliini)] / Brown, J.W.; Powell, J.A. (National Museum of Natural History. USDA / ARS, Psi, Systematic Entomology Laboratory, MRC-168, Washington, DC 20560, US <E-mail: jbrown@sel.barc.usda.gov> <E-mail: powellj@nature.berkeley.edu>). Berkeley, CA: University of California, 2000. 128 p. (University of California Publications in Entomology; v. 120).
ISBN: 0-520-09835-8.
The New World genus Anopina Obraztsov, 1962, is revised. The genus ranges from southern Canada to Costa Rica, with the greatest species richness in the higher elevations of Mexico. Sixty-five species are treated, of which 49 are described as new. New species are the following: A. hermana, A. griseana, A. albominima, A. albomaculana, A. circumtila, A. glossana, A. internacionana, A. pinana, A. dentata, A. minas, A. yolox, A. pseudotilia, A. asuturana, A. chipinquensis, A. quadritiliana, A. pseudominas, A. bicolor, A. salvadorana, A. macrospinana, A. apicalis, A. chelatana, A. guatemalana, A. manantlana, A. macartyana, A. iturbidensis, A. yecorana, A. wellingi, A. transtiliana, A. bonagotoides, A. bloomfieldana, A. soltera, A. perplexa, A. durangoensis, A. metlec, A. meredithi, A. bifurcatana, A. potosiensis, A. impotana, A. chiricahuae, A. rusiasana, A. unicana, A. phaeopina, A. volcana, A. revolcaderos, A. condata, A. chemsaki, A. wrighti, A. sacculapinana, and A. gnathodentana. A hypothesis of phylogenetic relationships of the species is provided, a classification is proposed, and a key is given to species groups based primarily on features of the male genitalia. We recognize 14 monophyletic species groups: (A) Triangulana Group (13 species); (B) Hilasma Group (2 species); (C) Anotera Group (9 species); (D) Parasema Group (4 species); (E) Macrospinana Group (2 species); (F) Chelatana Group (4 species); (G) Incana Group (7 species); (H) Bloomfieldana Group (I species) ; (1) Confusa Group (4 species); (J) Meredithi Group (2 species); (K) Undata Group (1 species); (L) Potosiensis Group (3 species); (M) Silvertonana Group (7 species); and (N) Chemsaki Group (3 species). Three species are unplaced. Male and female genitalia are illustrated for each species, where known; 22 species are represented by a single sex (I from females only and 21 from males only). Larvae of Anopina are suspected to be leaf-litter feeders. Larvae of 8 species are known; descriptions and a key are provided for these.
Localización: Biblioteca OET: U.

Las especies costarricenses del género Panopsis (Proteaceae) / Cascante-Marín, A.; Gómez-Laurito, J. (Museo Nacional de Costa Rica. Departamento de Historia Natural, Apdo 749-1000, San José, CR <E-mail: cascante@science.uva.nl> <E-mail: gomez-laurito@biologia.ucr.ac.cr>). In: Brenesia (ISSN 0304-3711), no. 53, p. 17-27. 2000.
The species of Panopsis (Proteaceae) from Costa Rica were examined. A dichotomous key and species descriptions are provided to classify them. The name of P. costaricensis Standl. is revalidated over P. suaveolens (Klotzsch & H. Karst.) Pittier. The later name has been erroneously used for the Costarican specimens. Two species constitute new records for the country: Panopsis cinnamomea Pittier from the Caribbean slope of the Cordillera de Talamanca and P. mucronata Cuatrec. from the central and south area of the Pacific coast.
Localización: Biblioteca OET: B.

The Ichneumonidae of Costa Rica. 2: Introduction and keys to species of

the smaller subfamilies, Anomalinae, Ctenopelmatinae, Diplazontinae, Lycorininae, Phrudinae, Tryphoninae (excluding Netelia) and Xoridinae, with an appendix on the Rhyssinae [Los Ichneumonidae de Costa Rica. 2: Introducción y claves para las para las especies de las subfamilias menores Anomalinae, Ctenopelmatinae, Diplazontinae, Lycorininae, Phrudinae, Tryphoninae (excluyendo Netelia) y Xoridinae, con un apéndice sobre los Rhyssinae] / Gauld, I.D.; Wahl, D.B.; Bradshaw, K.; Hanson-Snortum, P.; Ward, S. (British Museum (Natural History). Department of Entomology, London SW7 5BD, GB <E-mail: idg@mhm.ac.uk>).
In: Memoirs of the American Entomological Institute (ISSN 0065-8162), v. 57, p. 1-485. 1997.ISBN: 1-887988-01-7.
Illustrated keys are provided for identification of 202 Costa Rican species of Ichneumonidae in the subfamilies Anomalonianae, Ctenopelmatinae, Diplazontinae, Lycorininae, Phrudinae, Tryphoninae (excluding Netelia), Xoridinae and Rhyssinae.
Localización: Museo de Insectos (UCR).

The Ichneumonidae of Costa Rica. 3: Introduction and keys to species of the subfamilies Brachycyrtinae, Cremastinae, Labeninae, and Oxytorinae, and with an appendix on the Anomaloninae [Los Ichneumonidae de Costa Rica. 3: Introducción y claves para las especies de las subfamilias Brachycyrtinae, Cremastinae, Labeninae y Oxytorinae, y con un apéndice para los Anomaloninae] / Gauld, I.D.; Ward, S.; Mallet, V. (The Natural History Museum. Department of Entomology, London SW7 5BD, GB <E-mail: idg@mhm.ac.uk>).
In: Memoirs of the American Entomological Institute (ISSN 0065-8162), v. 63, p. 1-453. 2000.ISBN: 1-887988-07-6.
Perhaps the only tropical country where representative collections of Hymenoptera have been amassed to date is Costa Rica. Intensive biological inventory has revealed the presence in Costa Rica of 198 species of the ichneumonid subfamilies Brachycyrtinae, Cremastinae, Labeninae and Oxytorinae. Illustrated keys are provided here to enable them to be identified by the non-specialist. Of this fauna, 161 species are described as new, two are thought to be new, but have not been named pending discovery of more material, and the remainder, which have previously been described, are redescribed in a standardised format. An appendix provides a supplement to the treatment of the Anomaloninae given in volume 2 of this series (Mem. Amer. Ent. Inst., 57). In this an additional new species, Barylypa broweri, is described. Where known, details are presented about the geographical distribution, seasonal abundance and recorded hosts of all the various taxa.
Localización: Museo de Insectos (UCR).

Simulating land-use decisions in the La Amistad Biosphere Reserve buffer zone in Costa Rica and Panama [Simulando las decisiones sobre el uso de la tierra en la zona de amortiguamiento de La Reserva de la Biosfera La Amistad en Costa Rica y Panamá] / Duffy, S.B.; Corson, M.S.; Grant, W.E. (The Texas A&M University. Department of Wildlife and Fisheries Sciences, College Station, TX 77843-2258, US <E-mail: duffyab@aol.com> <E-mail: wegrant@tamu.edu>).
In: Ecological Modelling (ISSN 0304-3800), v. 140, no. 1/2, p. 9-29. 2001.
Human demand for agricultural products leads to land degradation, deforestation, habitat destruction, and loss of biodiversity. Effective management of land for both agricultural and conservation purposes remains central to sustainable development efforts. We describe development of a preliminary model that integrates ecological, economic, and social factors affecting land-use decisions in the buffer zone of the La Amistad Biosphere Reserve in Costa Rica and Panama. The model simulates potential shifts in the distribution of land among six alternative uses and the

resulting impacts on the finances of rural families living within the buffer zone over the next decade. The output of interest is changes in land use as measured by the number of hectares in each of the six land-use classes. In baseline simulations, farmers tended to convert land, particularly forested hectares, into agricultural land uses. Sensitivity analysis showed that model results appeared more sensitive to economic and social factors than they did to ecological factors. Given the relatively short 10-year simulations, changes in topsoil-loss rates had no effect on final land-use distributions. Of four management strategies simulated, decreasing production costs by 25% yielded the largest final amount of cash on hand after 10 years. Generally, increasing tourism profit by 50% yielded the next-highest financial benefits, followed by increasing conservation subsidy by 50% and decreasing annual interest rate by 50%. We consider the primary contribution of the present model to be examination, at the individual farm level, of the relative influence of ecological, economic, and social factors on land-use decisions and distribution. Ideally, such studies will have the potential to influence management interventions that enable buffer zone farmers to achieve financial security and, as a by-product, balance land-use distribution in buffer-zone agroecosystems, which may help to maintain biodiversity.
Localización: Biblioteca OET: NBINA-89.

El proyecto binacional AMISCONDE. Manejo y conservación de zonas de amortiguamiento en la Reserva de la Biósfera La Amistad, Costa Rica - Panamá / Ramírez-Umaña, M. (AMISCONDE, Apdo. Postal 8-3870, 1000 San José, CR <Fax: (506)253-2649>).
Primer Congreso Latinoamericano de Parques Nacionales y Otras Areas Protegidas. Ponencias, Santa Marta CO21-28 de mayo de 1997.
, 1997. p. 161.
AMISCONDE es un proyecto de desarrollo sostenible y conservación de la biodiversidad, desarrollado en 2 cuencas hidrográficas de la zona de amortiguamiento de la vertiente pacífica de la Reserva de la Biósfera La Amistad en Costa Rica y Panamá. Hay un sitio de proyecto en cada país. Es ejecutado por dos agencias ambientales privadas (El Centro Científico Tropical en Costa Rica y la Fundación para el Desarrollo Sostenible en Panamá), en asociación con Conservación Internacional, la Universidad de Texas A&M y corporaciones extranjeras (McDonalds, Coca Cola, Sony, etc). El área total del proyecto es de 15,000 ha en ambos países, abarcando aproximadamente 12 comunidades rurales agrícolas. Se inició en 1992 y finalizará a principios de 1998. Su foco de acción comprende la agricultura y agroforestería sostenible, el desarrollo económico rural, educación ambiental, fortalecimiento de las comunidades locales por medio de la auto-gestión, la conservación de las áreas núcleo de la Reserva de la Biósfera (Parques Nacionales Chirripó en Costa Rica, Parque Nacional Volcán Barú y Parque Internacional La Amistad en Panamá), la reforestación para la protección de cuencas y plantaciones comerciales. Se han reforestado varios cientos de hectáreas comercialmente, se han protegido miles de hectáreas que se hayan en etapa de regeneración natural, cientos de hectáreas se hayan bajo modalidades de conservación de suelos, sistemas agroforestales, se logró controlar los incendios forestales a través de la acción comunal de grupos y brigadas comunitarias, se integraron curricula educativos ambientales a toda la población estudiantil, se estructuraron pequeñas empresas ambientales, como grupos de agricultores que comercializan directamente sus productos, grupos de jóvenes capacitados en la producción de árboles forestales y grupos de mujeres en la producción de árboles frutales que no sólo suministran las necesidades para las labores del proyecto, sino que suplen necesidades regionales de arbolitos. Igualmente, se trabaja con agencias de gobierno en ambos países como los Ministerios de Agricultura, de Ambiente, de Educación para lograr, a través de la coordinación, maximizar las acciones comunes de estas

agencias y el proyecto. Se ha dado finalmente una profunda apropiación comunitaria del proyecto, en que los grupos organizados han tomado gradualmente la responsabilidad en el manejo de componentes del proyecto (ejemplo: educación ambiental, control de fuegos, sistema de créditos, mercadeo de productos). Actualmente se está enfatizando en el papel de los grupos organizados comunales para la continuación de las actividades y la capacitación en el manejo de recursos, una vez que el proyecto finalice en 1998.
Localización: Biblioteca OET: MAST-31.

Ecoregional management in southern Costa Rica: Finding a role for adaptive collaborative management / Schelhas, J.; Buck, L.E, (ed.).; Geisler, C.C, (ed.).; Schelhas, J, (ed.).; Wollenberg, E, (ed.). (Tuskegee University. USDA Forest Service, So Research Station, Tuskegee, AL 36088, US).
In: Biological diversity: Balancing interests through adaptive collaborative management
Boca Raton, FL: CRC Press Inc, 2001. p. 245-259. ISBN: 0-8493-0020-7.
This chapter introduces the notion of conceptual modeling and makes a case for pluralistic modeling as a part of the adaptive collaborative management process. The chapter describes the situation related to the conservation of forests adjacent to La Amistad International Park on the Pacific slope of Costa Rica from the perspective of ecological anthropology, presents a conceptual model of land-use change processes for use in adaptive management, and discusses the potential for implementing a more collaborative approach to adaptive management at this site.
Localización: Biblioteca OET: S7931. NBINA-3359.

Monograph of Colpothrinax [Monografía de Colpothrinax] / Evans, R.J. (Missouri Botanical Garden, PO Box 299, St. Louis, MO 63166-0299, US <E-mail: randy.evans@mobot.org>).
In: Palms (ISSN 1523-4495), v. 45, no 4, p. 177-195. 2001.
Colpothrinax is a genus of three species of fan palms, all highly desirable ornamentals that are nevertheless rare in cultivation. The Cuban belly palm or palma barrigona (C. wrightii) is restricted to Cuba, C. cookii is found in the rain forests of Guatemala, Belize, and Honduras and C. aphanopetala, previously confused with C. cookii, is described and named for the first time in this article; it is found only in the forests of southern Nicaragua, Costa Rica, and Panama. The two mainland American species differ in details of their flowers that together suggest a difference in the way they are pollinated.
Localización: Biblioteca OET: S7710.

Two pantropical Ascomycetes: Chaetosphamia cylindrospora sp. nov. and Rimaconus, a new genus for Lasiosphaeria jamaicensis [Dos ascomicetos pantropicales: Chaetosphamia cylindrospora sp. nov. y Rimaconus, un nuevo género para Lasiosphaeria jamaicensis] / Huhndorf, S.M.; Fernández, F.A.; Taylor, J.E.; Hyde, K.D. (The Field Museum. Department of Botany, Chicago, IL 60605-2496, US <E-mail: shuhndorf@fmnh.org> <E-mail: fernand@fmnh.org>).
In: Mycologia (ISSN 0027-5514), v. 93, no. 6, p. 1072-1080. 2001.
Chaetosphaeria cylindrospora and Rimaconus, a new genus for Lasiosphaeria jamaicensis, are described and illustrated. The ascomata of Chaetosphaeria cylindrospora are gregarious, globose to broadly ovoid and superficial on the substrate, with robust walls of strong structural integrity. The asci of C. cylindrospora are clavate and long-stipitate and the ascospores are cylindrical, hyaline multiseptate. No anamorph was formed in culture and an associated anamorph was found on only a single specimen. In parsimony analyses of partial sequences of the large subunit nrDNA, placement of C.

cylindrospora within the genus Chaetosphaeria is well supported with high bootstrap values. Rimaconus jamaicensis has conical, immersed to erumpent, melanized ascomata, cylindrical, short-stipitate asci with a refractive apex and hyaline, cylindrical, multiseptate ascospores that are bent at slightly submedian. No anamorph was formed in culture. Family placement is unclear according to analyses of sequences of the large subunit nrDNA, however, it did not show affinities either to Lasiosphaeria ovina or other members of the Sordariales sensu stricto. Based on morphological characters it is placed in the Pleurotremataceae.
Localización: Biblioteca OET: S7893. Biblioteca de Inventario (INBio).

Revision of the rugipennis group of Phyllophaga (sensu stricto) (Coleoptera: Melolonthidae) [Revisión del grupo rugipennis de Phyllophaga (sensu stricto) (Coleoptera: Melolonthidae)] / Morón-Ríos, M.A. (Instituto de Ecología. División de Ecología Biosistemática de Insectos, Apdo. Postal 63, Xalapa, Veracruz 91000, MX <E-mail: moron_ma@ecologia.edu.mx>).
In: Annals of the Entomological Society of America (ISSN 0013-8746), v. 94, no. 6, p. 771-808. 2001.
Species in the Phyllophaga rugipennis group are reviewed, four new species from Mexico, Costa Rica and Panama are described, one specific name is synonymized, and one species is recorded for the first time from Mexico. The group includes: P. rugipennis (Schauffus) and P. tenuipilis (Bates) from Mexico and Guatemala; P. lissopyge (Bates) from Nicaragua to Panama; P. hemilissa (Bates) and P. laeviscutata (Moser) from Costa Rica and Panama; P. pachypyga (Burmeister) from Colombia and Venezuela; P. brevisetosa (Moser) and P. pruinipennis (Moser) from Colombia; P. densata (Moser) from southern Mexico to Panama; P. nevermanni Saylor, P. monteverdosa n.sp., P. chorotega n.sp., and P. cartaginesa n.sp. from Costa Rica; P. godmani (Bates), P. chinanteca Moron and Nogueira, P. enkerliniana Moron and Deloya, and P. candelaria n.sp. from Mexico. Phyllophaga nigrofusca Moser is synonymized under P. pachypyga (Burmeister), and P. densata is recorded for the first time from Mexico. A key is provided for males of the 17 species. Diagnostic structures, variation, and maps are included.
Localización: Biblioteca OET: NBINA-281. Biblioteca de Inventario (INBio).

Remarkable aquatic predators in the genus Ocyptamus (Diptera, Syrphidae) [Extraordinarios depredadores acuáticos en el género Ocyptamus (Diptera, Syrphidae)] / Rotheray, G.E.; Zumbado-Arrieta, M.A.; Hancock, E.G.; Thompson, F.C. (National Museums of Scotland, Chambers Street, Edinburgh EH1 1JF, GB <E-mail: g.rotheray@nms.ac.uk> <E-mail: mzumbado@inbio.ac.cr> <E-mail: cthompso@sel.barc.usda.gov>).
In: Studia Dipterologica (ISSN 0945-3954), v. 7, no. 2, p. 385-398. 2000.
Third-stage larvae, puparia and adults are described for two species of Ocyptamus Macquart and new synonyms are proposed. The larvae were found in water pockets within epiphytic Bromeliaceae in Costa Rica. They attacked a wide taxonomic range of insect larvae that characteristically co-occur in these phytotelmata, apparently subduing prey with venom and sucking out the internal contents. They possess a number of morphological and behavioural features not known in other predatory syrphids. These features include an enlarged and flattened anal end bearing a sucker, elongate posterior breathing tubes with vertically inclined spiracular plates, and patches of needle-like spicules on the underside of the thorax. Although only two species were reared, larvae of 6 other species were discovered, which suggest that many more species occur in bromeliads.
Localización: Biblioteca OET: NBINA-2663.

Neotropical Pterophoridae 16: New Pterophoridae from Costa Rica (Lepidoptera: Pterophoridae) [Pterophoridae neotropicales 16: Nuevos Pterophoridae de Costa Rica (Lepidoptera: Pterophoridae)] / Gielis, C. (Mr. Haafkensstraat, 36 NL-4128, CJ Lexmond, NL).
In: SHILAP. Sociedad Hispano-Luso-Americana de Lepidopterología. Revista de Lepidopterología (ISSN 0300-5267), v. 27, no. 107, p. 305-317. 1999.
Nature protection in Costa Rica is on a high standard. Game keeper are instructed on the identification of insect groups. For this purpose insects are collected. The results of training and collecting have led to the discovery of ten new species of Pterophoridae: Platyptilia juanvinas sp.n., Hellinsia elhacha Gielis, sp.n., H. fissuripuncta Gielis, sp.n., H. scripta Gielis, sp.n., H. obandoi Gielis, sp.n., H. monteverda Gielis, sp.n., H. solanoi Gielis, sp.n., H. pseudobarbata Gielis, sp.n., H. investis Gielis, sp.n. and Adaina obscura Gielis sp.n.
Localización: Non available. Copias: Biblioteca de Inventario (INBio).

The role of local development in protected area management: A comparative case study of eco-tourism in Costa Rica [Papel del desarrollo local en el manejo de áreas protegidas: Estudio de caso comparativo del ecoturismo en Costa Rica] / Stem, C.J. (Foundations of Success. Program Associate, 17 Avery Street, Saratoga Springs, NY 1286, US <E-mail: cjs33@cornell.edu>).
Ithaca, N.Y.: Cornell University, 2001. 482 p. ISBN: 0-493-31822-4.
Dissertation, Ph.D., Cornell University, Graduate School, Ithaca, N.Y. (USA).
The past two decades have seen a proliferation of integrated conservation and development projects (ICDPs), a response to theories that conservation generally will not happen until local welfare needs are satisfied. The research presented here explores the means through which ICDPs contribute to or detract from conservation by comparing eco-tourism enterprises near Costa Rica's Corcovado and Piedras Blancas National Parks. It draws upon data from three communities to ascertain how local involvement and the distribution of benefits and costs influence conservation outcomes. The study uses a mixed methods approach, drawing upon rich personal histories documented through open-ended interviews, as well as household level survey data. Analyses include thematic groupings of participants' quotes, multiple linear regression, and chi-square tests to determine associations between potential predictor variables and conservation perspectives and practices. Ecotourism's effectiveness as a conservation and development strategy for the study sites is mixed. Where ecotourism has offered a viable economic alternative, tourism opportunities and employment do seem to have induced people to abandon agricultural and pastoral land, allowing secondary forest to regenerate. Nevertheless, ecotourism appears to have had minimal influence on conservation values and attitudes. Other factors, including legal restrictions, education levels, and indirect ecotourism benefits appear to also influence conservation behaviors and perspectives. In general, scale is a major factor determining the success of ecotourism, as well as the extent of its negative impact. Not surprisingly, smaller scale operations cannot offer the economic opportunities to make ecotourism a viable alternative to forest dependence. Where tourism dominates the economy, benefits are more widespread, but these are accompanied by more extensive impacts. In addition to these issues, the lodges participating in this study generally fell short of fulfilling social objectives. Employee training and capacity building is extremely deficient, and the research reveals little evidence of awareness-raising for employees. Furthermore, the lodges generally only provide cultural information or visits to village centers when tourists specifically request to learn more about the people living in the communities they are visiting. Thus, many opportunities exist for hotel owners and managers to improve ecotourism operations and enhance benefits for the local

communities.
Localización: Biblioteca OET: NBINA-1733.

New species of Helicinidae from Costa Rica (Mollusca: Neritopsina) [Nuevas especies de Helicinidae de Costa Rica (Mollusca: Neritopsina)] / Richling, I. (Christian Albrechts Universität zu Kiel. Zoologisches Institut, Olshausenstr. 40-60, 24098 Kiel, DE <E-mail: ira@richling.de>).
In: Schriften zur Malakozoologie aus dem Haus der Natur Cismar (ISSN 0936-2959), v. 17, p. 1-8. 2001.
Four new species of Helicinidae are described from Costa Rica: Oligyra talamancensis n.sp., Oligyra chiquitica n.sp., Helicina hojarasca n.sp. and Helicina boeckeleri n.sp. Type material is deposited in the collections of the Instituto Nacional de Biodiversidad de Costa Rica and the Museum für Naturkunde, Humboldt-Universität, Berlin, Germany. The generic arrangement is discussed.
Localización: Biblioteca OET: S9693. Biblioteca de Inventario (INBio).

Sinopse do genero Werauhia [Sinopsis del género Werauhia] / Grant, J. (Université de Neuchâtel. Institut de Botanique, Laboratoire de Phanérogamie, ch. de Chantemerle 18, 2007 Neuchâtel, CH <E-mail: jason.grant@unine.ch> <E-mail: jason.grant@bota.unine.ch>).
In: Bromélia (Revista da Sociedade Brasileira de Bromélias), v. 4, no. 1, p. 28-38. 1997.
The recently-described genus Werauhia presently recognized to encompass seventy three species in two sections, Werauhia with 37 species and Jutleya with 36 species. It characterized by plants with mostly nocturnal anthesis, a general lack of brilliant coloration mostly fleshy, frequently secondary bracts at flowers, bilaterally symmetric, often zygomorphic corollae, androeciae and gynoeciae, the latter two well included with the corollae, dactyloid petal appendages with one to five fingers of varying length, stigma with the cupulate type morphology, lacking papillae, and stout, dark-colored capsules. The genus ranges from southern Mexico through Mesoamerica to the West Indies, Peru, and northeastern Brazil. Its center of diversity at highest concentration of species occur in Costa Rica and western Panama. The genus was named in honor of Prof. Dr. Werner Rauh, (1913-), Institut für Systematische Botanik und Pflanzen-geographie, Ruprecht-Karls-Universität,; Heidelberg, Germany (Grant 1995a). Werauhia sect. Jutleya was named in honor of Dr. John F. Utley, (1944-), University of New Orleans The species placed in the genus was largely regarded by Mez (1935) to form the genus Thecophyllum, and Smith & Downs (1977) Vriesea subg. Vriesea sect. Xiphion. By describing Werauhia as a new genus resurrecting Alcantarea to the generic range and transferring a number of taxa to Tillandsia, Mezobromelia, and eventually to Allardtia from Vriesea, an attempt has been made divide the genera of the Tillandsioideae along natural lines (Grant 1993a, 1993b, 1994, 199 1995b, 1995c, 1996). Leme (pers. comm. V/1996) also suggests that a number of southern Brazilian species currently recognized Vriesea may be best placed in Werauhia. These species including at least V. amadoi, V. appariciana, V. belloi, V. funebris, and V. plurifolia may form a new section of the genus. This would extend its geographic distribution from the Andes across the South American continent to southern and southeastern Brazil following similar geographic distributions of other bromeliad genera. The species that form Werauhia are the largest block to be excluded from Vriesea. With the removal of these extraneous elements, Vriesea forms a coherent, definable genus primarily of Brazil. A revision of Vriesea itself is in the late stages of progress.
Localización: Biblioteca OET: S8322.

The amphibians and reptiles of Costa Rica: A herpetofauna between two continents, between two seas [Los anfibios y reptiles de Costa Rica: Una herpetofauna entre dos continentes, entre dos mares] / Savage, J.M.; Fogden, M.P.L, (phot.).; Fogden, P, (phot.). (Rana Dorada Enterprises, S.A., PMB 304, 3401 Adams Avenue, Suite A, San Diego, CA 92116-2490, US <E-mail: savy1@cox.net>).
Chicago: The University of Chicago Press, 2002. 934 p. ISBN: 0-226-73537-0.
Este libro recoge 40 años de investigación de los anfibios y reptiles de Costa Rica, por parte del Dr. Savage y sus colaboradores. Inicia con los siguientes capítulos: 1. Descubriendo la herpetofauna tropical. Cap. 2. El ambiente costarricense. 3. Organización de la descripción sistemática. 4. Anfibios (Clase Anfibia). 5. Cecilians (Orden Gymnophiona). 6. Salamandras (Orden Caudata). 7. Ranas y sapos (Orden Anura). 8. Reptiles (Clase Reptilia). 9. Esquamates (Orden Squamata). 10. Lagartijas (Suborden Sauria). 11. Serpientes (Suborden Serpentes). 12. Tortugas (Orden Testudinata). 13. Cocodrilos (Orden Crocodilia). 14. Distribución ecológica de la herpetofauna. 15. Distribución geográfica: unidades históricas, áreas faunísticas, endemismo y patrones generales. 16. Desarrollo de la herpetofauna.
Localización: Biblioteca OET: 597.9097286 S264a.

The Dryophthoridae of Costa Rica and Panama: checklist with keys, new synonymy and descriptions of new species of Cactophagus, Mesocordylus, Metamasius and Rhodobaenus (Coleoptera; Curculionidae) [Los Dryophthoridae de Costa Rica y Panamá: lista con with key claves, nuevas sinonimias y descripciones de nuevas especies de Cactophagus, Mesocordylus, Metamasius y Rhodobaenus (Coleoptera; Curculionidae)] / Anderson, R.S. (Canadian Museum of Nature. Research Division, P.O. Box 3443, Station D, Ottawa, Ontario K1P 6P4, CA <E-mail: randerson@mus-nature.ca>).
In: Zootaxa (ISSN 1175-5326 [print edition]), no. 80, p. 1-94. 2002.
The Dryophthoridae of Costa Rica and Panama are reviewed. A checklist is presented of the 127 species in Costa Rica and 103 species in Panama. Keys are presented to genera and species. Twenty-four new species are described as follows: Mesocordylyus redelmeieri Anderson (type locality; Guanacaste, Costa Rica), Cactophagus dragoni Anderson (type locality; Chiriquí, Panamá), C. gasbarrinorum Anderson (type locality; Chiriquí, Panamá), C. lineatus Anderson (type locality; San José, Costa Rica), C. lingorum Anderson (type locality; Puntarenas, Costa Rica), C. morrisi Anderson (type locality; Chiriquí, Panamá), C. riesenorum Anderson (type locality; Puntarenas, Costa Rica), C. silron Anderson (type locality; Puntarenas, Costa Rica), C. sunatoriorum Anderson (type locality; Chiriquí, Panamá), Metamasius atwoodi Anderson (type locality; Cocos Island, Costa Rica), M. bellorum Anderson (type locality; Chiriquí, Panamá), M. burcheri Anderson (type locality; Cartago, Costa Rica), M. gallettae Anderson (type locality; Darien, Panamá), M. hooveri Anderson (type locality; Limón, Costa Rica), M. leopardinus Anderson (type locality; Guanacaste, Costa Rica), M. murdiei Anderson (type locality; Cartago, Costa Rica), M. richdeboeri Anderson (type locality; Puntarenas, Costa Rica), M. shchepaneki Anderson (type locality; Panamá, Panamá), M. vaurieae Anderson (type locality; Puntarenas, Costa Rica), M. wolfensohni Anderson (type locality; Guanacaste, Costa Rica), Rhodobaenus howelli Anderson (Puntarenas, Costa Rica),R. labrecheae Anderson (type locality; Puntarenas, Costa Rica), R. patriciae Anderson (type locality; Puntarenas, Costa Rica), and R. tenorio Anderson (type locality; Limón, Costa Rica). New country records are as follows: Toxorhinus grallarius (Lacordaire) (Costa Rica), Alloscolytoproctus peruanus Hustache (Panama), Cactophagus aurofasciatus (Breme) (Panamá) and Metamasius scutiger Champion (Costa Rica). The genera Toxorhinus Lacordaire and Cosmopolites Chevrolat are transferred from Sphenophorini to Litosomini. Notes about the natural

history and plant associations for all new species are given where available and long-term benefits accrue to collectors and countries of collection.
Localización: Biblioteca OET: S9007. BINA-474.

Integrity and isolation of Costa Rica's national parks and biological reserves: examining the dynamics of land-cover change [Integridad y aislamiento de los parques nacionales y reservas biológicas de Costa Rica: examinando la dinámica del cambio en el uso de la tierra] / Sánchez-Azofeifa, G.A.; Daily, G.C.; Pfaff, A.S.P.; Busch, C.B. (University of Alberta. Department of Earth and Atmospheric Sciences, Edmonton, Alberta T6G 2E3, CA <E-mail: arturo.sanchez@ualberta.ca> <E-mail: gdaily@stanford.edu> <E-mail: ap196@columbia.edu>).
In: Biological Conservation (ISSN 0006-3207), v. 109, p. 123-135. 2003.
The transformation and degradation of tropical forest is thought to be the primary driving force in the loss of biodiversity worldwide. Developing countries are trying to counter act this massive lost of biodiversity by implementing national parks and biological reserves. Costa Rica is no exception to this rule. National development strategies in Costa Rica, since the early 1970s, have involved the creation of several National Parks and Biological Reserves. This had led to monitoring the integrity of and interactions between these protected areas. Key questions include: "Are these areas' boundaries respected?"; "Do they create a functioning network?"; and "Are they effective conservation tools?". This paper quantifies deforestation and secondary growth trends within and around protected areas between 1960 and 1997. We find that inside of national parks and biological reserves, deforestation rates were negligible. For areas outside of National Parks and Biological Reserves we report that for 1-km buffer zones around such protected areas, there is a net forest again for the 1987/1997 time period. Thus, it appears that to this point the boundaries of protected areas are respected. However, in the 10-km buffer zones we find significant forest loss for all study periods. This suggests that increasing isolation of protected areas may prevent them from functioning as an effective network.
Localización: Biblioteca OET: S9046. BINA-319.

North and Central America Jerusalem Crickets (Orthoptera: Stenopelmatidae): Taxonomy, distribution, life cycle, ecology and related biology of the American species [Grillos Jerusalén de Norte y Centroamérica (Orthoptera: Stenopelmatidae): Taxonomía, distribución, ciclo de vida, ecología y biología relacionada de las especies americanas] / Weissman, D.B. (California Academy of Sciences. Department of Entomology, Golden Gate Park, San Francisco, CA 94118, US).
In: The biology of wetas, king crickets and their allies. Field, L.H. (ed.)
London: CAB International, 2001. p. 57-72.
Introduction: In 1980, while coordinating a project on the orthopteran fauna of Baja California, Mexico, I elected to do the Jerusalem crickets (Stenopelmatus Burmeister 1838, Ammopelmatus Tinkham 1965, and Viscainopelmatus Tinkham 1970) in the absence of other workers. The genera and species were supposedly well known, as were their distrbutions. Of the 35 species of Stenopelmatus in the literature, 19 were described from Mexico and Central America between 1838 and 1902. I have examined all type specimens (some determined to be suitable lectotypes and neotypes by T.H. Hubbell (Michigan, 1982, personal communication)) and confirm that many prior synonymies are erroneous. The US species of Stenopelmatus were last revised in 1916 (Hebard), with an additional five species subsequently described (Davis and Smith, 1926; Tinkham, 1968, 1979; Tinkham and Rentz, 1969; Rentz, 1978), giving 14 species in total. Two taxa have no specific

locality. Anunopelmauus includes the type species described in 1965 (Tinkham, 1965) and a second in 1981 (Rentz and Weissman, 1981). Viscainopelmatus is monotypic (Tinkham, 1970). In this chapter, I refer to all species in all three genera as Jerusalem crickets (Jcs). Interestingly, the initial task proved more complicatedthan anticipated: the Baja California Peninsula has at least eight species, only one described; California has 35-50 species, only seven described; and the USA has 60-80 species in total, 14 described. Efforts in mainland Mexico and Central America have just begun and indicate a diverse fauna. In total, there may be 100 species of Stenopehnatus, making this genus the most significant component of the world's Stenopelmatidae, which Kevan (1982) noted is comprised of `only about half a dozen genera and a little over 30 species' (but see Johns (1997) for a more extensive species list and taxa transferred to the Anostostomatidae). After 20 years, I estimate my fieldwork and data collection for this revisionary study of the JCs are 70% complete. Thus my twochapters in this book will serve as both a progress report and a review of previous work. Unfortunately, most of the literature, unless dealing with a newly described, geographicall limited or morphologically very unique species of JC, will he unassignable to taxa.
Localización: Biblioteca OET: S8486.

A guide to the lacewings (Neuroptera) of Costa Rica [Guía para los Neuroptera de Costa Rica] / Penny, N.D, (ed.).; Hoffman, K.M.; Meinander, M.; Monserrat, V.J.; Penny, N.D.; Stange, L.A. (California Academy of Sciences. Department of Entomology, San Francisco, CA 94118, US <E-mail: npenny@calacademy.org> <E-mail: artmad@eucmax.sim.ucm.es>).
In: Proceedings of the California Academy of Sciences (ISSN 0068-547X), v. 53, no. 12, p. 161-457. 2002.
One hundred and eighty-four species of Neuroptera are currently known from Costa Rica. Keys to families, subfamilies, tribes, genera and species are presented. For each species diagnostic characteristics are stated and illustrated. The general geographical distribution, and known Costa Rican collection localities are presented for each species. Information is also given for known elevational ranges, adult flight periods and habitat preferences. One generic and 13 species synonymies are recognized. There are 29 new combinations.
Localización: Biblioteca OET: P.

One new species and one new combination in Netechma Razowski (Lepidoptera: Tortricidae: Euliini) [Una nueva especie y una nueva combinación en Netechma Razowski (Lepidoptera: Tortricidae: Euliini)] / Brown, J.W.; Adamski, D. (National Museum of Natural History. USDA-ARS, Institute of Plant Sciences, Systematic Entomology Laboratory, Washington, DC 20560, US <E-mail: jbrown@sel.barc.usda.gov> <E-mail: dadamski@sel.barc.usda.gov>).
In: Journal of the New York Entomological Society (ISSN 0028-7199), v. 110, no. 2, p. 247-254. 2002.
Netechma similis, new species, from Costa Rica, is described and illustrated, and Netechma caesiata (Clarke), new combination, from Venezuela, is redescribed and illustrated, Netechma Razowski belongs to a group of genera in Eulini characterized by one or more sparganothine-like features of the male genitalia, including a spiny transtilla a long, slender, hooklike Linens: and densely scaled socii. Adults of the two treated species are superficially most similar to species of Icteralaria Razowski, with a forewing that features a broad, dark, medial band on a pale yellow ground color.
Localización: Biblioteca OET: NBINA-815.

A socio-economic analysis of the development and conservation strategies within the Amistad Conservation and Development Initiative for La Amistad Biosphere Reserve (Panama, Costa Rica) [Análisis socioeconómico de las estrategias de desarrollo y conservación dentro de la Iniciativa para la Conservación y Desarrollo de la Reserva de la Biosfera La Amistad (Panamá, Costa Rica)] / Kennedy, E.T.
College Station, TX: Texas A&M University, 2002. 197 p. ISBN: 0-493-64480-6.
Dissertation, Ph.D., Texas A&M University, College Station, TX (USA).
Achieving the linkage between conservation and development is a foundational element in the conceptualization of biosphere reserves. The focus of this investigation was to examine how four groups of project actors' perceptions of risk associated withagricultural practices affected conservation and development efforts implemented in La Amistad Conservation and Development Initiative (AMISCONDE). The AMISCONDE project is a bi-national effort in Costa Rica and Panama which was funded by the McDonald's Corporation and their family of suppliers in an attempt to help protect La Amistad Biosphere Reserve by working with local communities living near or in the buffer zone areas around the Reserve. This research examines perceptions of ecological, social, and environmental risk associated with cultivation practices of agriculturists farming in the buffer zone area by using the AMISCONDE initiative as a case example. The primary data collection technique was a series of open-ended interviews with agriculturalists, government officials, project technicians, and project executive committee members. These interviews were conducted in three phases (during 1996, 1997, and 1998). Results indicate that for individuals associated with the AMISCONDE project, there were substantial variations in values and how individuals defined the risks of communities practicing agriculture in the buffer zone of La Amistad Biosphere Reserve. In particular, one set of risk perceptions motivates project managers and technicians while a distinctly different set of risk perceptions motivate farmer's land use decisions. These differences imply critical boundaries of culture and create barriers to effective communication between the groups that affect achievement of conservation outcomes. A key learning was that environmental literacy and education are not primary determinants nor motivators for why farmers might choose to adopt introduced conservation practices. Two major overlapping issues emerged from the analysis as critical to project success: trust and legitimacy. The research clearly identifies that establishing trust and legitimacy among the multiple groups has a critical role in project implementation, and that it is relevant to explicitly consider these issues when evaluating project success both now and in the future.
Localización: Non available. Copias: DAI.

Notenthes, a new genus of Eurybatinae and a first record of the Eurybatinae from the New World (Diptera, Micropezidae) [Notenthes, un nuevo género de Eurybatinae y el primer registro de Eurybatinae (Diptera, Micropezidae) del Nuevo Mundo] / Marshall, S.A. (University of Guelph. Department of Environmental Biology, Guelph, ON N1G 2W1, CA <E-mail: smarshall@evb.uoguelph.ca>).
In: Studia Dipterologica (ISSN 0945-3954), v. 9, no. 1, p. 83-88. 2002.
Notenthes mcalpinei gen. et sp. nov., is described from Costa Rica. The placement of this unusual species in the otherwise Oriental and Pacific subfamily Eurybatinae is discussed.
Localización: Biblioteca OET: S8928.

Estimating the greenhouse gas benefits of forestry projects: a Costa Rican case study [Estimando los beneficios de los proyectos forestales de gases invernadero: estudio de caso costarricense] / Busch, C.B.; Sathaye, J.A.;

Sánchez-Azofeifa, G.A. (Lawrence Energy Technologies Division. Environmental Energy Technologies Division, Energy Analysis Department, Berkeley, CA 94720, US <E-mail: arturo.sanchez@ualberta.ca>).
Berkeley, CA: Ernest Orlando Lawrence Berkeley National Laboratory, 2000. 119 p. (LBNL; no. 42289).
If the Clean Development Mechanism proposed under the Kyoto Protocol is to serve as an effective means for combating global climate change, it will depend upon reliable estimates of greenhouse gas benefits. This paper sketches the theoretical basis for estimating the greenhouse gas benefits of forestry projects and suggests lessons learned based on a case study of Costa Rica's Protected Areas Project, which is a 500,000 hectare effort to reduce deforestation and enhance reforestation. The Protected Areas Project in many senses advances the state of the art for Clean Development Mechanism-type forestry projects, as does the third-party verification work of SGS International Certification Services on the project. Nonetheless, sensitivity analysis shows that carbon benefit estimates for the project vary widely based on the imputed deforestation rate in the baseline scenario, e.g. the deforestation rate expected if the project were not implemented. This, along with a newly available national dataset that confirms other research showing a slower rate of deforestation in Costa Rica, suggests that the use of the 1979-1992 forest cover data originally as the basis for estimating carbon savings should be reconsidered. When the newly available data is substituted, carbon savings amount to 8.9 Mt (million tones) of carbon, down from the original estimate of 15.7 Mt. The primary general conclusion is that project developers should give more attention to the forecasting land use and land cover change scenarios underlying estimates of greenhouse gas benefits.
Localización: Biblioteca OET: BINA-523.

Tortoise beetles of Costa Rica: new records and localities (Coleoptera: Chrysomelidae: Cassidinae) [Abejones tortugas de Costa Rica: nuevos registros y localidades (Coleoptera: Chrysomelidae: Cassidinae)] / Chaboo, C.S. (American Museum of Natural History. Department of Invertebrate Zoology, Central Park West at 79th St., New York, NY 10024-5192, US <E-mail: chaboo@amnh.org>).
In: Genus (ISSN 0867-1710), v. 14, no. 1, p. 109-120. 2003.
Sixteen species in 12 genera in the cassidine tribes Cassidini, Delocraniini, Goniocheniini, Physonotini, Spilophorini, and Stolaini, are reported from Costa Rica for the first time. Localities for these new records are presented. Data are based on collections accumulated under the intensive survey of Costa Rica by Instituto Nacional de Biodiversidad (INBio).
Localización: Biblioteca OET: BINA-545. Biblioteca de Inventario (INBio).

The taxonomy and phylogenetics of the coenosus group of Hister Linnaeus (Coleoptera: Histeridae) [Taxonomía y filogenia del grupo coenosus de Hister Linnaeus (Coleoptera: Histeridae)] / Caterino, M.S. (Santa Barbara Museum of Natural History. Department of Invertebrate Zoology, Puesta del Sol Road, Santa Barbara, CA 93105, US <E-mail: mcaterino@sbnature2.org>).
In: University of California Publications in Entomology, v. 119, p. 1-110. 1999.ISBN: 0-520-09831-5.
The coenosus group contains thirty-four species of New World Hister (Coleoptera: Histeridae: Histerini). The species of the group are distributed throughout the Americas, with the majority known from Mexico and Central America. The monophyly of the lineage is hypothesized on the basis of one synapomorphy, the sharing of an aedeaga] basal piece which is more than twice as long as it is wide, a condition not known in other Histerini. The species assigned to this group and their hypothesized

relationships are as follows: (outgroup (Hister litus Marseul (H. californicus Marseul + H. gringo n sp.)) (((H. curvatus Erichson + H. cuna n. sp.) ((H. kovariki n. sp. + H. newtoni n. sp. + H. hormiguera n. sp. + H. salvador n. sp.)(H. malkini n. sp. (H. latistrius Lewis (H. subquadratus Marseul n. comb. (H. laevipes Germar (H. belti Lewis n. stat. (H. ciliates Lewis + H. janzeni n. sp.)))))))) H. bruchi Lewis H. lissurus Marseul, H. catarinae n sp.(H. akatanga n. sp. ((H. abhorrens Schmidt n. comb. ((H. bolivianus Marseul + H. denysi Marseul)((H. platanus Marseul n. comb. + H. alegre n. sp.) (H. putridus Erichson + H. wenzeli n. sp.)))) H. abbreviatus Fabricius (((H. coenosus Erichson + H. punctifer Paykull) H. guatemalica n. sp.) (H. cavifrons Marseul + H. incisifrons Marseul + H. planiformis Lewis))))))); [C.I. = 0.362; R.I. = 0.686]. A key is provided which separate, these species from other New World Histerini. Some species of these predaceous beetle, are attracted to mammalian dung, carrion, and fungus whereas nearly one-third inhabit the nests of leafcutting ants. Myrmecophily appears to have arisen multiple times.
Localización: Non available. Copias: Biblioteca de Inventario (INBio).

Holcocerini of Costa Rica (Lepidoptera: Gelechioidea: Coleophoridae: Blastobasinae) [Holcocerini de Costa Rica (Lepidoptera: Gelechioidea: Coleophoridae: Blastobasinae)] / Adamski, D. (National Museum of Natural History. Smithsonian Institution, Department of Entomology, MRC-105, Washington, DC 20560, US <E-mail: dadamski@sel.barc.usda.gov>).
In: Memoirs of the Entomological Society of Washington (ISSN 0096-5839), no. 24, p. 1-147. 2002.
The Holcocerini fauna of Costa Rica is reviewed. Two new genera, Inbioxa and Heredia, and 83 new species are described. They include: Inbioxa epithecae, Heredia contemptionis, Asaphocrita alogiae, A. amatricis, A. animulae, A. arcis, A. aulae, A. aurae, A. blattae, A. catenae, A. cenae, A. collyrae, A. coronae, A. deae, A. erae, A. fidei, A. furciferae, A. gazae, A. gerrulae, A. laminae, A. lucis, A. lunae, A. magae, A. maximae, A. opellae, A. pallae, A. planetae, A. quietis, A. rationis, A. reginae, A. spei, A. stellae, A. umbrae, A. viraginis, A. vitae, Holcocera aclydis, H. amicae, H. amicitiae, H. arcae, H. audaciae, H. aurorae, H. bucinae, H. calthae, H. cathedrae, H. cryptae, H. dominae, H. epitomae, H. famae, H. fugae, H. ianuae, H. iubae, H.laudis, H. luxuriae, H. lyrae, H. mortis, H. musicae, H. notae, H. nuptae, H. piratae, H. poetae, H. portae, H. puellae, H. sollertiae, H. zonae, Calosima alienigenae, C. ancorae, C. audentiae, C. carinae, C. citharae, C. fabulae, C. fallaciae, C. favillae, C. flammae, C. furiae, C. helicae, C. illicis, C. laureae, C. medusae, C. megarae, C. orbae, C. paterae, C. sepulturae, and C. tesserae. Holcocera orthophrontis Meyrick 1932 is considered closely allied to C. alienigenae and C. paterae and is herein transferred to Calosima (new combination). Diagnoses and probable autamorphies, descriptions, and type information, are provided for each species. Photographs of imago, illustrations of male and female genitalia, distribution maps, and keys to all Holcocerini are included.
Localización: Non available. Copias: Biblioteca de Inventario (INBio).

Taxonomy and phylogeny of the Hister servus group (Coleoptera: Histeridae): a Neotropical radiation [Taxonomía y filogenia del grupo Hister servus (Coleoptera: Histeridae): una radiación Neotropical] / Caterino, M.S. (Santa Barbara Museum of Natural History. Department of Invertebrate Zoology, Puesta del Sol Road, Santa Barbara, CA 93105, US <E-mail: mcaterino@sbnature2.org>).
In: Systematic Entomology (ISSN 0307-6970), v. 24, p. 351-376. 1999.
The Hister servus group contains ten species and two species complexes.

Although the group's diversity is centred in Mexico and Central America, one lineage, comprising H. indistinctus Say, H. defectus LeConte and H. fungicola Schaeffer, has probablydiversified entirely in the south-eastern U.S. The servus group also contains the following species: H. servus Erichson, H. nodatus Lewis, H. doyeni sp.n., H. lagoi sp.n., H. bullatus Lewis, H. coronatus Marseul and H. diadema Marseul and two diverse species complexes, dubbed the comes complex and the montivagus complex. These two complexes require additional sampling and study before species within them can be recognized. They are, however, closely related to each other and appear to be paraphyletic with respect to a Glade comprising H. bullatus, H. coronatus and H. diadema. A prior hypothesis that the servus group includes H. sallei, H. matador sp.n. and the species of Hister (Spilodiscus) is not well supported. Several sister groups within the servus group show geographical disjunction between seasonal tropical habitats of western North America and wetter montane habitats of the eastern parts of the continent along the Gulf and Caribbean coasts.
Localización: Biblioteca OET: S10080. NBINA-3958.

Neotropical red-brown Ennominae in the genera Thysanopyga Herrich-Schäuffer and Perissopteryx Warren (Lepidoptera: Geometridae) [Ennominae neotropicales pardorojizos en el género Thysanopyga Herrich-Schäuffer y Perissopteryx Warren (Lepidoptera: Geometridae)] / Krügger, M.; Scoble, M.J. (Transvaal Museum, P.O. Box 413, Pretoria 001,).
In: Bulletin of the British Museum Natural History. Entomology Series (ISSN 0524-6431), v. 61, no. 2, p. 77-148. 1992.
The neotropical genera Thysanopyga-Herrich-Schaffer and Perissopteryx Warren (Geometridae: Ennominae) are redefined and their species taxonomically revised and described. All primary types available have been examined. Twelve species are included in Thysanopyga, of which three are new, and two new synonymies are made. Twenty-four species are included in Perissopteryx, of which 15 are new, and one new synonymy is made. Eight new combinations are proposed for species transferred from Thysanopyga to Perissopteryx. Keys are provided to the genera and species. The moths are illustrated to show appearance and intraspecific variation. Line drawings of the genitalia are provided for all species.
Localización: Biblioteca OET: S10191. Biblioteca de Inventario (INBio).

Revisión del género Megalomus de Latinoamérica (Neuroptera, Hemerobiidae) [A revision of the Latinamerican species of the genus Megalomus (Neuroptera, Hemerobiidae)] / Monserrat, V.J. (Universidad Complutense. Departamento de Biología Animal I, 28040 Madrid, ES <E-mail: artmad@eucmax.sim.ucm.es>).
In: Fragmenta Entomologica (ISSN 0429-288X), v. 29, no. 1, p. 123-206. 1997.
Mexican, Central and South American known species of genus Megalomus Rambur, 1842 are revised and discussed. The synonymical listing and all known bibliographical references of each species are compiled. New data on morphology, distribution and biology of all species are given. Wings, male and female genitalia of all species are described and figured. 16 valid species are considered and revised jointed into groups of closer species, and a key to the identification provided. Lectotype and Paralectotype are designated for M. bridarollius Navás, 1932: M. nebulosus Navás, 1926 is proposed as nomen dubium; Adelphohemerobius anomalus (González Olazo, 1992) and M. australis (González Olazo, 1992) as n.comb.; some new synonymies are proposed as follows: Megalomus Rambur, 1842 = Falcomegalomus González Olazo, 1992, = Navasius González Olazo,1992; M. pictus Hagen 1861 = M. punctatus Kimmins, 1935, = M. insignis Kimmins, 1935, = M. kimminsi Nakahara, 1960; M. minor Banks, 1905 = M. lioni Navás,

1927, = M. exterior Navás, 1929, = M.cubanus Banks, 1930, = M. angustatus Navás, 1932, M. parvulus Kimmins, 1935, = M. serrinus Navás, 1936; and M. nigratus (Navás, 1928) = Pirionus gentilorum González Olazo, 1992. The species M. ricoi n.sp. from Brasil, M. antrzistiatus n.sp. from Colombia and M. democraticus n.sp. from Chile and Argentina aerc described. Biogeographical commemts are included in order to explain the distribution of this genus in South, Central, and North America.
Localización: Biblioteca OET: S10210. Biblioteca de Inventario (INBio).

The Ichneumonidae of Costa Rica, 4: Introduction and keys to species of the subfamilies Metopiinae; Banchinae (Atrophini, Banchini, Glyptini) [Los Ichneumonidae de Costa Rica, 4: Introducción y claves para las especies de las subfamilias Metopiinae; Banchinae (Atrophini, Banchini, Glyptini)] / Gauld, I.D.; Sithole, R.; Ugalde-Gómez, J.; Godoy-Cabrera, C. (The Natural History Museum. Department of Entomology, London SW7 5BD, GB <E-mail: idg@mhm.ac.uk> <E-mail: jugalde@inbio.ac.cr> <E-mail: cgodoy@inbio.ac.cr>).
In: Memoirs of the American Entomological Institute (ISSN 0065-8162), v. 66, p. 1-768. 2002.ISBN: 1-887988-10-6.
This work is a taxonomic revision of two large subfamilies of Ichneumonidae present in Costa Rica, the Metopiinae and Banchinae. The study is based on an intensive biological inventory, and in total more than 10,000 specimens have been examined, although not all have been mounted and labelled. Such collecting is essential as it ensures the very large number of rare species present in tropical habitats are adequately represented. Biologically, the two ichneumonid subfamilies treated in this work are similar in that the majority of species are koinobiont endoparasitioids of the larvae of weakly concealed Lepidoptera, whilst a few taxa in each subfamily are specialized to attack exposed caterpillars. The study has revealed the presence in Costa Rica of 14 genera and 130 species of the ichneumonid subfamily Metopiinae, and 24 genera and 253 species of the subfamily Banchinae. Illustrated keys are given to enable all of these taxa to be identified by the non-specialist. In the Metopiinae 124 new species and one new genus, Forrestopius, are described. The other metopiine taxa (13 genera and 6 species), which have previously been named, are redescribed in a standardised format. In the Banchinae extensive re-definition of the Neotropical atrophine generahas been undertaken, and six new genera have been described: Cordeleboea, Hadeleboea, Hylesicida, Podeleboea, Quillonota and Wahlamia. One Old World genus, Leptobatopsis, is recorded from the New World for the first time, and two South American genera, Cecidopimpla and Ptychopsis, are newly recorded for Central America. Eudeleboea is treated as a synonym of Meniscomorpha (syn. n.) and Isomeris is placed in synonymy under Lissonota (syn. n.). Deleboea is restricted to include only the Andean type-species. In the Banchinae 237 new species are described and the 16 species, which have previously been named, are re-described in a standardised format. Meniscus crassitarsus Cresson is placed in Hylesicida (comb n.), Lissonota pulchra Cameron is shown to be a junior synonym of Mnioes jucundus (Cresson) (syn. n.), Mesoleius zapotecus Cameron is a junior synonym of Extastes tarsalis Cresson (syn. n.) and Phytodietus guatemalensis Cameron is a junior synonym of Loxodocus cressoni (Cameron) (syn. n.). Where knowndetails are presented about the geographical distribution, seasonal abundance and recorded hosts of all the various taxa. An appendix provides a supplement to the treatment of the Pimplinae given in Volume 1 of this series (Mem. Amer. Ent. Inst., 47). In this a new genus and species, Inbioia pivai, are described. Full nomenclatural details are listed in Appendix 2.
Localización: Biblioteca OET: 595.79 G269i-IV. Biblioteca de Inventario (INBio).

Nomenclatural notes and new species of Sceloenoplini (Coleoptera: Chrysomelidae: Cassidinae) [Notas sobre nomenclatura y nuevas especies de Sceloenoplini (Coleoptera: Chrysomelidae: Cassidinae)] / Staines, C.L., Jr. (3302 Decker Place, Edgewater, MD 21037, US <E-mail: staines.charles@nmnh.si.edu>).
In: Zootaxa (ISSN 1175-5326), no. 89, p. 1-32. 2002.
Twenty new species from Costa Rica are described and illustrated: Ocnosispa condyla, O. depressa, O. humerosa, Pseudispa bellula, P sinuata, P tuberculata, Sceloenopla apicispina, S. bicolorata, S. bidentata, S. expanda, S. flava, S. lampyridiformis,S. lutena, S. minuta, S. nigropicta, S. rubivittata, S. sanguinea, S. trivittata, S. unicostata, and S. univittata. Sceloenopla gemmans (Baly) is transferred to Pseudispa. Sceloenopla biolleyi (Pic) is treated as a junior synonym of S. scherzeri (Baly); S. testacepennis (Pic) is treated as a junior synonym of S. proxima (Baly); and S. bryanti (Bondar) is treated as a junior synonym of S. sheppardi (Baly). A summary of Uhmann's (1937) species groups of Sceloenopla, a key to the Central American Sceloenoplini genera, and keys to the species of Ocnosispa, Pseudispa, and Sceloenopla known from Central America are presented.
Localización: Biblioteca OET: S9521. Biblioteca de Inventario (INBio).

Mesoamerican Mallota flower flies (Diptera: Syrphidae) with the description of four new species [Moscas de las flores mesoamericanas Mallota (Diptera: Syrphidae) con la descripción de cuatro nuevas especies] / Thompson, F.C.; Zumbado-Arrieta, M.A. (USDA / ARS. National Museum of Natural History, Smithsonian Institution, Systematic Entomology Laboratory, PSI, Washington, DC 20560-0169, US <E-mail: cthompso@sel.barc.usda.gov> <E-mail: mzumbado@inbio.ac.cr>).
In: Studia Dipterologica (ISSN 0945-3954), v. 9, p. 89-107. 2002.
The species of the genus Mallota found in Mesoamerica are revised. A key to species along with synonymies, descriptions, distributions, and figures of the male genitalia for all species are given. Four new flower flies are described: Mallola anniae Zumbado spec. nov. (Costa Rica), M. apis Thompson spec. nov. (Costa Rica), M. fuca Thompson spec. nov. (Mexico, Costa Rica) and M. klepsvikae Zumbado spec. nov. (Mexico, El Salvador, Costa Rica).
Localización: Biblioteca OET: NBINA-2071. Biblioteca de Inventario (INBio).

A synopsis of the sawflies (Hymenoptera: Symphyta) of America south of the United States: Tenthredinidae (Nematinae, Heterarthrinae, Tenthredininae) [Un resumen de los tentredínidos (Hymenoptera: Symphyta) de América al sur de los Estados Unidos: Tenthredinidae (Nematinae, Heterarthrinae, Tenthredininae)] / Smith, D.R. (National Museum of Natural History. Smithsonian Institution, USDA/ARS, PSI, Systematic Entomology Laboratory, Washington, DC 20560, US <E-mail: dsmith@sel.barc.usda.gov>).
In: Transactions of the American Entomological Society (ISSN 0002-8320), v. 129, no. 1, p. 1-45. 2003.
The subfamilies Nematinae, Heterarthrinae, and Tenthredininae of the Tenthredinidae are reviewed for the Western Hemisphere south of the United States. A key is given for the seven subfamilies of Tenthredinidae for this region. Nematinae include six genera and 17 species, with the following new species: Pristiphora auricauda (Costa Rica), P. fernandezi (Colombia), P. fuscalae (Costa Rica), P. hansoni (Costa Rica), P. helveola (Mexico), and P. semialba (Venezuela). Heterarthrinae include three generaand eight species, with one new species, Brasinusa malaisei (Brazil). Tenthredininae include three genera and four species. All Tenthredininae and many of the Nematinae are southern extensions of

northern groups into northern Mexico, and two species, Nematus oligospilus (Foerster) (Nematinae) and Caliroa cerasi (L.) (Heterarthrinae), are introductions into southern South America. All nine species of Pristiphora (Nematinae) and the genera Brasinusa and Notofenusa (Heterarthrinae) are endemic to the Neotropics.
Localización: Biblioteca OET: S9038.

New species, new combinations and new distributions in neotropical species of Elaphoglossum (Lomariopsidaceae) [Nuevas especies, nuevas combinaciones y nuevas distribuciones en especies neotropicales de Elaphoglossum (Lomariopsidaceae)] / Rojas-Alvarado, A.F. (Universidad de Costa Rica. Jardín Botánico Lankester, Apdo. 1031-7050, Cartago, CR <E-mail: afrojasa@hotmail.com>).
In: Revista de Biología Tropical (ISSN 0034-7744), v. 50, no. 3-4, p. 969-1006. 2002.
More new species, new combinations and new distributions are made in the large and difficult genus Elaphoglossum in Neotropic. Ten new species are described, this are: Elaphoglossum adrianae A. Rojas, E. betancuri A. Rojas, E. caridadae A. Rojas, E. glabromarginatum A. Rojas, E. kessleri A. Rojas, E. macdougalii A. Rojas, E. paramicola A. Rojas, E. paxense A. Rojas, E. pseudoherminieri A. Rojas and E. solomonii A. Rojas. Three species are combined, this are: Elaphoglossum beitelii (Mickel) A. Rojas,E. curvans (Kunze) A. Rojas and E. eutecnum (Mickel) A. Rojas. Finally, 86 species are reported from other countries and some species names are synonymized.
Localización: Biblioteca OET: R.

Areas silvestres protegidas y comunidades locales en América Latina / Oviedo-Carrillo, G.; Sylva-Charvet, P. / FAO. Oficina Regional para América Latina y el Caribe, Proyecto FAO/PNUMA sobre Manejo de Areas Silvestres, Areas Protegidas y Vida Silvestre en América Latina y el Caribe, Santiago, CL.
Taller Internacional sobre Areas Silvestres Protegidas y Comunidades Locales. , Reserva Biológica Monteverde. CR. Oct 1989.
Santiago: FAO, 1994. 144 p. (Documento Técnico - Proyecto FAO/PNUMA RLAC/94/17 (FAO); no. 17).
(No abstract).
Localización: Biblioteca OET: AD 670. Biblioteca Conmemorativa Orton: FAO Series.

Sistema Nacional de Áreas de Conservación: Parques nacionales y otras áreas silvestres protegidas de Costa Rica / Mena-Araya, Y.; Artavia-Zamora, G. (Ministerio de Ambiente y Energía. Sistema Nacional de Áreas de Conservación; Equipo de Áreas Silvestres Protegidas, San José, CR).
San José: MINAE, 1998. 67 p.
La labor realizada en el país durante las últimas décadas en el campo de la conservación, es producto de los esfuerzos compartidos por el Estado y la comunidad nacional, lo cual ha otorgado al país un reconocimiento y una responsabilidad que exige afrontar con novedosos y eficientes planteamientos, los retos del desarrollo sostenible para el próximo siglo. Con el establecimiento del Sistema Nacional de Áreas de Conservación se propone resguardar los ecosistemas más sobresalientes, integrando los gobiernos locales, empresa privada, organizaciones e individuos en las iniciativas de conservación de los recursos naturales del país. En este documento se presentan los aspectos más relevantes sobre la gestión del Sistema Nacional de Areas de Conservación,con la intención de satisfacer la demanda de información requerida por la población estudiantil y otros

interesados en el tema. Se describe el marco conceptual y estructura de la nueva organización, y se resume la situación actual de las áreas silvestresprotegidas del país. El Sistema Nacional de Áreas de Conservación (SINAC) surge como parte de un proceso de modernización del esquema de gestión administrativo y de manejo de los recursos naturales del país que se viene desarrollando desde el decenio de los setentas. La puesta en operación de este enfoque ha implicado fuertes cambios conceptuales y administrativos, así como la formulación de los cambios jurídicos necesarios para consolidar el SINAC. Este nuevo modelo de gestión está orientado a satisfacer los requerimientos de una nueva administración de las áreas silvestres protegidas y a satisfacer las necesidades socioeconómicas de las comunidades aledañas a éstas, mediante su integración al desarrollo regional. Las Áreas de Conservación sirven de enlace entre las organizaciones locales y nacionales, en procura de un aprovechamiento racional de los recursos naturales disponibles y la búsqueda de soluciones conjuntas a la problemática ambiental de la región. El fundamento de la gestión del SINAC consiste en integrar, por una parte, las áreas silvestres protegidas a la sociedad por medio de la producción de bienes y servicios, así como desarrollar los medios para que la sociedad participe en la administración de las mismas. Por otra parte, fomenta el manejo de los recursos naturales por parte del sector privado, organizaciones e individuos mediante el apoyo a iniciativas de producción sostenibles que aseguren la conservación de los sistemas esenciales para la vida.
Localización: Biblioteca OET: AD 481.

Systematic revision of Anopinella Powell (Lepidoptera: Tortricidae: Euliini) and phylogenetic analysis of the Apolychrosis group of genera [Revisión sistemática de Anopinella Powell (Lepidoptera: Tortricidae: Euliini) y análisis filogenético de los géneros del grupo Apolychrosis] / Brown, J.W.; Adamski, D. (National Museum of Natural History. USDA-ARS, Institute of Plant Sciences, Systematic Entomology Laboratory, Washington, DC 20560, US <E-mail: jbrown@sel.barc.usda.gov> <E-mail: dadamski@sel.barc.usda.gov>).
In: Zootaxa (ISSN 1175-5334 [online edition]), no. 200, p. 1-94. 2003.
Thirty-five species are recognized in the Neotropical genus Anopinella Powell, including 5 previously described, A. isodelta (Meyrick), A. triquetra (Walsingham), A. ophiodes (Walsingham), A. aurea (Razowski & Becker), new combination, and A. perblanda (Razowski & Becker), new combination, and 30 described as new: A. albolinea (TL: Costa Rica), A. araguana (TL: Venezuela), A. arenalana (TL: Costa Rica), A. boliviana (TL: Bolivia), A. brasiliana (TL: Brazil), A. cafrosana (TL: Costa Rica), A. cartagoa (TL: Costa Rica), A. carabayana (TL: Peru), A. choko (TL: Colombia), A. cuzco (TL: Peru), A. fana (TL: Venezuela), A. holandia (TL: Guatemala), A. larana (TL: Venezuela), A. macrosema (TL: Costa Rica), A. mariana (TL: Guatemala), A. panamana (TL: Panama), A. parambana (TL: Ecuador), A. peruvensis (TL: Peru), A. phillipsae (TL: Costa Rica), A. porrasa (TL: Costa Rica), A. powelli (TL: Costa Rica), A. rastafariana (TL: Jamaica), A. razowskii (TL: Brazil), A. rica (TL: Costa Rica), A. rigidana (TL: CostaRica), A. styraxivora (TL: Costa Rica), A. sympatrica (TL: Guatemala), A. tinalandana (TL: Ecuador), A. transecta (TL: Costa Rica), and A. tucki (TL: Peru). The genus occurs from Jamaica and southern Mexico to southern Thirty-five species are recognized in the Neotropical genus Anopinella Powell, including 5 previously described, A. isodelta (Meyrick), A. triquetra (Walsingham), A. ophiodes (Walsingham), A. aurea (Razowski & Becker), new combination, and A. perblanda (Razowski & Becker), new combinationand 30 described as new: A. albolinea (TL: Costa Rica), A. araguana (TL: Venezuela), A. arenalana (TL: Costa Rica), A. boliviana (TL: Bolivia), A. brasiliana (TL: Brazil), A. cafrosana (TL: Costa Rica), A. cartagoa (TL: Costa Rica), A. carabayana (TL: Peru), A.

choko (TL: Colombia), A. cuzco (TL: Peru), A. fana (TL: Venezuela), A. holandia (TL: Guatemala), A. larana (TL: Venezuela), A. macrosema (TL: Costa Rica), A. mariana (TL: Guatemala), A. panamana (TL: Panama), A. parambana (TL: Ecuador), A. peruvensis (TL: Peru), A. phillipsae (TL: Costa Rica), A. porrasa (TL: Costa Rica), A. powelli (TL: Costa Rica), A. rastafariana (TL: Jamaica), A. razowskii (TL: Brazil), A. rica (TL: Costa Rica), A. rigidana (TL: Costa Rica), A. styraxivora (TL: Costa Rica),A. sympatrica (TL: Guatemala), A. tinalandana (TL: Ecuador), A. transecta (TL: Costa Rica), and A. tucki (TL: Peru). The genus occurs from Jamaica and southern Mexico to southern Brazil, Paraguay, and Bolivia. One species has been reared from the fruit of Styrax (Styracaceae), one from a fungus gall on Inga longispina (Fabaceae), and one from the stem of Vernonia (Asteraceae). We re-examine phylogenetic relationships among Anopinella and its putative related genera, Seticosta Razowski, Punctapinella Brown, Strophotina Brown, and Apolychrosis Amsel. We synonymize Ecuadorica Razowski & Becker, 2000, with Anopinella.
Localización: Biblioteca OET: NBINA-945.

Finding effective conservation and development in the AMISCONDE initiative at La Amistad, Costa Rica [Encontrando la conservación y desarrollo efectivo en la iniciativa AMISCONDE en La Amistad, Costa Rica] / Clark, T.W, (ed.).; Tuxill, J, (ed.).; Ashton. M.S, (ed.). (Yale University, New Haven, CT 06511, US).
In: Journal of Sustainable Forestry (ISSN 1054-9811), v. 16, no, 1/2, p. 1-14. 2003.
This issue seek to promote a deeper understanding of sustainable development efforts that involve protected areas. The seven papers in this volume report on studies of the AMISCONDE Initiative at La Amistad, Costa Rica. The first paper provides an overview of the unusual collaboration between Conservation International, McDonald's, and two universities in the USA that gave rise to the AMISCONDE Initiative. The next two papers focus more closely on several intransigent environmental problems that confront the AMISCONDE Initiative in the buffer zone of La Amistad. The next two papers examine the goals and methods of the AMISCONDE Initiative in the context of broader approaches to conserving biodiversity and integrating conservation and sustainable development. The next paper examines the organizational relationships in the AMISCONDE project. The next paper offers a more general overview of problem-solving approaches involved in conserving biodiversity and managing protected areas. Finally, the last paper analyses the field trip-based course from which these papers originated. In this paper, the course in terms of how well it prepares students to deal with real-life natural resource management problems and in terms of the opportunity it provides to students to assess a natural resource management case study, is evaluated.
Localización: Biblioteca OET: NBINA-2151.

Buffer zones as a conservation strategy: the AMISCONDE case [Zonas de amortiguamiento como estrategia de conservación: el caso de AMISCONDE] / McGray, H. (Yale University, New Haven, CT 06511, US).
In: Journal of Sustainable Forestry (ISSN 1054-9811), v. 16, no. 1/2, p. 103-119. 2003.
Buffer zones serve as zones outside a protected area from which people can derive material or economic benefit, but which also provide wildlife habitat and ecosystem services. "Integrated conservation and development programs" (ICDPs) established in buffer zone communities promote sustainable patterns of economic development. However, they have been widely criticized for poor implementation. In this paper, I examine Conservation International's AMISCONDE programme in Costa Rica as a case study of the role of ICDPs in buffer zones. The study suggests that

varying and poorly defined conceptions of buffer zones among ICDP workers and participants can contribute to the failure of ICDPs to implement effective buffer zone-based conservation strategies. Alternative approaches to buffer zone delineation are examined. Recommendations include the clarification of competing buffer zone definitions; construction of a buffer zone definition that can be shared by all conservation participants in the region; andsystematic assessment of the conceptual linkages between ICDP activities and conservation goals.
Localización: Biblioteca OET: NBINA-1608.

Biodiversity conservation in the La Amistad Biosphere Reserve: the AMISCONDE approach [Conservación de la biodiversidad en la Reserva de la Biosfera La Amistad: el enfoque de AMISCONDE] / Gorman, G.C. (952 The Alameda, Berkeley, CA 94707, US).
In: Journal of Sustainable Forestry (ISSN 1054-9811), v. 16, no. 1/2, p. 121-141. 2003.
The AMISCONDE Initiative was created and promoted by Conservation International (CI). This paper analyses the approach to biodiversity conservation of the Costa Rican portion of the Initiative in the context of CI's mission statement. Global, national and local challenges to biodiversity conservation are briefly reviewed. Then, the implementation of the AMISCONDE Initiative is examined. To provide a basis for comparison, two other well-known Costa Rican conservation programmes are summarized. The Initiative differs from these other programmes in its central emphasis. AMISCONDE focuses on community development, apparently prioritizing development above biodiversity protection. The paper concludes with several recommendations: that the Initiative place far greater emphasis on biodiversity through education, employment opportunities and collaboration with other organizations interested in the biota of the region; and that the programme evaluate its impact on the protected area's biota. This would enable CI to determine the degree to which the impacts of the Initiative are consistent with its mission.
Localización: Biblioteca OET: NBINA-1609.

Improving organizational relationships in sustainable development projects: the AMISCONDE Initiative as a case study [Mejorando las relaciones organizacionales en proyectos de desarrollo sostenible: la Iniciativa AMISCONDE como estudio de caso] / Kuebler, C.G. (645 East 80th Street, Indianapolis, IN 46240, US).
In: Journal of Sustainable Forestry (ISSN 1054-9811), v. 16, no. 1/2, p. 143-160. 2003.
This paper examines the relationship between a conservation NGO, Conservation International, and the Costa Rican government agency in charge of the Environment, MINAE. Both of these organizations espouse a belief in using sustainable development as ameans to conserve biodiversity. This paper describes the past and current relationships between the two organizations, and then examines the benefits that could result from a cooperative effort between the two. The course of action recommended here is for these two organizations to draw on concepts from organizational theory to establish a new productive relationship. By using organizational theory the two organizations can gain a better understanding of their own operations as well as those of the other. When used in this manner, organizational theory has the potential to create more prosperous and successful cooperation among conservation programmes.
Localización: Biblioteca OET: NBINA-1610.

The AMISCONDE partnership in Costa Rica: improving the effectiveness of collaboration for conservation and development [La asociación AMISCONDE en

Costa Rica: mejorando la eficacia de la colaboración para la conservación y el desarrollo] / Miller, C. (Yale University, New Haven, CT 06511, US).
In: Journal of Sustainable Forestry (ISSN 1054-9811), v. 16, no. 1/2, p. 15-37. 2003.
The AMISCONDE Initiative in Costa Rica and Panama was implemented through a partnership involving Conservation International, McDonald's Corporation, Clemson University, and later Texas A & M University. This paper provides an appraisal of the partnership using criteria established by Berry et al. (1995) and Berry and Dyer (1996). Results indicate that the AMISCONDE collaborators could improve the essential partnership elements of inclusiveness and communication. The establishment of a common visionand goals and the avoidance of "goal substitution" can help promote partnership success. I recommend that the AMISCONDE partnership and other similar efforts should seek to (1) increase inclusiveness by recognizing participating communities as partnership members; (2) fully utilize each partner's strengths to promote the common interest; (3) encourage communication with partnership members early on in the project to ensure vital components of the project are not overlooked; (4) make partnership endeavors a learning experience through transparency and outside reviewers; and (5) ensure that a common vision and goals are established to avoid subjugation to individual goals.
Localización: Biblioteca OET: NBINA-1611.

An interdisciplinary approach to natural resources conservation: a flagship species example from Costa Rica [Un enfoque interdisciplinario para la conservación de los recursos naturales: un ejemplo de especies insignia de Costa Rica] / Clark, T.W.; Wishnie, M.H.; Gorman, G.C. (Yale University. School of Forestry and Environmental Studies, Wildlife Ecology and Policy, New Haven, CT 06511, US).
In: Journal of Sustainable Forestry (ISSN 1054-9811), v. 16, no. 1/2, p. 161-189. 2003.
Conservation of species, protected areas, and natural resources requires appropriate problem-solving strategies. An interdisciplinary problem-solving strategy is introduced requiring users to ask and answer three basic questions about any management or policy process. Is it reasonable? Is it politically practical? And is it morally justified? Concepts needed to ask and answer these questions in an interdisciplinary way are given, explained, and illustrated using Baird's tapir in Costa Rica as an example. As well, problem solvers must understand and account for their own standpoint or role in conservation. Finally, users of this approach must integrate all their knowledge about these three questions and their standpoint into an overall judgment thatthey are willing to take conservation action on and responsibility for. Use of this interdisciplinary approach is expected to improve conservation process and outcomes.
Localización: Biblioteca OET: NBINA-1612.

Assessing effectiveness of a field-trip based course in professional education: the AMISCONDE Costa Rica case study [Evaluando la eficacia de un curso en educación profesional con base a una gira de campo: estudio de caso AMISCONDE en Costa Rica] / Rhee, S. (Yale University. School of Forestry and Environmental Studies, 210 Prospect Street, New Haven, CT 06511, US).
In: Journal of Sustainable Forestry (ISSN 1054-9811), v. 16, no. 1/2, p. 191-208. 2003.
Field trips are important opportunities for students to learn and exercise integrative, interdisciplinary problem-solving skills for real-world situations. This paper examines the extent to which a field trip-based course in natural resource management contributes to the preparation of

practitioners to solve complex environmental problems. It describes a field trip-based course at the Yale School of Forestry and Environmental Studies, the individuals involved in the course, and a field trip to the La Amistad Biosphere Reserve, Costa Rica to carry out a rapid assessment of AMISCONDE, an integrated conservation and development project in southern Costa Rica. This paper also evaluates the success of the course in terms of how well it prepares studentsto deal with real-life natural resource management problems and in terms of the opportunity it provides to students to assess a natural resource management issue. The paper concludes that the course is to a large extent successful in the former and less so in the latter. It recommends the following for the planning and implementation of field trip based courses. During the period prior to the field trip, (1) instructors need to clarify course goals and how students are expected to meet those goals; (2) the majority of class time should be spent discussing the management problem that is the focus of the field trip; (3) instructors and students need to discuss and operationalize the policy sciences framework; and (4) the course should provide sessions onrapid assessment techniques and team building exercises. During the field trip, (1) time spent on the project should be maximized; (2) instructors should ensure that hosts understand that students will want to meet with stakeholders independently; and (3) group meetings among students and instructors should focus more on discussing events of the day instead of individual research projects.
Localización: Biblioteca OET: NBINA-1613.

Coffee agroforestry systems for conservation and economic development: a case study of the AMISCONDE Initiative in a buffer zone community of Costa Rica [Sistemas agroforestales con café para la conservación y desarrollo económico: un estudio de caso de la Iniciativa AMISCONDE en una zona de amortiguamiento de Costa Rica] / Young, C.M. (Smithsonian Institution. Center for Tropical Forest Science, 1100 Jefferson Drive, Suite 3123, Washington, DC 20560, US).
In: Journal of Sustainable Forestry (ISSN 1054-9811), v. 16, no. 1/2, p. 39-63. 2003.
The agroforestry programme of the AMISCONDE Initiative was implemented in 13 buffer zone communities of La Amistad Biosphere Reserve in Costa Rica. This programme introduced citrus (Citrus spp.) and promoted the widespread inclusion of poró (Erythrina poeppigiana) shade trees, understorey vegetation, and soil conservation techniques to the local cultivation of coffee (Coffea arabica var. caturra). This programme sought long term socioeconomic and ecological health in these buffer zone communities through conservation and development projects such as coffee agroforestry systems. This paper examines the ecological and socioeconomic benefits of two introduced coffee agroforestry systems: coffee-poro and coffee-citrus. The project has decreased agrochemical inputs, integrated multi-strata vegetation, and implemented soil conservation techniques such as vetiver grass, cover crops, terraces, water channelling, and shade trees in an effort to sustainably manage coffee production on the steep buffer zone slopes. The agroforestry project of the AMISCONDE Initiative has likely improved the production of coffee ecologically and economically. However, new specialty markets should be explored to increase economic and ecological gains. Organic and fair trade coffee niche markets are suggested as alternatives for meeting the long term AMISCONDE objectives of community development and conservation.
Localización: Biblioteca OET: NBINA-1614.

Watershed management in the Pacific slope buffer zone of the La Amistad Biosphere Reserve, Costa Rica [Manejo de cuencas en la zona de amortiguamiento Pacífica de la Reserva de la Biosfera La Amistad, Costa

Rica] / Wishnie, M.H.; Socha, G. (Yale University. School of Forestry and Environmental Studies, Wildlife Ecology and Policy, New Haven, CT 06511, US).
In: Journal of Sustainable Forestry (ISSN 1054-9811), v. 16, no. 1/2, p. 65-102. 2003.
An analysis of watershed management in the Pacific slope of the Cordillera de Talamanca, Costa Rica, was conducted as part of a larger analysis of Conservation International's Amistad Conservation and Development (AMISCONDE) Initiative. General impacts of land use conversion are described with particular reference to tropical montane regions under conditions like those found on the Pacific slope of the Talamanca range. The quality of watershed management across the region and within the San Jerónimo-Zapotal watershed, one of the AMISCONDE Initiative sites, is evaluated. Significant problems are indicated regarding soil erosion, sedimentation, and agrochemical delivery to streams. These problems are likely due in part to the clearing of forest for cultivation on steep, highly erodable lands with little control over the location and construction of fields and associated infrastructure; a shift in land use from pasture to coffee cultivation and attendant increases in pesticide use; and unsafe pesticide application procedures. A lack of coordination among regulatory agencies, a nationwide lack of information regarding indicators of watershed health, and a lack of prioritization of restoration efforts within the AMISCONDE Initiative are possible factors contributing to the persistence of these problems. The authors advocate increased coordination among government agencies; the creation of central institutions for gathering and disseminating information regarding water quality, pesticide use, and pesticide impacts; and the prioritization of AMISCONDE restoration efforts within the San Jerónimo-Zapotal watershed to focus on riparian zones and other sensitive areas.
Localización: Biblioteca OET: NBINA-1615.

Sinopsis del género Meliosma (Sabiaceae) en Costa Rica y Panamá, con tres nuevas especies [A synopsis of the Costa Rican and Panamanian species of Meliosma (Sabiaceae), with three new species] / Morales-Quirós, J.F. (Instituto Nacional de Biodiversidad (INBio), Apdo. 22-3100, Santo Domingo de Heredia, CR <E-mail: fmorales@inbio.ac.cr>).
In: SIDA; Contributions to Botany (ISSN 0036-1488), v. 20, no. 3, p. 931-943. 2003.
A synopsis of the Costa Rican and Panamanian species of Meliosma (Sabiaceae) is presented here. Meliosma chiriquensis, M. clandestina, and M. depressiva are described and illustrated and their relationships are discussed.
Localización: Biblioteca OET: S10200. Biblioteca de Inventario (INBio). Biblioteca Museo Nacional: QK1 S5.

Une nouvelle chanterelle du Costa Rica: Cantharellus atrolilacinus [Cantharellus atrolilacinus n. sp. from Costa Rica] / Eyssartier, G.; Buyck, B.; Halling, R.E. (19 Ave Petit Parc, F-94300 Vincennes, Fr <E-mail: buyck@mnhn.fr> <E-mail: rhalling@nybg.org>).
In: Cryptogamie: Mycologie (ISSN 0181-1584), v. 24, no. 1, p. 21-25. 2003.
Cantharellus atrolilacinus sp. nov. is described. This taxon, closely related to Cantharellus conspicuous, has been collected in mountain Quercus forest in Costa Rica, Central America. A key is proposed for the tropical American Cantharellus.
Localización: Biblioteca OET: S10279.

Manual de plantas de Costa Rica. Volumen II. Gimnospermas y monocotiledóneas (Agavaceae-Musaceae) / Hammel, B.E, (ed.).; Grayum, M.H,

(ed.).; Herrera-Mora, C, (ed.).; Zamora-Villalobos, N.A, (ed.).; Troyo-Jiménez, S, (il.).; Crow, G.E.; Faden, R.B.; Goldblatt, P.; Gómez-Laurito, J.; Grant, J.S.; Grayum, M.H.; Hammel, B.E.; Hensold, N.; Kennedy, H.; Kress, W.J.; Maas, P.J.M.; Maas-van de Kamer, H.; Meerow, A.W.; Merello, M.; Morales-Quirós, J.F. (Instituto Nacional de Biodiversidad, Apdo. 22-3100, Santo Domingo de Heredia, CR <E-mail: bhammel@inbio.ac.cr> <E-mail: grayum@mobot.org> <E-mail: cherrera@inbio.ac.cr> <E-mail: nzamora@inbio.ac.cr> <E-mail: stroyo@inbio.ac.cr>).
In: Monographs in Systematic Botany from the Missouri Botanical Garden (ISSN 0161-1542), v. 92, no. 2, 694 pp. 2003.ISBN: 1-930723-22-9.
The Manual de Plantas de Costa Rica is a concise, illustrated guide to all of the species of native, naturalized, and commercially cultivated seed plants of this Central American country, which lies between Nicaragua and Panama and is thus centered in isthmian Central America- a biogeographical funnel between South- and North America, densely rich in species and geological history. The Manual is the first comprehensive Spanish-language account of the Costa Rican flora. The work is presented in a series of several volumes, Volume II, including all the gymnosperms and part of the monocots, is the first to appear. Nearly one half of the species in this volume are distributed among three large, economically and ornamentally important families: the Araceae (Philodendron, etc.) with 248 species, the Arecaceae (the palms) with 109 species, and the Bromeliaceae (pineapple, etc.) with 195 species. In total, 1125 species of monocots in 35 families are presented. Gymnosperms, of low diversity in the tropics,with only five families and 13 species in Costa Rica that fit the Manual's general criteria of native, naturalized, or commercially cultivated, are fully treated. Besides brief formal descriptions and informal notes about each of a total of 40 families, 190 genera, and 1136 species of seed plants, this identification manual contains keys to all the gymnosperm and monocot families treated in the series, as well as to the genera and species included within this volume. In all, 218 original line drawings and 40 black-and-white photographs illustrate the treatments.
Localización: Biblioteca OET: 581.97286 M294. PV. LC. LS.

Revision of the Phyllophaga s.s. schizorhina species group (Coleoptera: Melolonthidae: Melolonthinae) [Revisión de los Phyllophaga s.s. del grupo schizorhina (Coleoptera: Melolonthidae: Melolonthinae)] / Morón-Ríos, M.A. (Instituto de Ecología. Departamento de Entomología, Apdo. Postal 63, Xalapa, Veracruz 91000, MX <E-mail: moron_ma@ecologia.edu.mx>).
In: The Canadian Entomologist (ISSN 0008-347X), v. 135, no. 2, p. 213-302. 2003.
The Phyllophaga schizorhina (Bates) species group is revised, and the following new species are described from specimens collected in Mexico, Guatemala, Nicaragua, Costa Rica, Panama, and Ecuador: P. changuena sp. nov., P. onoreana sp. nov., P. solisiana sp. nov., P. schizorhinoides sp. nov., P. boruca sp. nov., P. izabalana sp. nov., P. canoana sp. nov., P. chortiana sp. nov., P. zarcoana sp. nov., P. chiblacana sp. nov., P. javepacuana sp. nov., P. ocozocuana sp. nov., P. chimoxtila sp. nov., P. cholana sp. nov., P. tuxtleca sp. nov., P. zaragozana sp. nov., P. matacapana sp. nov., P. catemacoana sp. nov., P. atratoides sp. nov., P. humboldtiana sp. nov., P. comaltepecana sp. nov., P. dsaimana sp. nov., P. quiana sp. nov., P. yoloxana sp. nov, and P. pseudoatra sp. nov. Phyllophaga schizorhina and P. nigrita are recorded for first time from Costa Rica. A key is provided for males of the 38 species. Diagnostic structures of all species are illustrated and distribution maps are provided.
Localización: Biblioteca OET: S9203. Biblioteca de Inventario (INBio).

Lactarius furcatus in Mexico and Costa Rica [Lactarius furcatus en México y Costa Rica] / Montoya, L.; Bandala, V.M.; Halling, R.E. (Instituto de Ecología. División de Sistemática, Apdo. Postal 63, Xalapa, Veracruz 91000, MX <E-mail: montoya@ecologia.edu.mx> <E-mail: bandala@ecologia.edu.mx> <E-mail: rhalling@nybg.org>).
In: Mycotaxon (ISSN 0093-4666), v. 87, p. 311-316. 2003.
Fresh collections of Lactarius furcatus were gathered in Mexico and Costa Rica. The type specimen from United States (North Carolina) apparently is lost. A specimen from Tennessee, U.S.A., determined as Lactarius furcatus by A. H. Smith and kept at Mich. was also studied. A description and discussion, based on recent collections, including illustrations of macro and microscopic features, are presented.
Localización: Biblioteca OET: NBINA-1301.

An illustrated guide to the Orthocomotis Dognin (Tortricidae) of Costa Rica, with summaries of their spatial and temporal distribution [Guía ilustrada para las Orthocomotis Dognin (Tortricidae) de Costa Rica, con resúmenes sobre su distribución espacial y temporal] / Brown, J.W. (National Museum of Natural History. USDA / ARS, PSI, Systematic Entomology Laboratory, MRC-168, Washington, DC 20560, US <E-mail: jbrown@sel.barc.usda.gov>).
In: Journal of the Lepidopterists' Society (ISSN 0024-0966), v. 57, no. 4, p. 253-269. 2003.
Ten species of Orthocomotis Dognin are reported from Costa Rica: O. ochracea Clarke; O. herbacea Clarke (=O. subolivata Clarke, new synonymy); O. longicilia Brown, new species; O. magicana (Zeller); O. chaldera (Druce); O. herbaria (Busck) (=O. cristata Clarke, new synonymy; =O. uragia Razowski & Becker, new synonymy); O. phenax Razowski & Becker; O. similis Brown, new species; O. nitida Clarke; and O. altivolans Brown, new species. Orthocomotis herbacea has been reared from avocado (Persea americana) and O. herbaria from Nectandra hihua, both in the Lauraceae, suggesting that this plant family may act as the larval host for other species of Orthocomotis. A portion of a preserved pupal exuvium associated with the holotype of O. herbacea suggests that the pupae of Orthocomotis are typical for Tortricidae, with the abdominal dorsal pits conspicuous in this stage. Adults and genitalia of all species arc illustrated, and elevational occurrence is graphed. Orthocomotis herbaria and O. nitida are species of the lowlands (ca. 0-800 m); O. altivolans is restricted to the highest elevations (ca. 2000-3000 in); the remainder of the species occupy the middle elevations (ca. 800-1800 m). Five of the 10 species documented from Costa Rica appear to he restricted to this Central American country.
Localización: Biblioteca OET: S9213.

Synopsis of the Neotropical holosericeus complex of the genus Ommatius Wiedemann (Diptera: Asilidae): ampliatus and holosericeus species groups [Sinopsis del complejo neotropical holosericeus del género Ommatius Wiedemann (Diptera: Asilidae): especies de los grupos ampliatus y holosericeus] / Scarbrough, A.G. (Towson State University. Department of Biological Sciences, Baltimore, MD 21252, US <E-mail: ascarbrough@towson.edu>).
In: Transactions of the American Entomological Society (ISSN 0002-8320), v. 128, no. 2/3, p. 133-222. 2002.
The Neotropical holosericeus complex is reported and defined for the first time. The complex contains 26 species, 20 being assigned to the ampliatus (ampliatus n. sp., angulosus n. sp., angustatus n. sp., ayalai n. sp., bullatus n. sp., constrictus n. sp., depressus n. sp., destitutus n. sp., dolabriformis n. sp., fernandezi n. sp., flexus n. sp., gladiatus n. sp., lunatus n. sp., ovatus n. sp., quadratus n. sp., tanpadiensis n. sp., triangularis n. sp., tropidus n. sp., tucumanensis n. sp., unguiculatus n.

sp.) and 6 to the holosericeus (aridus n. sp., conus n. sp., exilus Curran, holosericeus Schiner, narrius n. sp., simulans n. sp.) species groups. Each species group is defined, species described, and the hind femur of the male and terminalia ofboth sexes are illustrated. The male of Ommatius holosericeus Schiner, a lectotype of O. holosericeus is designated, and the female of O. exilis is reported for the first time. This study increases the number of valid Neotropical species to 93.
Localización: Biblioteca OET: S9285.

The cladistics and biology of the Callajoppa genus-group (Hymenoptera: Ichneumonidae, Ichneumoninae) [Cladística y biología del grupo del género Callajoppa (Hymenoptera: Ichneumonidae, Ichneumoninae)] / Sime, K.R.; Wahl, D.B. (American Entomological Institute, 3005 SW 56th Avenue, Gainesville, FL 32608-5041, US).
In: Zoological Journal of the Linnean Society (ISSN 0024-4082), v. 134, no. 1, p. 1-56. 2002.
A cladistic analysis is presented for the genera of the former ichneumonine tribe Trogini. The tribe Heresiarchini is paraphyletic with respect to the Trogini, and so maintaining Trogini as a separate tribe is unsatisfactory. Within Heresiarchini, the following changes are made: (a) the subtribes Apatetorina and Heresiarchina are referred to as the Apatetor and Heresiarches genus-groups, (b) the genera of the paraphyletic subtribe Protichneumonina are treated as incerta sedis within Heresiarchini, and (c) the Trogini are referred to as the Callajoppa genus-group, with the former subtribe Trogina referred to as the Trogus subgroup. Thirty-five genera are recognized as valid within the Callajoppa genus-group. Catadelphops, Catadelphus, Cobunus, and Facydes are transferred to this group; Holojoppa is removed and is incertae sedis within Heresiarchini. Three new synonyms are proposed: Araeoscelis and Cryptopyge are junior synonyms of Macrojoppa, and Neamblyjoppa is a junior synonym of Catadelphops. Trogus latipennis Cresson is transferred to Pedinopelte from Macrojoppa, and Trogus mactator Tosquinet and its related species (T. bicolor Radoszkowski, T. heinrichi Uchida, and T. tricephalus Uchida) are transferred to Holcojoppa. Tricyphus is redefined and a neotype is designated for Tricyphus cuspidiger Kriechbaumer, the type-species of the genus. Thirteen new genera are described (authorship of all is Wahl & Sime): Charmedia (type-species: Charmedia chavarriai Wahl & Sime, sp. n.), Daggoo (type-species: Daggoo philoctetes Wahl & Sime, sp. n.), Dothenia (type-species: Dothenia hansoni Wahl & Sime, sp. n.), Humbert (type-species: Humbert humberti Wahl & Sime, sp. n.), Laderrica (type-species: Laderrica feenyi Wahl & Sime, sp. n.), Mokajoppa (type-species: Tricyphus respinozai Ward & Gauld), Metallichneumon (type-species: Metallichneumon neurospastarchus Wahl & Sime, sp. n.), Myocious (type-species: Myocious orientalis Wahl & Sime, sp. n.), Quandrus (type-species: Trogus pepsoides Smith, transferred from Callajoppa), Queequeg (type-species: Gathetus flavibasalis Uchida, transferred from Neofacydes), Saranaca (type-species: Trogus elegans Cresson; includes Trogus apicalis Cresson, Tricyphyus ater Hopper, and Tricyphus floridanus Heinrich), Tashtego (type-species: Tashtego janzeni Wahl & Sime, sp. n.), and Xanthosomnium (type-species: Xanthosomnium froesei Wahl & Sime, sp. n.). A key to the genera of the Callajoppa genus-group is provided. The evolution of biological traits within the Callajoppa genus-group is discussed with reference to the elucidated phylogeny. The groundplan biology is parasitism of Sphingidae, with oviposition into a host pupa/prepupa. There have been two transitions to butterfly parasitism within the Trogus subgroup: one a transition to Papilionidae (followed by a switch to Nymphalidae at Psilomastax) and the other to Nymphalidae (followed by a switch to Papilionidae within Macrojoppa).
Localización: Biblioteca OET: NBINA-1238.

New taxa, new records and redefined concepts in the Elaphoglossum sect. Elaphoglossum subsec. Pachyglossa (Lomariopsidaceae) from Mexico and Central America [Nuevos taxones, nuevos registros y conceptos redefinidos en los Elaphoglossum sect. Elaphoglossum subsec. Pachyglossa (Lomariopsidaceae) de México y Centroamérica] / Rojas-Alvarado, A.F. (Universidad de Costa Rica. Jardín Botánico Lankester, Apdo. 1031-7050, Cartago, CR <E-mail: afrojasa@hotmail.com>).
In: Revista de Biología Tropical (ISSN 0034-7744), v. 51, no. 1, p. 1-32. 2003.
Twelve new species are described in the taxonomically difficult Elaphoglossum (sect. Elaphoglossum): Elaphoglossum angustifrons A. Rojas, E. delgadilloanum A. Rojas, E. ellipticifolium A. Rojas, E. incognitum A. Rojas, E. mesoamericanum A. Rojas, E. nicaraguense A. Rojas, E. polypodium A. Rojas, E. rejeroanum A. Rojas, E. reptans A. Rojas, E. terrestre A. Rojas, E. variabile A. Rojas and E. zavale A. Rojas. Also. E. latifolium (Sw.) J. Sm., E. sartorii (Liebm.) Mickel and E. viride (E. Fourn.) C. Chr. are amended, E. andicola (He) T. Moore and E. sporadolepis (Kunze ex Kuhn) T. Moore are reported.
Localización: Biblioteca OET: R.

Notes on Elaphoglossum sect. Polytrichia subsec. Hybrida in Mexico and Central America [Apuntes sobre Elaphoglossum sect. Polytrichia subsec. Hybrida en México y Centroamérica] / Rojas-Alvarado, A.F. (Universidad de Costa Rica. Jardín Botánico Lankester, Apdo. 1031-7050, Cartago, CR <E-mail: afrojasa@hotmail.com>).
In: Revista de Biología Tropical (ISSN 0034-7744), v. 51, no. 1, p. 33-48. 2003.
In Elaphoglossum sect. Polytrichia subsect. Hybrida six new species are described: E. angustioblongum A. Rojas, E. baquianorum A. Rojas, E. cotoi A. Rojas, E. jinoteganum A. Rojas, E. neeanum A. Rojas and E. silencioanum A. Rojas. New combination is made for Elaphoglossum mexicanum (E. Fourn.) A. Rojas. Two species are reported: E. barbatum (H. Karst.) Hieron. and E. scolopendrifolium (Raddi) J. Sm. Two species are redefined: E. erinaceum (Fee) T. Moore and E. tambillense (Hook.) T. Moore. E. pallidum (Baker ex Jenman) C. Chr. is eliminated for Mexico and Central America. Of the new species only E. neeanum is present outside of the region. A key is given to those species in Mexico and Central America.
Localización: Biblioteca OET: R.

Revision of the Natada fusca complex and description of six new Neotropical species (Lepidoptera: Limacodidae) [Revisión del complejo Natada fusca y descripción de seis nuevas especies Neotropicales (Lepidoptera: Limacodidae)] / Corrales-Mayorga, J.F. (Instituto Nacional de Biodiversidad (INBio), 22-3100 Santo Domingo de Heredia, CR <E-mail: jcorral@inbio.ac.cr>).
In: Revista de Biología Tropical (ISSN 0034-7744), v. 51, no. 2, p. 445-462. 2003.
Six new species in the genus Natada, which have been hidden under Natada fusca Druce, are described and defined primarily by genitalia. New species include N. burnsi, N. truncata, N. singulara, N. chaconi, N. covelli, and N. confusa. Five of eight species in the Natada fusca complex, which also includes N. fuscodivisa Dognin, occur in Costa Rica. Distribution of the complex ranges from Mexico to the upper Amazon Basin and Guianas. Detailed geographic information and multiple genitalic drawings of males of one species, N. confusa, are provided to help define and separate species. The lectotype and paralectotype of N. fusca are designated.
Localización: Biblioteca OET: R.

New species of Central American Culicoides Latreille (Diptera: Ceratopogonidae) with a synopsis of species from Costa Rica [Nuevas especies de Culicoides Latreille centroamericanas (Diptera : Ceratopogonidae) con un resumen de las especies de Costa Rica] / Spinelli, G.R.; Borkent, A. (Museo de La Plata. Departamento Científico Entomológico, Paseo del Bosque s/n, RA-1900 La Plata, AR <E-mail: spinelli@museo.fcnym.unip.edu.ar> <E-mail: aborkent@jetstream.net>).
In: Proceedings of the Entomological Society of Washington (ISSN 0013-8797), v. 106, no. 2, p. 361-395. 2004.
Ten new species of Central American Culicoides are described, illustrated and placed to subgenus or species group. Their position in previously published keys is indicated and their features discussed in light of the most recent revisions. Eight of the new species are known only from Costa Rica, one is known from Costa Rica and Panama and one is recorded from Honduras and El Salvador. The new species are named Culicoides annettae, C. chaverrii, C. cummingi, C. hermani, C. hondurensis, C. monicae, C.picadoae, C. ronderosae, C. trifidus, and C. zumbadoi. A list of 148 Culicoides species known or suspected of being in Costa Rica is given in a table. Of these, 42, including the new species, are recorded from Costa Rica for the first time. Most of the new species are recorded from middle to high elevations.
Localización: Biblioteca OET: S10070.

Estudio morfológico de Smilax L. (Smilacaceae) en Costa Rica, con implicaciones sistemáticas / Ferrufino-Acosta, L.; Gómez-Laurito, J. (Universidad de Costa Rica. Escuela de Biología, Ciudad Universitaria Rodrigo Facio, CR <E-mail: gomez-laurito@biologia.ucr.ac.cr>).
In: Lankesteriana (ISSN 1409-3871), v. 4, no. 1, p. 5-36. 2004.
A morphologic revision of Costa Rican species of Smilax is presented. Traditionally, up to 14 species were accepted. In the present paper 7 species are recognized: Smilax domingensis, S. mollis, S. panamensis, S. spinosa, S. spissa, S. subpubescens, and S. vanilliodora. The following names are treated as synonyms: Smilax engleriana and S. kunthii of S. domingensis; S. hirsutior, S. angustiflora and S. candelariae of S. mollis, and S. chiriquensis and S. regelii var. albida of S. vanilliodora. Smilaxregelii is excluded as a valid taxon and a lectotype of S. gymnopoda is designated. Dichotomous keys with vegetatives and reproductive characters (flowers and fruits) are presented, on the basis of field and herbaria observations. For all the species many important characters useful for identification were included, such as rhizome, stem, size of tepals and variation in berry colour during development stages.
Localización: Biblioteca OET: L.

How 'eco' is ecotourism? A comparative case study of ecotourism in Costa Rica [¿Cuán 'eco' es el ecoturismo? Un estudio de caso comparativo del ecoturismo en Costa Rica] / Stem, C.J.; Lassoie, J.P.; Lee, D.R.; Deshler, D.J. (Foundations of Success. Program Associate, 17 Avery Street, Saratoga Springs, NY 1286, US <E-mail: cjs33@cornell.edu>).
In: Journal of Sustainable Tourism (ISSN 0966-9582), v. 11, no. 4, p. 322-347. 2003.
This paper examines the potential of ecotourism as a tool for promoting conservation and community development, based on a comparative study in Costa Rica. Study findings were mixed regarding ecotourism's effectiveness as a conservation and community development tool. Survey respondents saw legal restrictions as more influential than tourism in prompting declines in deforestation and hunting rates. Likewise, respondents did not feel tourism operators were significant players in raising environmental awareness. The research also revealed that direct employment in ecotourism

was associated with pro-conservation practices, but indirect benefits showed stronger associations in generating pro-conservation perspectives. Little evidence was found to suggest that people are investing tourism-generated income in environmentally threatening practices. Research findings also indicated that scale influences tourism's benefits and negative impacts and that, where ecotourism dominates local economies, towns may become economically vulnerable. The paper concludes by recognizing that ecotourism would be most effective as a component of a broader conservation strategy and offers suggestions to improve ecotourism's potential.
Localización: Biblioteca OET: NBINA-1731.

New flightless Eumolpinae of the genera Apterodina Bechyné and Brachypterodina n. gen. (Coleoptera: Chrysomelidae) from the neotropics [Nuevos Eumolpinae no voladores de los géneros Apterodina Bechyné y Brachypterodina n. gen. (Coleoptera: Chrysomelidae) de los neotrópicos] / Flowers, R.W. (Florida A&M University. Center for Biological Control, Tallahassee, FL 32307, US <E-mail: rflowers7@earthlink.net>).
In: Zootaxa (ISSN 1175-5326), no. 549, p. 1-18. 2004.
The genus Apterodina Bechyné is redescribed and two new species with reduced wings, Apterodina bechynei n.sp. and Apterodina ruminyahui n.sp. are described from South America, and A. bucki Bechyné is redescribed. Brachypterodina new genus is described from Costa Rica along with the new species Brachypterodina morae and Brachypterodina gonzalezi. Keys to species of both genera are provided. The genera Apterodina and Brachypterodina are similar in appearance and may represent at least two independent cases of hind wing reduction in response to high altitude.
Localización: Biblioteca OET: NBINA-1522.

La Amistad International Peace Park: What part does it play in the peace process? [El Parque Internacional La Amistad: ¿Qué parte juega en el proceso de paz?] / Babladelis, P.G.
East Lansing, MI: Michigan State University, 2003. 110 pp.
Thesis, M.Sc., Michigan State University, East Lansing, MI (USA).
La Amistad International Peace Park was created jointly by the nations of Costa Rica and Panama in 1982 to protect natural ecosystems, model peace among nations, and provide sustainable development initiatives while ensuring the well being of indigenous inhabitants. It is Central America's oldest and largest international park and is both a U.N. World Heritage Site and a Biosphere Reserve under the U.N. Man and the Biosphere Programme. While historical data exists to determine the intended role of the park, there is no single work that brings together diverse sources in a unified conceptual framework. Further, there is little to document if the park is meeting its intended goals. This work provides a conceptual framework for the role of La Amistad as an international peace park functioning on three levels; peace with nature, peace among nations, and peaceful development. It then documents perceptions of one indigenous group, the Bribri, and reports how well they feel it is functioning in their lives and communities.
Localización: Non available. Copias: DISSERTATION ABSTRACTS.

The potential negative impacts of global climate change on tropical montane cloud forests [Impactos negativos potenciales del cambio climático global sobre los bosques nubosos montanos] / Foster, P.N. (Stanford University. Department of Biological Sciences, Stanford, CA 94305-5020, US).
In: Earth-Science Reviews (ISSN 0012-8252), v. 55, no. 1/2, p. 73-106. 2001.

Nearly every aspect of the cloud forest is affected by regular cloud immersion, from the hydrological cycle to the species of plants and animals within the forest. Since the altitude band of cloud formation on tropical mountains is limited, the tropical montane cloud forest occurs in fragmented strips and has been likened to island archipelagoes. This isolation and uniqueness promotes explosive speciation, exceptionally high endemism, and a great sensitivity to climate. Global climate change threatens all ecosystems through temperature and rainfall changes, with a typical estimate for altitude shifts in the climatic optimum for mountain ecotones of hundreds of meters by the time of CO2 doubling. This alone suggests complete replacement of many of the narrow altitude range cloud forests by lower altitude ecosystems, as well as the expulsion of peak residing cloud forests into extinction. However, the cloud forest will also be affected by other climate changes, in particular changes in cloud formation. A number of global climate models suggest a reduction in low level cloudiness with the coming climate changes, and one site in particular, Monteverde, Costa Rica, appears to already be experiencing a reduction in cloud immersion. The coming climate changes appear very likely to upset the current dynamic equilibrium of the cloud forest. Results will include biodiversity loss, altitude shifts in species' ranges and subsequent community reshuffling, and possibly forest death. Difficulties for cloud forest species to survive in climate-induced migrations include no remaining location with a suitable climate, no pristine location to colonize, migration rates or establishment rates that cannot keep up with climate change rates and new species interactions. We review previous cloud forest species redistributions in the paleo-record in light of the coming changes. The characteristic epiphytes of the cloud forest play an important role in the light, hydrological and nutrient cycles of the cloud forest and are especially sensitive to atmospheric climate change, especially humidity, as the epiphytes can occupy incredibly small eco-niches from the canopy to crooks to trunks. Even slight shifts in climate can cause wilting or death to the epiphyte community. Similarly, recent cloud forest animal redistributions, notably frog and lizard disappearances, may be driven by climate changes. Death of animals or epiphytes may have cascading effects on the cloud forest web of life. Aside from changes in temperature, precipitation, and cloudiness, other climate changes may include increasing dry seasons, droughts, hurricanes and intense rain storms, all of which might increase damage to the cloud forest. Because cloud forest species occupy such small areas and tight ecological niches, they are not likely to colonize damaged regions. Fire, drought and plant invasions (especially non-native plants) are likely to increase the effects of any climate change damage in the cloud forest. As has frequently been suggested in the literature, all of the above factors combine to make the cloud forest a likely site for observing climate change effects in the near future.
Localización: Biblioteca OET: NBINA-1499.

La Amistad Biosphere and AMISCONDE: a synthesis [La Biosfera de la Amistad y AMISCONDE: una síntesis] / Clark, T.W.; Ashton, M.S. (Yale University. School of Forestry and Environmental Studies, Wildlife Ecology and Policy, New Haven, CT 06511, US).
In: Journal of Sustainable Forestry (ISSN 1054-9811), v. 16, no. 1/2, p. 209-211. 2003.
We laud Conservation International and its partners for undertaking the AMISCONDE project. We support them in their effort to find sustainable ways for conservation of protected areas and development for communities. Finding practical sustainable conservation and development in the field, the only place that really matters, remains a vital, but elusive imperative. The pa-pers in this volume contribute to our collective work to meet the sustainability challenge and a basis for learning and future

improvements.
Localización: Biblioteca OET: NBINA-1616.

Una especie nueva de Monochaetum (Melastomataceae) en el Parque Internacional La Amistad, Costa Rica [A new species of Monochaetum (Melastomataceae) at the International Park La Amistad, Costa Rica] / Almeda, F., Jr.; Rodríguez-González, A.; Garita-M., A. (California Academy of Sciences. Department of Botany, Golden Gate Park, San Francisco, CA 94118-4599, US <E-mail: falmeda@calacademy.org> <E-mail: arodrig@inbio.ac.cr> <E-mail: agarita@inbio.ac.cr>).
In: Novon (ISSN 1055-3177), v. 14, no. 3, p. 245-248. 2004.
Monochaetum vestitum, which is characterized by its decumbent habit, solitary flowers and dense hypanthial indument of appressed minutely barbellate and smooth gland-tipped hairs, is described from Costa Rica's Cordillera de Talamanca. It is illustrated and compared to the superficially similar and sympatric M. trichophyllum Almeda, but it appears to have no close relatives among described congeners.
Localización: Biblioteca OET: S10281.

Systematic revision of the genera Homalolinus and Ehomalolinus (Coleoptera, Staphylinidae, Xantholinini) [Revisión sistemática de los géneros Homalolinus y Ehomalolinus (Coleoptera, Staphylinidae, Xantholinini)] / Márquez, J. (Universidad Autónoma del Estado de Morelos. Centro de Investigaciones Biológicas, Laboratorio de Sistemática Animal, Apdo. Postal 1-69, Pachuca, Hidalgo CP 42001, MX <E-mail: jml@hp.fciencias.unam.mx>).
In: Zoologica Scripta (ISSN 0300-3256), v. 32, p. 491-523. 2003.
The genera Homalolinus Sharp, 1885 and Ehomalolinus Bierig, 1934 are revised, and a cladistic analysis, a key to the species, generic redescription, description of new species, and distributional records are included. According to the cladistic analysis, based on 57 characters from the external morphology and male genitalia, Ehomalolinus is paraphyletic in relation to Homalolinus; the former is thus proposed as a synonym of the latter. The monophyly of Homalolinus is based on 23 synapomorphies. Twenty species are described as new.
Localización: Biblioteca OET: NBINA-1796.

Bufo marinus (cane toad) [Bufo marinus (sapo de la caña)] / Schlaepfer, M.A.; Pilgrim, K.A. (Cornell University. Department of Neurobiology and Behavior, Mudd Hall, Ithaca, NY 14853-2702, US <E-mail: mas50@cornell.edu>).
In: Herpetological Review (ISSN 0018-084X), v. 34, no. 2, p. 161. 2003.
(Abstract only). Costa Rica: Puntarenas Province; La Amistad Biosphere Reserve (8°59'N, 82°49'W), ca. 2200 m elev.: On a small hilltop along the trail leading from the Las Alturas de Cotón field station to Cerro Burú and Cerro Echandí. 14 July 2002. M. A. Schlaepfer and K. A. Pilgrim. KU Photograph Collection (CT 11890-891). Verified by Jay M. Savage. New elevational record for this species, which is generally not found above 1600 m in Costa Rica (Savage 2002. The Amphibians and Reptiles of Costa Rica. University of Chicago Press, Chicago, i-xx + 934 pp.). Campbell (1999. In W. E. Duellman [ed.], Patterns of Distribution of Amphibians: A Global Perspective, pp. 111 -210. Johns Hopkins Univ. Press) indicated that this species should occur as high as2000 m elev. in the highlands of Middle America. The specimen reported herein was found in primary lower montane rainforest in an area with no apparent evidence of standing water necessary for breeding. This record may have important implications in the ability of B. marinus to expand its range into higher and cooler regions of the world.

Localización: Biblioteca OET: S10093.

The taxonomy and biology of the Polycyrtus species (Hymenoptera: Ichneumonidae, Cryptinae) of Costa Rica [Taxonomía y biología de las especies de Polycyrtus (Hymenoptera: Ichneumonidae, Cryptinae) de Costa Rica] / Zúñiga-Ramírez, R.J. (Instituto Nacional de Biodiversidad, Apdo. Postal 22-3100, Santo Domingo de Heredia, CR <E-mail: rzuniga@inbio.ac.cr>).
In: Contributions of the American Entomological Institute (ISSN 0569-4450) , v. 33, no. 4, p. 1-159. 2004.
The Costa Rican species of the Cryptine genus Polycyrtus are described, and illustrated keys are provided for their identification. Based on a study of approximately 4,000 specimens, 72 species are recognized as occurring in the country. Of these Costa Rican species, 51 are here described as new and the remainder are redescribed for comparative purposes. The genus Bicristella Townes, is here treated as a junior synonym of Polycyrtus syn. n. as one of these two groups of species is apparently paraphyletic with respect to the other. Polycyrtus collinus Cameron is treated as a junior synonym of Polycyrtus melanoleucus (Brullé) syn. n., Bicristella chontalis (Cameron) is a junior synonym of Polycyrtus acerbus Crosson, syn. n. and Polycyrtus guatemalensis Cameron is treated as a junior synonym of P. semialbus Cresson, syn. n. New information is given about the host preferences of several species. These are known to be idiobiont endoparasitoids of the cocooned prepupae and pupae of pyraloid Lepidoptera.Maps are provided to show the known distribution of each species within Costa Rica.
Localización: Biblioteca OET: C. Biblioteca de Inventario (INBio).

Líquenes comunes del Parque Internacional La Amistad (Costa Rica) / Cháves-Cháves, J.L.; Obando-Acuña, V.L, (coord.).; Avila, D, (ed.).; Ocampo-Cubero, E, (dis. graf.). (Instituto Nacional de Biodiversidad (INBio), Apdo. 22-3100, Santo Domingo de Heredia, CR <E-mail: jchaves@inbio.ac.cr>).
Santo Domingo de Heredia: Editorial INBio, 2005. 2 pp.
(No abstract).
Localización: Biblioteca OET: NBINA-2058. Biblioteca de Inventario (INBio).

Aves comunes del Parque Internacional La Amistad (Costa Rica) / Zeledón, F, (il.).; Herrera-Villalobos, A, (comp.).; Sánchez, L, (comp.).; Obando-Acuña, V.L, (coord.).; Avila, D, (ed.).; Ocampo-Cubero, E, (dis. graf.). (Instituto Nacional de Biodiversidad (INBio), Apdo. 22-3100, Santo Domingo de Heredia, CR).
Santo Domingo de Heredia: Editorial INBio, 2005. 2 pp.
(No abstract).
Localización: Biblioteca OET: NBINA-2043. Biblioteca de Inventario (INBio).

Hongos de los bosques de roble del Parque Internacional La Amistad (Costa Rica) / Mata, M.; Obando-Acuña, V.L, (coord.).; Avila, D, (ed.).; Ocampo-Cubero, E, (dis. graf.). (Instituto Nacional de Biodiversidad (INBio), Apdo. 22-3100, Santo Domingo de Heredia, CR <E-mail: mmata@inbio.ac.cr>).
Santo Domingo de Heredia: Editorial INBio, 2005. 2 pp.
(No abstract).
Localización: Biblioteca OET: NBINA-2056. Biblioteca de Inventario (INBio).

Forest conservation and the clean development mechanism: Lessons from the Costa Rican protected areas project [Conservación del bosque y el mecanismo de desarrollo limpio: Lecciones del proyecto costarricense de áreas protegidas] / Vöhringer, F. (Wagenigen University. Department of Social Sciences, Environmental Economics and Natural Resources Group, Hollandseweg 1,6706 KN, Wageningen, NL <E-mail: frank.voehringer@wur.nl>).
In: Mitigation and Adaptation Strategies for Global Change (ISSN 1381-2386), v. 9, no. 3, p. 217. 2004.
Deforestation is currently the source of about 20 of anthropogenic CO2 emissions. Avoided deforestation has, nonetheless, been ruled out as a Clean Development Mechanism (CDM) category in the Kyoto Protocols first commitment period, because several methodological issues were considered too difficult to resolve. This paper explores whether CDM issues such as (1) carbon quantification, (2) additionality and baseline setting, (3) leakage risks, (4) non-permanence risks, and (5) sustainable development can be adequately dealt with in large, diversified forest conservation projects. To this aim, it studies the case of the Costa Rican Protected Areas Project (PAP), an Activities Implemented Jointly (AIJ) project which was meant to consolidate the national park system to avoid deforestation, promote the growth of secondary forests and regenerate pastures on an area that, in total, covers 10 of the national territory. The case study examines how the issues mentioned above have been addressed in the project design and in the certification process. It is found that baseline uncertainties are the major problem in this case. Nonetheless, the case suggests the possibility to address CDM issues by specific requirements for project design and very conservative and temporary crediting. Provided that other case studies support this conclusion, eligibility of well-designed forest conservation projects under the CDM in the second commitment period may be worth considering, given the secondary benefits of avoided deforestation.
Localización: Biblioteca OET: NBINA-2423. Copias: CAB.

Manual de plantas de Costa Rica. Volumen III. Monocotiledóneas (Orchidaceae-Zingiberaceae) / Hammel, B.E, (ed.).; Grayum, M.H, (ed.).; Herrera-Mora, C, (ed.).; Zamora-Villalobos, N.A, (ed.).; Troyo-Jiménez, S, (il.). (Instituto Nacional de Biodiversidad, Apdo. 22-3100, Santo Domingo de Heredia, CR <E-mail: bhammel@inbio.ac.cr> <E-mail: grayum@mobot.org> <E-mail: cherrera@inbio.ac.cr> <E-mail: nzamora@inbio.ac.cr> <E-mail: stroyo@inbio.ac.cr>).
In: Monographs in Systematic Botany from the Missouri Botanical Garden (ISSN 0161-1542), v. 93, 884 pp. 2003.ISBN: 1-930723-23-7.
The Manual de plantas de Costa Rica is a concise, illustrated guide to all of the species of native, naturalized, and commercially cultivated seed plants of this Central American country which lies between Nicaragua and Panama and is thus centered inisthmian Central America -a biogeographical funnel between South an North America, densely rich in species and geological history. The Manual is the first comprehensive Spanish-language account of the Costa Ricas flora. The work is presented in a series of volumes: Volume III, concluding the monocots, is the second to appear. Two large, economically and ornamentally important families, the orchids (Orchidaceae) with 1318 species, and the grasses (Poaceae), with 488 species, account for more than 95% of the species in this volumen. Besides brief formal descriptions and informal notes about each of a total of 10 families. 331 genera. and 1861 species of monocots, this identification manual contains keys to all the genera and species included within the volume. Finally. the treatments are illustrated with 377 line drawings, 10 black-and-white photographs. and 8 pages of color plates.
Localización: Biblioteca OET: 581.97286 M294.

A 2000-year reconstruction of forest disturbance from southern Pacific Costa Rica [Reconstrucción de 2000 años de perturbación del bosque del Pacífico sur de Costa Rica] / Anchukaitis, K.J. (The University of Arizona. Department of Geosciences and Laboratory of Tree-Ring Research, 105 Stadium, Tucson, AZ 85721, US <E-mail: kanchuka@ltrr.arizona.edu> <E-mail: shorn@utk.edu>).
In: Palaeogeography, Palaeoclimatology, Palaecology (ISSN 0031-0182), v. 221, p. 35-54. 2005.
We reconstruct prehistoric and historic human forest disturbance and vegetation change in southern Pacific Costa Rica, in the vicinity of the Las Cruces Biological Station and the La Amistad International Park and Biosphere Reserve. Pollen and charcoal in sediments from Laguna Santa Elena reveal a nearly continuous record of human alteration of these tropical forests over the past two millennia. The basal portion of the core shows nearly intact premontane forests approximately 1800 cal. year B.P., although there is evidence of human presence on the landscape in the form of maize pollen and charcoal. Clearing for agriculture resulted in the dominance of disturbance taxa in the watershed beginning at least 1400 cal. year B.P. The pollen record reveals a possible, brief hiatus in human occupation of the watershed at approximately 540 cal. year B.P., although secondary succession began to occur in the Laguna Santa Elena watershed prior to that time, beginning about 700 cal. year B.P. Three eruptions of nearby Volcán Barú, which we date to approximately 610, 1080, and 1440 cal. year B.P., apparently had little direct effect on the prehistoric populations in the immediate vicinity of the lake. Historic and modern land clearance has perpetuated a modernvegetation assemblage of disturbance and successional taxa.
Localización: Biblioteca OET: NBINA-2302.

Nuevas especies de Weinmannia (Cunoniaceae) para Costa Rica y Colombia [New species of Weinmannia (Cunoniaceae) for Costa Rica and Colombia] / Morales-Quirós, J.F. (Instituto Nacional de Biodiversidad (INBio), Apdo. 22-3100, Santo Domingo de Heredia, CR <E-mail: fmorales@inbio.ac.cr>).
In: Novon (ISSN 1055-3177), v. 15, p. 327-331. 2005.
Weinmannia cogolloi and W. vulcanicola (Cunoniaceae), two new species from Colombia and Costa Rica, respectively, are described. Weinmannia cogolloi is distinct within the genus on account of its paniculate inflorescences, with conspicuous secondary axes; it is somewhat related to W. latifolia C. Presl and W. macrophylla Kunth, but these species are easily separated by their racemose inflorescences. Weinmannia vulcanicola is somewhat related to W. trianaea Weddell, but it is distinguished by its leaves with more and smaller leaflets, winged rachis, and the indument of the young stems.
Localización: Biblioteca OET: NBINA-2416. Copias: INBIO.

Catalogue of Costa Rican Hepaticae and Anthocerotae [Catálogo de las Hepaticae y Anthocerotae costarricenses] / Dauphin-López, G. (Universidad de Costa Rica. Jardín Botánico Lankester, Apdo. 1031-7050, Cartago, CR <E-mail: gregoriodauphin@hotmail.com>).
In: Tropical Bryology (ISSN 0935-5626), v. 26, p. 141-218. 2005.
This catalogue contains literature reports and new records of Costa Rican Hepaticae and Anthocerotae, proceeding from monographs, revisions, floristic inventories, ecological bryophyte studies and herbarium specimens. The nomenclature has been updated in several genera. A total of 582 hepatic and eight hornwort species are reported from Costa Rica. The present work adds 26 new species records, and excludes 49 dubious records. Three new synonyms are proposed: Taxilejeunea carinata Herzog (=Lejeunea anomala Lindenb. & Gottsche); Taxilejeunea standleyi Herzog (=T.

obtusangula [Spruce] A. Evans) and Syzygiella gracillima Herzog (=S. perfoliata [Sw.] Spruce).
Localización: Biblioteca OET: NBINA-2446. Copias: INBIO y LUIS DIEGO.

Los Dichotomius (Coleoptera: Scarabaeidae, Dichotomini) de la fauna de México [The Dichotomius (Coleoptera: Scarabaeidae, Dichotomiini) of the Mexican fauna] / López-Guerrero, I. (Instituto de Ecología. AC. Departamento de Biodiversidad y Ecología Animal, Apartado Postal 63, 91000 Xalapa, Veracruz, MX <E-mail: guerreri@ecologia.edu.mx>).
In: Boletín de la Sociedad Entomológica Aragonesa (ISSN 1134-6094), no. 36, p. 195-209. 2005.
This paper deals with the review of the genus Dichotomius Hope (Coleoptera: Scarabaeidae) in Mexico. The study reports the presence of fve species: Dichotomius amplicoilis (Harold): D. ansae Kohlmann & Solís; D. colonicus (Say); D. satanas (Harold) and D. yucatanus (Bates). The study was based primarily on the examination of genitalia, both male (aedeagus and sclerotizations of the internal sac) and ferrate (spermatheca). Drawings and photographs, the latter were taken with a photomicroscope and a scanning microscope, are included. Furthermore, the following synonymy is proposed: Dichotomius segittanus Harold, 1869 = Dichotomius amplicollis Harold, 1869.
Localización: Biblioteca OET: NBINA-2588. Copias: INBIO.

A new genus of brachypterous leafhoppers (Hemiptera: Cicadellidae: Cicadellinae: Proconiini) from Costa Rica [Un nuevo género de saltahojas braquípteros (Hemiptera: Cicadellidae: Cicadellinae: Proconiini) de Costa Rica] / Godoy-Cabrera, C. (Instituto Nacional de Biodiversidad (INBio), Apdo. Postal 22-3100, Santo Domingo de Heredia, CR <E-mail: cgodoy@inbio.ac.cr>).
In: Proceedings of the Entomological Society of Washington (ISSN 0013-8797), v. 107, no. 2, p. 259-266. 2005.
A new genus, Brevimetopia, and two new species, B. silenciosa and B. chusquea, are described from high altitudes in Costa Rica. These species are the first brachypterous leafhoppers recorded from Central America.
Localización: Biblioteca OET: S10410. NBINA-2465. Copias: INBIO.

The genus Manota in Costa Rica (Diptera: Mycetophilidae) [El género Manota en Costa Rica (Diptera: Mycetophilidae)] / Jaschhof, M.; Hippa, H. (Swedish Museum of Natural History. Department of Entomology, P.O. Box 50007, S-10405 Stockholm, SE <E-mail: mathias.jaschhof@nrm.se> <E-mail: hippa@nrm.se>).
In: Zootaxa (ISSN 1175-5334 [online edition]), no. 1011, p. 1-54. 2005.
The genus Manota Williston is shown for the first time to be present in Costa Rica, and is represented there by 27 species, all new to science: acuminata, acutistylus, arenalensis, bihamata, caribica, corcovado, costaricensis, diversiseta, eximia, fraterna, incisa, inornata, intermedia, limonensis, major, montivaga, multisetosa, parva, penicillata, planistylus, rara, rectolobata, rotundistylus, spinosa, squamulata, tapantiensis, and vexillifera. These species are described, illustrated, and keyed using characters of the male terminalia as the only tool for distinguishing closely related species. A lectotype is designated for the type species, Manota defecta Williston, and it is redescribed and the male terminalia illustrated.
Localización: Biblioteca OET: NBINA-2467. Copias: INBIO.

The genus Podocrella and its nematode-killing anamorph Harposporium [El género Podocrella y su anamórfica Harposporium que mata a los nematodos] /

Chaverri-Echandi, P.; Samuels, G.J.; Hodge, K.T. (USDA-ARS. Systematic Botany and Mycology Laboratory, Room 304, 10300 Baltimore Ave., Beltsville, MD 20705, US <E-mail: priscila@nt.ars-grin.gov> <E-mail: gary@nt.ars-grin.gov>).
In: Mycologia (ISSN 0027-5514), v. 97, no. 2, p. 433-443. 2005.
Several genera are described in the literature as having morphology similar to the clavicipitaceous genus Podocrella, viz. Atricordyceps, Ophiocordyceps, Wakefieldiomyces and "Cordyceps" peltata. These genera have capitate-stipitate stromata that gradually expand into a horizontally flattened fertile head that is dark, has strongly protruding perithecia and asci containing eight multiseptate filiform ascospores. These ascospores disarticulate at the middle septum to form two lanceolate multiseptate part-ascospores. In this study several specimens of the above-mentioned genera, including the types, were examined to determine whether they are congeneric with Podocrella. This study also reveals the connection of Podocrella to its anamorph genus, Harposporium, and its relationship to several other clavicipitaceous genera, based on cultural data and large subunit nuclear ribosomal DNA (LSU) sequences. Nematode predation of the Harposporium anamorph of P. peltata is demonstrated. The results show Podocrella and selected Harposporium LSU sequences form a monophyletic group and that this clade is closely related to Aschersonia. A new species of Podocrella from Costa Rica, P. fusca, is described, new combinations made for P. peltata and P. harposporifera, and a key to the known species is presented.
Localización: Biblioteca OET: NBINA-2513. Copias: INBIO.

New species of Chaetosphaeria, Melanopsammella and Tainosphaeria gen. nov. from the Americas [Nuevas especies de Chaetosphaeria, Melanopsammella y Tainosphaeria gen. nov. de las Américas] / Fernández, F.A.; Huhndorf, S.M. (Field Museum of Natural History. Department of Botany, Chicago, IL 60605-2496, US <E-mail: ffernandez@fmnh.org> <E-mail: shuhndorf@fmnh.org>).
In: Fungal Diversity (ISSN 1560-2745), v. 18, p. 15-57. 2005.
Ten new species of Chaetosphaeria, and one new species of Melanopsammella are described from North temperate and tropical America. The new genus Tainosphaeria is also described and Chaetosphaeria capitata is reported from the Neotropics for the first time. Seven different, distinctive anamorphs are reported and connected to Chaetosphaeria teleomorphs. The morphological diversity in anamorphs of Chaetosphaeria and its phylogenetic significance is discussed.
Localización: Biblioteca OET: NBINA-714. Copias: INBIO.

New egg-powdering sharpshooters (Hemiptera: Cicadellidae: Proconiini) from Costa Rica / Rakitov, R.A.; Godoy-Cabrera, C. (Illinois Natural History Survey, 607 Peabody Drive, Campaign, IL 61820, US <E-mail: rakitov@inhs.uiuc.edu> <E-mail: cgodoy@inbio.ac.cr>).
In: Annals of the Entomological Society of America (ISSN 0013-8746), v. 98, no. 4, p. 444-457. 2005.
New proconiine leafhoppers (Hemiptera: Cicadellidae: Cicadellinae), associated with Chusquea bamboos and other tall grasses, are described from montane forests of Costa Rica: one-species of Paraquichira n. gen. and two species of Quichira Young. The latter genus, previously known from only a male of the type species from western Panama, is redescribed with inclusion of female characters; a key to its species is provided. Oviposition into grass leaves was observed in captive-females of P. costaricensis n. sp. and Q. tegminis Young. Females of both species powder their egg clusters with specialized brochosomes, stored in the form of spots on the female forewings. Unlike Quichira and several other Proconiini genera displaying this behavior; Paraquichira lacks the

rakelike modification of the macrosetae on the female hind tibia. The shape of the female brochosomes, not previously used in cicadellid systematics, is included in the morphological descriptions. Also described are the immature stages of P.costaricensis n. sp. The younger instars seem to mimic jumping spiders, the similarity being enhanced by their unusual habit of holding the abdomen arched, which makes it seem shorter and more inflated in dorsal aspect. Affinities of the two genera are discussed based on their morphology and behavior.
Localización: Biblioteca OET: S10488. NBINA-1224. Copias: DUKE.

Conservación del jaguar en Centroamérica [Jaguar conservation in Central America] / Vaughan-Dickhaut, C. (University of Wisconsin-Madison. Department of Wildlife Ecology, Madison, WI 53706, US <E-mail: cvaughan@facstaff.wisc.edu>).
In: El jaguar en el nuevo milenio. Medellín, R.A.; Equihua, C.; Chetkiewicz, C.L.B.; Crawshaw, P.G., Jr; Rabinowitz, A.; Redford, K.H.; Robinson, J.G.; Sanderson, E.W.; Taber, A.B. (comps.)
México, D.F.: Fondo de Cultura Económica / UNAM /Wildlife Conservation Society, 2002. p. 355-366. (Ediciones Científicas Universitarias; Serie Texto Científico Universitario).
ISBN: 968-16-6617-8.
Jaguar conservation in Central America faces great difficulties because of the short-term political, economic and social crises. The natural resource base is rapidly deteriorating and governments have been unable to reverse this trend. Following a general diagnostic of its present status, we concluded that key components of a regional jaguar conservation strategy for the isthmus should include: a] detailed jaguar status surveys in relatively unknown areas, b] protection of large wildland areas with jaguar populations, c] connection of major wildland areas via biological corridors, d] resolution of jaguar-human conflicts in agroecosystems, and carrying out jaguar research. Thus far, legalization of eight large wildland areas with between 50-730 adult jaguars each has been an important step, although resource deterioration within them must be monitored for long-term jaguar conservation. The Paseo Panthera corridor project uniting wildlands on the Caribbean coast between Mexico and Panama has received governmental, scientific and financial support and must be implemented. Jaguar-human conflict (livestock predation, illegal hunting of jaguars and their prey) resolution has not been sufficiently addressed. Scientific research on the jaguar in the region (and elsewhere) has provided important information for management. Abandoned agricultural ands are being converted to secondary forested areas, thereby benefiting jaguars and their prey. Promoting the jaguar as a "flagship" species for conservation efforts in large Central American wildlands will also protect their biodiversity.
Localización: Biblioteca OET: 599.755 J24. S10401.

Informe binacional sobre la evaluación de la gestión de las autoridades ambientales de Costa Rica y Panamá en el manejo integral del Parque Internacional La Amistad / Contraloría General de la República de Costa Rica / Contraloría General de la República de Panamá
San José / Ciudad de Panamá: Contralorías Generales de las Repúblicas de Costa Rica y Panamá, 2004. 80 pp.
El objetivo general del estudio fue evaluar la labor realizada por las autoridades ambientales de Costa Rica y Panamá en relación con el manejo integral del Parque Internacional La Amistad, en adelante el PILA, a efecto de verificar el cabal cumplimiento de los fines para los cuales fue creado. Los objetivos específicos consisten en: a) evaluar la normativa internacional y la propia de cada país que regula el Parque a efecto de determinar los actores y sus competencia, así como la suficiencia y

cumplimiento de dicha normativa; b) evaluar el logro de los fines para los cuales se creó el Parque, mediante el análisis de sus objetivos, y proponer las mejoras pertinentes; y c) evaluar los principales procesos administrativos relacionados con la planificación, organización, ejecución y control de las actividades desarrolladas en el PILA, para mejorar su su gestión. Además, es propósito del estudio fortalecer los mecanismos de integración y cooperación mutua entre las Contralorías de Costa Rica y Panamá.
Localización: Biblioteca OET: NBINA-2701. Copias: CRO.

Global gap analysis: towards a representative network of protected areas [Análisis global de omisiones de conservación: hacia una red de áreas protegidas representativa] / Rodrigues, A.S.L.; Andelman, S.J.; Bakarr, M.I.; Boitani, L.; Brooks, T.M.; Cowling, R.M.; Fishpool, L.D.C.; Fonseca, G.A.B.; Gaston, K.J.; Hoffman, M.; Long, J.; Marquet, P.A.; Pilgrim, J.D.; Pressey, R.L.; Schipper, J.; Sechrest, W.; Stuart, S.N.; Underhill, L.G.; Waller, R.W.; Watts, M.E.J.; Xie, Y.
Washington DC: Conservation International, 2003. 98 pp. (Advances in Applied Biodiversity Science; no. 5).
The problem: Increasing human pressure on natural resources is transforming our planet's ecosystems and leading to irreversible biodiversity loss. The opportunity: Governments worldwide acknowledge the value of protected areas as conservation tools, and so set land aside for this purpose. An assessment of the completeness of the current global network of protected areas is a critical tool needed to strategically expand and strengthen the coverage of protected areas. The data: Four remarkable datasets have just become available that allow a first attempt at this assessment. The World Database on Protected Areas holds more than 100,000 spatial records of protected areas. Distribution maps produced through the IUCN Red List partnership now cover 11,171 species: 1,183 globally threatened birds, 4,734 mammals (978 threatened), and 5,254 amphibians (1,467 threatened). The analysis: This project overlaid species distribution maps onto protected area maps using Geographic Information Systems to assess howwell each species is represented in protected areas. Assessment of the highest priority areas for consolidating and expanding the protected area network requires information on irreplaceability and threat. Irreplaceability measures how options for achieving species representation targets are reduced if a site is not conserved. Threat can be calculated as the number of threatened species present at a site, weighting those with higher extinction risk. Sites of exceptional irreplaceability and threat were identified as the most urgent conservation priorities. These include currently protected sites - priorities for strengthening the existing global network of protected areas - and unprotected sites - priorities for the expansion of the global network. Theresults: At least 1,310 species (831 at risk of extinction) are not protected in any part of their ranges. Amphibians, overall, are less well covered than birds or mammals. Areas identified as urgent (both for strengthening and for the expansion of the global network) are mainly concentrated in tropical forests, especially in areas of topographic complexity, and on islands. Proportionally, Asia is a higher priority for the expansion of the global network of protected areas, while the need for strengthening the existing network is mainly emphasized in Africa and South America. The percentage of area already protected in a given country does not inform how much more protection is needed - the level of endemism is a much better predictor. The implications: The current global network of protected areas is far from achieving a complete coverage of vertebrate species. The expansion of the global protected area network cannot be based on area targets (10 percent or otherwise): it must instead be based on biodiversity information. Many unprotected regions are highly irreplaceable and threatened - it is essential to ensure that they are

adequately protected as soon as possible. Likewise, many existing protected areas urgently require increased investment. This analysis does not cover aquatic biodiversity, nor address issues of the persistence (only of the representation) of biodiversity. Nevertheless, expanding the global network of protected areas into the regions highlighted as urgent priorities in this global gap analysis would go a long way towards the conservation of bird, mammal, and amphibian species, and provide a first step towards a truly representative protected area system.
Localización: Biblioteca OET: NBINA-2721. Copias: INTERNET.

The genus Aphrastomyia Coher & Lane, 1949 in Costa Rica (Insecta: Diptera: Mycetophilidae) [El género Aphrastomyia Coher & Lane, 1949 en Costa Rica (Insecta: Diptera: Mycetophilidae)] / Jaschhof, M.; Kallweit, U. (Swedish Museum of Natural History. Department of Entomology, P.O. Box 50007, S-10405 Stockholm, SE <E-mail: mathias.jaschhof@nrm.se> <E-mail: uwe.kallweit@snsd.smwk.sachsen.de>).
In: Faunistische Abhandlungen (Dresden) (ISSN 0375-2135), v. 25, p. 107-123. 2004.
The genus Aphrastomyia Coher & Lane, 1949 is shown to be present in Costa Rica with seven species, which are described as new to science: A. biocellata sp. n., A. brevicornis sp. n., A. communis sp. n., A. flavirostris sp. n., A. longirostris sp. n.,A. quadrilineata sp. n., and A. solitaria sp. n. Based on new information on the adult morphology in these species, the description of the genus is supplemented. Even though two infrageneric lineages are recognisable. Aphrastomyia is shown to be a systematic entity quite distinct from other mycetophilid genera. Its peculiar morphology is discussed in a phylogenetic context. A key to the Costa Rican species of Aphrastomyia is given.
Localización: Biblioteca OET: NBINA-1795. Copias: INBIO.

Novedades en Huperzia Bernh. (Lycopodiaceae) de Costa Rica [Novelties in Huperzia Bernh. (Lycopodiaceae) from Costa Rica] / Rojas-Alvarado, A.F. (Universidad de Costa Rica. Jardín Botánico Lankester, Apdo. 1031-7050, Cartago, CR <E-mail: afrojasa@hotmail.com>).
In: Lankesteriana (ISSN 1409-3871), v. 5, no. 2, p. 109-113. 2005.
One new species and two new records of Huperzia (Lycopodiaceae) from Costa Rica are included here. The new species, H. oellgaardii A.Rojas is compared to H. taxifolia (Sw.) Trevis. and differs by subdimorphic leaves (vs. monomorphic), sterile leaves 2.5-3.5 mm wide (vs. 1.5-2.5 mm wide), fertile leaves 1.5-3.0 mm wide [vs. 1.0-1.5 (-2.0) mm wide] and distribution (1800-2900 m vs. 600-2300 m). H. chiricana (Maxon) Holub was collected in Volcán Turrialba and H. lancifolia (Maxon) Holub in Jicotea of Turrialba and Cerro Pittier of Coto Brus, Costa Rica.
Localización: Biblioteca OET: L. Copias: CRO.

Revisión del género Dichapetalum (Dichapetalaceae) en Costa Rica / Kriebel, R.; Rodríguez-González, A. (Instituto Nacional de Biodiversidad, Apdo. Postal 22-3100, Santo Domingo de Heredia, CR <E-mail: rkriebel@inbio.ac.cr> <E-mail: arodrig@inbio.ac.cr>).
In: Lankesteriana (ISSN 1409-3871), v. 5, no. 2, p. 121-136. 2005.
A revision of the Costa Rican species of Dichapetalum (Dichapetalaceae) is presented here. Two new species, D. inopinatum and D. reliquum, are described and illustrated. Discussions, phenological notes and examined specimens are included for the 14 species present in Costa Rica.
Localización: Biblioteca OET: L. NBINA-2967. Copias: CRO.

The Genus Ceratolejeunea Jack & Steph. (Hepaticae: Lejeuneaceae) in

tropical America [El género Ceratolejeunea Jack & Steph. (Hepaticae: Lejeuneaceae) en la América tropical] / Dauphin-López, G. (Universidad de Costa Rica. Jardín Botánico Lankester, Apdo. 1031-7050, Cartago, CR <E-mail: gregoriodauphin@hotmail.com>).
Göttingen: Georg-August-Universität zu Göttingen, 2000. 143 pp.
Dissertation, Dr. rer. nat, Georg-August-Universität zu Göttingen, Fakultät für Mathematisch-Naturwissenchaftlichen, Göttingen (Germany).
A revision of the genus Ceratolejeunea (Hepaticae) in Tropical America is presented based on the examination of fresh plant material and about 1000 herbarium specimens and types of the over 100 species names published for the American Continent. Preliminarily, 23 Ceratolejeunea species are recognized in two subgenera: subgen. Ceratolejeunea (4 spp.) and subgen. Caduciloba Schust. (19 spp.). A new species, Ceratolejeunea minuta G. Dauphin, is described, and a new combination, Ceratolejeunea dussiana(Steph.) Dauphin, is proposed. Morphological descriptions, distributional and ecological data, keys and illustrations of the species are given. A phylogenetic analysis of the relationship between the species is also presented.
Localización: Biblioteca OET: NBINA-2939. Copias: CRO.

La Amistad: The kingdom of plants [La Amistad: El reino de las plantas] / Foley, E.A.
In: Plant Talk (ISSN 1358-4103), v. 38, p. 17-20. 2004.
La Amistad in Costa Rica and Panama is a key part of the Mesoamerican hotspot. Now a new approach by the Critical Ecosystem Partnership Fund (CEPF) is enabling local people and communities to engage in and benefit from biodiversity conservation in and around La Amistad to conserve the incredible wealth of plant species that thrive there.
Localización: Biblioteca OET: S10593. Copias: CRO.

Forest values of national park neighbors in Costa Rica [Valoraciones del bosque por parte de vecinos de un parque nacional en Costa Rica] / Schelhas, J.; Pfeffer, M.J. (Cornell University. Department of Natural Resources, FernowHall, Ithaca, NY 14853-3001, US <E-mail: jws13@cornell.edu>).
In: Human Organization (ISSN 0018-7259), v. 64, no. 4, p. 386-398. 2005.
Global environmental concern and action have increased markedly over the past few decades. Rather than resulting in uniform environmental values across the globe, we argue that distinct environmentalisms are socially constructed in different places through the complex interactions between the global environmental values and locally unique historical, political, and environmental factors. We analyze forest-related mental and cultural models-including both beliefs and values-using text analysis of transcripts and field notes from 67 qualitative interviews in five villages adjacent to La Amistad International Park in Costa Rica. We find that global environmental discourse has played a key role in framing the way rural people think and talk about forests. Conservation-oriented discourse has largely replaced earlier frontier views of forests as resources to be exploited and converted to agricultural lands. We find that the new forest beliefs and values are genuine, but also that they are sometimes superficial and lack motivating force. Local people are exposed to influential environmental discourses that see forests as something to be protected for heritage values and as a source of national development through ecotourism and bioprospecting, which often place forest conservation in opposition to their livelihood needs. This conflict has produced mediating discourses that acknowledge forest conservation as good while creating a legitimate place for rural landowners and their livelihood needs in the forested landscape. The result is unique local forest beliefs and values that are different from both earlier local

beliefs and global and national environmental discourses.
Localización: Biblioteca OET: NBINA-3351. Copias: WEB OF SCIENCE.

Sinopsis del género Neomirandea (Asteraceae: Eupatorieae) en Costa Rica / Rodríguez-González, A. (Instituto Nacional de Biodiversidad, INBio, Apdo. 22-3100, Santo Domingo de Heredia, CR <E-mail: arodrig@inbio.ac.cr>).
In: Lankesteriana (ISSN 1409-3871), v. 5, no. 3, p. 201-210. 2005.
The Costa Rican species of the genus Neomirandea (Asteraceae: Eupatoriae) are treated in a synopsis. A new species is described and illustrated and its relationships are discussed.
Localización: Biblioteca OET: L. Copias: CRO.

Costa Rica and Panama [Costa Rica y Panamá] / Luteyn, J.L. (The New York Botanical Garden. Institute of Systematic Botany, Bronx, NY 10458-5126, US <E-mail: jluteyn@nybg.org>).
In: Memoirs of the New York Botanical Garden (ISSN 0077-8931)In: Paramos: A checklist of plant diversity, geographical distribution, and botanical literature\par, v. 84, p. 138-141. 1999.
The páramos of Costa Rica and Panama are located in the Cordillera de Talamanca, the backbone of eastern Costa Rica and adjacent western Panama. About 60 km² of páramo occur in the massive Cerro Chirripó region (Cleef & Chaverri, 1992), with a scattered few others toward the border with Panama. There the párramo is found between 3300 and 3819 m elevation and is dominated by the dwarf bamboo Chusquea subtessellata, which may form a ground cover of up to 60% (Kappelle, 1990). The páramo-like vegetation along the Panamerican Highway, in the region known as Cerro de La Muerte, at about 3100 m, is manmade (fire-induced), with numerous characteristic páramo plants found in exposed boggy sites, locally called "paramillo," "ciénagas," or "turberas." The peaks of Volcán Irazú (3432 m) and Volcán Turrialba (3339 m) are páramo-like in appearance but are not true páramos. Hunter (1959) estimated that about 1000 ha (ca. 10 km², or 0.02% of the total land area, of Costa Rica was páramo. In Panama, the very summit of Volcán Barú (also known as Cerro Chiriquí), at 3475 m, has páramo-like vegetation, although it is now impossible to say what the original vegetation was like since the top has been bulldozed for communication towers. True undisturbed páramo does seem to occur in Panama near the border with Costa Rica in areas such as Cerro Echandi (3160 m) and Cerro Fábrega (3335 m) (fide G. Davidse collection labels). Costa Rican and Panamanian national parks that include páramo are Chirripó (in Costa Rica) and Volcán Barú (in Panama), both units of the larger Parque Internacional de la Amistad shared by the two countries. For further information about Costa Rican and Panamanian páramo vegetation see Chaverri, unpubl. data; Chaverri et al., 1997; Cleef & Chaverri, 1992; Gómez P., 1986, 1994; Hooghiemstra et al., 1992; Horn, 1990b; Janzen, 1983; Kappelle, 1991; Vargas Ulate & Sánchez G., unpubl. data; Weber, 1958, 1959; and Weston, 1981a, 1981b.
Localización: Biblioteca OET: S10677. C9-94. Copias: CRO.

Revisión del género Scaphidium Olivier, 1790 (Coleoptera: Staphylinidae) de México y Centroamérica [Revision of the genus Scaphidium Olivier, 1790 (Coleoptera: Staphylinidae) from Mexico and Central America] / Fierros-López, H.E. (Universidad de Guadalajara. Departamento de Botánica y Zoología, Centro de Estudios en Zoología, CUCBA, Apdo. Postal 234, C. P. 45100, Zapopan, Jalisco, MX <E-mail: hugofierros@yahoo.com.mx>).
In: Dugesiana (ISSN 1405-4094), v. 12, no. 2, p. 1-152. 2005.
The genus Scaphidium Olivier, 1790 is revised, based in the study of 1,425 specimens, from thirteen entomological collections. Thirty seven species are new. A key for the 46 known species of the region is included. For

each species the following aspects are provided: diagnosis, description, variation, material examined, type locality, distribution, habitat, host (if the information exists), comments about similar species, figures in dorsal and lateral view of the species, male genitalia and diagnostic structures, and map of the geographic distribution. Costa Rica has the highest richness (22 spp.), followed by Mexico (20 spp.) and Panama (13 spp.). Ten species of host mushrooms are recorded, from nine families. Fifty two per cent of the species areendemic from one country and 60% are exclusive from a biotic province. Lowlands (0 to 1000 m.a.s.l.) have highest number of species (35), meanwhile whereas in mountains (2000 to 2600 m.a.s.l.) had only five species.
Localización: Biblioteca OET: NBINA-3308. Copias: CRO.