

= Pamela C. Rasmussen =

Pamela Cecile Rasmussen (born October 16 , 1959) is a prominent American ornithologist and expert on Asian birds . She was formerly a research associate at the Smithsonian Institution in Washington D.C. , and is based at the Michigan State University . She is associated with other major centers of research in the United States and the United Kingdom .

Rasmussen 's early research investigated South American seabirds and fossil birds from North America . She later specialised in Asian birds describing several new species and clarifying the status of others , particularly white @-@ eyes and owls . More recently , she has been involved in large scale collaborations looking at patterns of global biodiversity , and has assessed the taxonomic status of South Asian vultures .

She was the main author of *Birds of South Asia : The Ripley Guide* , a landmark publication due to its greater geographical and species coverage compared to its predecessors . As a result of her study of museum bird specimens when researching for the book , she was instrumental in unveiling the extent of the theft from museums and fraudulent documentation perpetrated by eminent British ornithologist Richard Meinertzhagen .

= = Early life and career = =

Rasmussen is the daughter of Helen Rasmussen , a Seventh @-@ Day Adventist , whose husband , Chester Murray Rasmussen , a doctor , had left the family when Pamela and her sisters were young . Her interest in birds started when her mother bought her the junior edition of Oliver Austin 's *Birds of the World* , and Pamela subsequently always chose to receive bird books as presents .

She took her M.S. in 1983 at Walla Walla University , an Adventist @-@ affiliated university in southeast Washington , and her Ph.D. at the University of Kansas in 1990 , where she studied blue @-@ eyed shags , and was introduced to evolutionary theory , which had not been taught at her alma mater .

Rasmussen is a visiting assistant professor of zoology , and assistant museum curator of mammalogy and ornithology , at Michigan State University , having formerly been a research associate for the eminent American ornithologist S. Dillon Ripley at the Smithsonian Institution in Washington D.C. She is a member of the American Ornithologists Union (AOU) Committee on Classification and Nomenclature , a scientific associate with the bird group of the British Natural History Museum zoology section at Tring , and an associate editor of *The Ibis* , the scientific journal of the British Ornithologists ' Union . Pamela Rasmussen is married to Dr Michael D. Gottfried , who is Curator of Paleontology , Associate Professor of Geology , and Director of the Center for Integrative Studies in General Science at MSU .

= = = Research highlights = = =

= = = = South American seabirds = = = =

Rasmussen ? s early work was largely focused on studies of the systematics , ecology and behaviour of Patagonian seabirds , notably cormorants . She studied plumage variations in juvenile blue @-@ eyed , king and red @-@ legged shags , and used plumage and behavioural patterns to establish relationships between king and blue @-@ eyed shags . She also reviewed the fishing activity of olivaceous cormorants .

= = = = Asian birds = = = =

Rasmussen described four new Asian bird species from her study of museum specimens . The Nicobar scops owl *Otus alius* , the Sangihe scops owl *Otus collari* , and the cinnamon hawk owl *Ninox ios* , a Sulawesi endemic , all in 1998 , and the Taiwan bush @-@ warbler *Bradypterus*

alishanensis in 2000 . She rediscovered the forest owl *Athene blewitti* , which had not been seen since 1884 , in western India , previous searches by S. Dillon Ripley , Salim Ali and others having failed because they relied on fake documentation from Richard Meinertzhagen . In November 1997 , Rasmussen and Ben King of the American Museum of Natural History spent ten days unsuccessfully searching two east Indian locations before driving west to the site of another old specimen , where King spotted a small , chunky owl with short , heavily white feathered legs and huge claws , which Rasmussen confirmed as the target species whilst the owl was videotaped and photographed .

With her colleagues , she clarified the taxonomy of Indonesian white eye species , establishing the specific status of the Sangihe white eye *Zosterops nehrkorni* and the Seram white eye *Z. stalker* and confirmed the identity of the Serendib scops owl which had originally been discovered in Sri Lanka by local ornithologist Deepal Warakagoda .

The imperial pheasant is a rare bird found in the forests of Vietnam and Laos . Rasmussen and her co-workers used morphology , hybridisation experiments , and DNA analysis to show that this pheasant , previously thought critically endangered , is actually a naturally occurring hybrid between the Vietnamese pheasant *Lophura hatinhensis* and the subspecies *annamensis* of the silver pheasant *L. nycthemera* .

A 2008 paper saw a return to white eye taxonomy with the formal description of the Togian white eye *Zosterops somadikartai* , an endemic species of the Togian Islands of Indonesia , which , unlike most of its relatives , lacks the white ring around the eye which give this group of birds its name . Rasmussen noted that the Togian white eye is distinctive not only in its appearance , but also in its lilting song , which sounds higher pitched and is less varied in frequency than the songs of its close relatives .

Pamela Rasmussen 's interest in Asian birds led to her involvement in more specifically conservation directed projects . Two Gyps vultures , the Indian white rumped vulture , *Gyps bengalensis* , and the " long billed vulture " suffered a 99 percent population decrease in South Asia due to poisoning by diclofenac , a veterinary drug that causes kidney failure in birds that have eaten the carcasses of treated cattle . Rasmussen showed that there are two distinct species of long billed vulture : the Indian vulture *G. indicus* and slender billed vulture *G. tenuirostris* . This is important to conservation , since a captive breeding program has been established to assist the recovery of at risk vulture species .

== == Biodiversity == ==

In 2005 , Rasmussen was part of a large multi institutional collaboration investigating biodiversity hotspots , which have a prominent role in conservation . The study assessed locations quantitatively for three criteria of bird diversity : species richness , the level of threat , and the number of endemism species . The results demonstrated that hotspots did not show the same geographical distribution for each factor . Only 2 % of hotspot areas are common to all three aspects of diversity , with over 80 % of hotspots registering on only one criterion . Each criterion explained less than 24 % of the variation in the other factors , suggesting that even within a single taxonomic class , different mechanisms are responsible for the origin and maintenance of various aspects of diversity . Consequently , the different types of hotspots also vary greatly in their utility as conservation tools .

Rasmussen 's recent work has concentrated on further large scale collaborations with the same group of institutions studying global patterns in biodiversity . A survey of species richness and geographical range size did not show the decrease in range size from temperate regions to the tropics that had been previously assumed ; although that pattern was largely true in the northern hemisphere , it did not appear to apply in the southern hemisphere . Research evaluating the relationship between extinction and human impact showed that , after controlling for species richness , the best predictors of the global pattern of extinction risk are measures of human impact , with ecological factors being of secondary importance . An examination of the distribution of rare and threatened vertebrate species , showed differing patterns for bird , mammal and amphibian

species , which has consequences for hotspot @-@ based conservation strategies .

Other studies by Rasmussen and her international colleagues looked at the importance of energy availability , and a 2007 paper showed that global patterns of spatial turnover are driven principally by widespread species rather than restricted ones . This complements other work , and helps to establish a unified model of how terrestrial biodiversity varies both within and between the Earth 's major land masses .

= = = Zooarchaeology = = =

A fossil site at a borrow pit in near Cheswold , Delaware created during highway construction unearthed 11 specimens of fragmentary and unassociated avian fossils , which were identified by Rasmussen as including a small loon , a small gull @-@ like species and five specimens of a gannet @-@ like seabird , probably *Morus loxostylus* , a common species in the Miocene . All of these forms were already known from a site in Chesapeake Bay , Maryland . The finds suggests that the Delaware site was the near @-@ shore area of a large bay at the time of deposition .

Rasmussen was also involved in a review of fossil birds from Miocene and Pliocene deposits in North Carolina . Finds included an early Miocene loon *Colymboides minutus* , various ducks , a crested tern closely resembling the modern royal tern *Sterna maxima* , and a member of the crow genus , one of the few fossil passerine birds from that period . The review found that fossil birds from this period generally closely resemble a modern species or genus , and those that do not can usually be placed in a modern family with a fair degree of confidence .

= = = Birds of South Asia = = =

In 1992 , Rasmussen took the position of assistant to S. Dillon Ripley , the former secretary of the Smithsonian , who was planning to produce a definitive guide to the birds of South Asia . When he became ill shortly after beginning the project , Rasmussen took over the project , and with artist John C. Anderton , produced *Birds of South Asia : The Ripley Guide* , a two @-@ volume bird guide for the Indian subcontinent which was the first field guide for the area to include sonograms . Volume 1 contains the field guide with over 3400 illustrations in 180 plates , and more than 1450 colour maps . Volume 2 (Attributes and Status) gives specimen measurements , data about identification , status , distribution and habits . Vocalizations are described from recordings , and there are over 1000 sonograms .

1508 species that have occurred in India , Bangladesh , Pakistan , Nepal , Bhutan , Maldives , the Chagos archipelago and Afghanistan are covered , including 85 hypothetical and 67 ' possible ' species , which are given only short accounts . Notable aspects of *Birds of South Asia* are its distribution evidence @-@ base ? the book 's authors based their distributional information almost completely on museum specimens ? and its taxonomic approach , involving a large number of species @-@ level splits . Its geographical range was also greater than that of older works , notably in the inclusion of Afghanistan .

Many allopatric forms previously regarded as conspecific are treated by Rasmussen and Anderton as full species . Most of these had previously been proposed elsewhere , but the book introduced a number of innovations of its own . Experts on Asian birds , Nigel Collar and John Pilgrim , in 2008 analysed Rasmussen and Anderton 's proposed changes , indicating which had previously been proposed by other authors , and which were novel , and required further justification .

Although reviews in the birding and ornithological press have often been favourable , there have been criticisms . Peter Kennerley , author and Asian bird expert , considered that some of the illustrations are small and garish or technically inaccurate . He also believes that the over @-@ reliance on sometimes very old museum specimens and dismissal of the wealth of observational data filed by amateur travelling birders is a mistake , and states that many of the taxonomic decisions appear to be random choices , unsupported by published research .

Apart from the Meinertzhagen fraud , which is discussed in the next section , and the death of S. Dillon Ripley , other problems in the production of *Birds of South Asia* included the loss of the main

map database during a trip to Burma , and poorly prepared specimen skins . There were also difficulties reconciling sources , delays in producing illustrations and maps , and in obtaining reliable data for " difficult " areas like Assam , Arunachal Pradesh , Bangladesh and Afghanistan . The Andaman and Nicobar Islands also presented serious challenges with regard to the status and taxonomy of their avifaunas .

Rasmussen considered in a 2005 paper whether the revised taxonomy of the book , with its many species splits , had significant conservation implications , but felt that the effect on species richness in South Asia was limited , and would have only a moderate conservation impact , increasing the number of potentially threatened species in the region from 6 % of the total avifauna to about 7 % .

= = = The Meinertzhagen fraud = = =

Rasmussen revealed the true extent of the major fraud perpetrated by the eminent British soldier , ornithologist and expert on bird lice , Colonel Richard Meinertzhagen . Meinertzhagen , who died in 1967 , was the author of numerous taxonomic and other works on birds , and possessed a vast collection of bird and bird lice specimens ; he was considered to be one of Britain 's greatest ornithologists . However , British ornithologist Alan Knox had analysed Meinertzhagen 's bird collection at the Walter Rothschild Zoological Museum in Tring , UK in the early 1990s , and uncovered significant fraud involving theft of specimens from museums and falsification of the accompanying documentation .

When researching for *Birds of South Asia* , Rasmussen examined tens of thousands of bird specimens , since the late S. Dillon Ripley had strongly favoured the use of museum specimens to determine which birds to include . With Robert Prys @-@ Jones of the Natural History Museum , she showed that the decades @-@ old Meinertzhagen fraud was far more extensive than first thought . Many of the 20 @,@ 000 bird specimens in his collection had been relabelled with regard to where they were collected , and sometimes also remounted . The false documentation delayed the rediscovery of the forest owlet , since previous searches had relied on Meinertzhagen 's faked records . Rasmussen 's successful expedition ignored these and looked in the areas identified by the remaining genuine specimens .

Meinertzhagen had been banned from the Natural History Museum 's Bird Room for 18 months for unauthorised removal of specimens , and suspicions that he was stealing specimens and library material were documented by staff for over 30 years , twice reaching the verge of prosecution .

Falsified records identified by Rasmussen and Prys @-@ Jones included high @-@ altitude occurrences of coral @-@ billed scimitar @-@ babbler *Pomatorhinus ferruginosus* , out @-@ of @-@ range Kashmir flycatcher *Ficedula subrubra* and Himalayan winter records of ferruginous flycatcher *Muscicapa ferruginea* and large blue flycatcher *Cyornis magnirostris* (now hill blue @-@ flycatcher *C. banyumas*) . However , some records such as those for Afghan snowfinch *Montifringilla theresae* , a species Meinertzhagen described , appear to be genuine .