

Book Reviews

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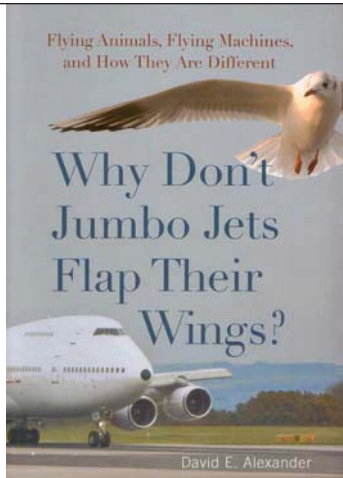
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Book reviews

Alexander D.E. *Why don't Jumbo Jets flap their wings?*
Rutgers University Press, New Jersey.
ISBN 978-0-8135-4479-3. Hardback, 278 pp. Euro 28



David Alexander is the author of *Nature's Flyers* (2002), a deservedly popular introductory biology text on flying insects, bats, and birds. Rutgers University Press recently released Alexander's second book, *Why don't Jumbo Jets flap their wings?* The new book is written for the general public, not primarily for professional biologists and engineers. "Science writing at its best," says professor Sankar Chatterjee of Texas Tech, and I agree. This book is intended for birdwatchers who, like me, are fascinated by everything that flies, natural or technical.

In ten easygoing and enjoyable chapters, focussed on the differences between flying animals and airplanes, Alexander deals successively with evolution, lift, power, manoeuvrability, the need for tail surfaces, flight instruments, soaring, hovering, aerial combat, and ornithopters. One major point of divergence: muscles excel in back-and-forth motion such as wing flapping, aircraft engines base their functionality on rotary motion. As far as manoeuvrability is concerned, the sophisticated interaction between their nervous system and their flying apparatus that insects, birds, and bats are capable of is a source of envy for pilots and aircraft designers. Bats have no need for tails because their nervous systems are so well integrated. The chapter on predation and aerial combat is a real treat. I knew of course that Eleonora's Falcon feeds on migrating passerines during its breeding season, but I didn't know that the Greater Noctule, a bat species, does so too, taking advantage of the fact that most passerines are

nocturnal migrants. And I was thrilled to learn that some insect-hawking bats "use their wings as tennis rackets, deftly tapping an insect to deflect it into their mouths." Alexander deals at length with ornithopters. Considering the title of his book, he has to. Flapping wings are not the way to go when size and weight become too large. A jumbo jet does not flap its wings because the hinges, engines, and linkage systems needed to power it would be far too heavy. Also, flapping flight is like a roller-coaster ride, because the upstroke of the wings delivers little or no lift, so that the body falls until lifted again by the downstroke. All passengers riding a flapping jumbo jet would be airsick for the entire ride. On the other hand, flapping is the preferred solution when sizes are small. Miniature rotary engines cannot compete in that technological niche.

Alexander compares the slow evolution of flight in Nature with the rapid evolution of flight in human technology. "Natural selection works on a time scale of hundreds of thousands or even millions of years. When a one-in-a-million beneficial change does occur, it tends to spread through the species. Changes that might take hundreds of thousands of years of animal evolution can take place in less than a decade of technological development." He recognizes other differences, too. Animals co-evolve with their environment, human technology often changes the environment. Wheels are unsuitable in rough terrain; the worldwide success of automobiles is due in no small part to the concurrent evolution of highway systems. I feel Alexander tends to underestimate how often technological breakthroughs resemble random genetic mutations in Nature, which, as he correctly states, are "almost always detrimental." Airplane encyclopedias are filled with planes that can fairly be labeled as evolutionary misfits, as designs that did not live up to their designers' dreams and disappeared within ten or twenty years. Some, like Howard Hughes' *Spruce Goose* made just one brief hop. Others, like the supersonic Concorde, are evolutionary mutants, products of the overheated preoccupations of their designers and sponsors. Even the ultimate aeronautical dream, human-powered flight, lovingly described in Alexander's book, did not last long. Planes powered by human athletes are unfit for everyday use; they are in fact extinct now.

In the epilogue, Alexander returns to the central theme of his book: how flying animals differ from flying machines. "In the end, what truly sets birds apart from airplanes is versatility versus efficiency. Engineers design airplanes to carry out particular tasks, so air-

planes tend to be quite specialized. A Boeing 747 can haul huge loads of passengers over enormous distances, but that is basically all it can do. Animals cannot afford to be so specialized.” I agree, but not without some reservations. Albatrosses are specialized in so-called dynamic soaring in wide-open environments with a uniform wind regime, bar-tailed godwits perform 11 000 km nonstop flights across the Pacific Ocean but have a barely adequate immune system, bats use very sophisticated echo location equipment that is useless in daylight because insects can easily take evasive action, penguins use their wings exclusively for under-water swimming, and so on. And some kinds of airplanes, like the Piper Cub and the Cessna 172, are supreme generalists, much like sparrows and starlings. In fact, the early success of the Piper Cub was based on its usefulness for the US Army: it could land and take off most anywhere, rough terrain or not. The task of evaluating the differences between biological evolution and its technological counterpart is far from being finished, but in *Jumbo Jets* Alexander makes a giant step in the right direction.

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Interessengemeinschaft Sperber (ed.) 2008. *Der Sperber in Deutschland: Eine Übersicht mit Beiträgen aus 15 Regionen*. Books on Demand GmbH, Norderstedt. ISBN 978-3-8370-3271-0. Paperback, 333 pp. Euro 30



The German population of Sparrowhawks is estimated at 19 200–26 650 pairs (mostly based on censuses carried out in the 1990s and early 2000s), with densi-

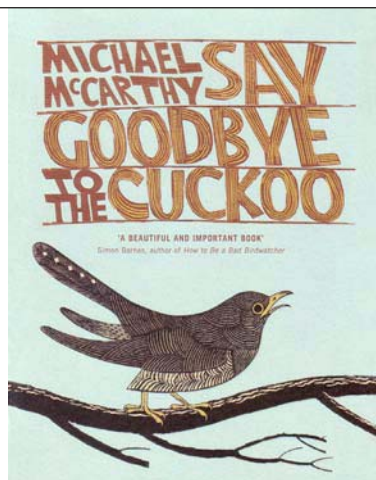
ties varying between 3–7 pairs/100 km² in eastern Germany and 13–20 pairs/100km² in parts of western Germany (the difference probably caused by the higher load of pesticides applied over a longer period in the former DDR). Much has changed since Karl Stülcken published his *Kleiner Vogel Greif* in 1958, a nice monograph now largely forgotten. For one, Sparrowhawks are more common today than in the 1940s and 1950s. Also, many more people are involved in Sparrowhawk studies, in this volume 19 volunteers covering 15 study plots of 63–700 km² (mean 228 km²) in the central band of Germany (northern Germany is represented by a single plot, Bayern and Baden-Württemberg in southern Germany not at all). Research periods varied between 5 and 30 years, invariably in the 1970s or later. The studies focus on the basic parameters of population dynamics and breeding biology, i.e. density, trends, nesting trees (mostly coniferous, but habitat selection is not tested against availability), brood size, breeding success, turnover (based on identification of individuals by means of moulted feathers) and age structure (first-year and older birds). Most, if not all, studies are labours of love, and purely descriptive without statistical analyses. Almost all trends show the same upward line, albeit starting at different points in time (depending on geography and habitat: in the east and in cities later than in the west and in woodlands) and with asynchronous ups and downs (showing that local autecological studies are so much more telling than large-scale surveys with indirect census methods). The overall trend since the late 1990s is one of stability at a slightly lower level than during the peak in the early 1990s. What makes this volume particularly valuable, apart from the details of local population dynamics, are the study on urban Sparrowhawks in Bochum (C. Sandke & T. Stanco, starting in 1986 when the population amounted to less than 10 pairs), and the overviews on the use of moulted feathers to age- and sex-identify individual birds (again by Sandke & Stanco, very detailed but not tested longitudinally with known-age individuals in captivity; see also the critique by D.H. Ellis in *J. Raptor Res.* 43: 11–26, 2009), and on prey choice of Sparrowhawks in various parts of Germany (9 studies with 803–19 090 prey items in the breeding season, against a single study in the winter months by H. Friemann). Comparisons with earlier collections of plucks, notably those of O. Uttendörfer and his collaborators (first half of the 20th century), show the vast changes that have taken place in the intervening period: species like Skylark, Barn Swallow, Whitethroat and Yellowhammer used to be in the top 10 numerically, but have become much scarcer in recent prey lists.

Yes indeed: farmland birds and long-distance migrants, each group of birds in deep trouble and, in combination, spelling certain doom on the population level.

The book is nicely produced (although the binding is a bit delicate, my copy already falls apart), with a scattering of maps, figures (averages without SE), tables and photographs (showing Sparrowhawks and their progeny, the various landscapes they inhabit, and moulted feathers). *Nisus*-lovers not versed in German may be disappointed: not a shred of English to be found here.

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McCarthy M. 2009. Say goodbye to the cuckoo.
John Murray, London. ISBN 978-1-84854-063-7.
Hardcover with dust jacket, 243 pp. Euro 20.99

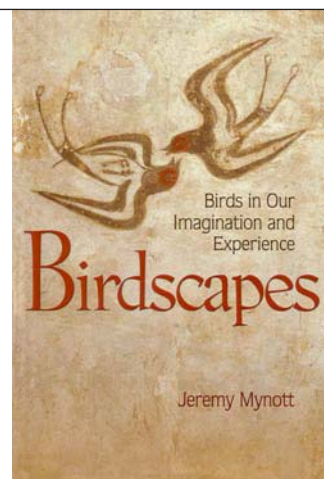


Now that ornithological journals publish papers densely wrapped in statistics (is the dictum that ‘all listed authors, to the extent reasonable, must understand and defend the basic aspects of the work’ still operational?), nature conservation has become an industry where nature is reduced to categories, sub-categories and abbreviations (eagerly embraced by government bureaucrats, and – surprisingly – by birders and ornithologists), and reports in the media and popular ornithological journals excel in simplicity verging on nonsense, any attempt to highlight the vast changes in the world of birds in lucid language is laudable. John Terborgh’s *Where have all the birds gone?* springs to mind, but the list is long and McCarthy’s book is a worthy addition.

It has been known for a while that long-distance migrants are in decline. Already in 1952, it was Reg

Moreau who – in a sweeping statement (without statistics, mind you, and published in *Journal of Animal Ecology*, no less) - concluded that “It cannot be doubted that at the present time Africa has to accommodate in the winter far fewer marsh birds, wheatears, quails, raptors and probably swallows and martins now than a hundred years ago.” That may come as a surprise for those who think that long-distance migrants only started to decline from 1969 onwards, when an apparent regime shift in rainfall in the Sahel took shape and the ornithological fraternity gradually realised that something ominous was happening. We have lost several billion birds in just a few decades. And not just any birds, but especially the spring-bringers, the birds which we wait for, and have been waiting for from time immemorial, at the end of winter. McCarthy considers the loss of spring-bringers of a different order compared with other losses. As if the world comes apart. For the people interviewed in this book, ranging from scientists to birders, conservationists, housewives, pensionados, writers and artists, it certainly feels that way. Each of them has a gripping tale, flabbergasted – not to say shocked – as they are by the extent of the phenomenon, the speed with which it enrolled (in their lifetime), and the apparent irreversibility of it. Their tales are interspersed with history, poetry, lessons, asides and revelations. This combination brings the message home like a hammerblow. A poignant treatise, and perhaps an epiphany for the uninitiated. (RGB)

Mynott J. 2009. Birdscapes. Birds in our imagination and experience. Princeton University Press, Princeton & Oxford. ISBN 978-0-691-13539-7. Hardcover with dust jacket, 368 pp. Euro 22.99



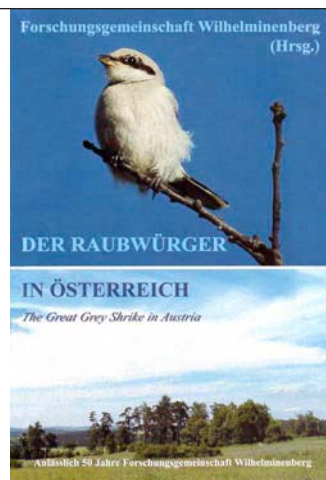
What is it, that birds appeal to so many people? Why not insects? Many birders consider the question irrelevant, as it is simply a fact of life. For the more philosophically inclined birders, and there must be quite a few out there given the many books addressing such and similar questions, Jeremy Mynott has written a thought-provoking book. He wanders across a wildly strange landscape, peopled by an ever increasing bunch of expensive-equipment-carrying male primates apparently interested in such unwordly subjects as which birds have charisma, top tens of popular birds, onomatopoeia, sea-watching, augury, listing, rules, which bird sings the most beautiful (and does it matter when it turns out to be produced mechanically, or when you don't know the species), is landscape part of the deal, what is a species (and what does it implicate for conservation, or your list), what is native, the naming business... In fact, he excels in asking basic questions, meanwhile admitting that more often ruminations than answers will be given.

The sheer number of questions called for a strict division of topics, but even so, it takes constant vigilance to follow Mynott in his meandering quest among the mundane and not-so-mundane birdscapes. He is a good observer, who knows his birds and is deeply interested in the paraphernalia surrounding birds and birders, be it arts, history, poetry, languages, well, you name it. Understatement and wit are used to great effect, fortunately sufficiently sparingly not to become unbearable. Even the chapter on The Listing Habit, a subject which is made for making fun of, is full of compassion, yet hilarious. I will refrain from giving examples, in order not to spoil your appetite when reading this book (which you must, believe me). One thing became abundantly clear while reading: birding is just another religion. All the elements are there: rituals, jargon, authorities, group thinking, codes of conduct (and ways to bypass them), ecstasy, delusions (Holy Grails, cow pats, sheep), moral superiority (exclusivity), veneration, compulsive behaviour, sacrifice, constant goals, cults. Is it wonder that birding is particularly popular in affluent societies where conventional religion has eroded.

The book is well bound, illustrated sparingly and, a great plus, has footnotes. This good old habit of adding extra information in smaller type at the end of the page is worth reviving. I enjoyed every bit of this book. Paraphrasing James Fisher: 'Worth reading, actually'.

(RGB)

Sachslehner L. (ed.) 2008. *Der Raubwürger in Österreich*. Forschungsgemeinschaft Wilhelminenberg, Stockerau. ISBN 978-3-200-01389-6. Paperback, 304 pp. Euro 22



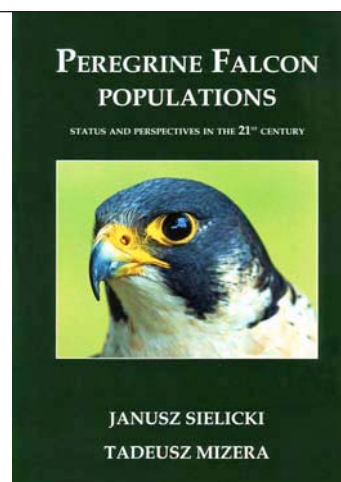
In Austria, a small country (84 000 km²) in Central Europe, the number of occupied breeding territories of Great Grey Shrikes fluctuated between 18 and 50 in 1995–2007, all of them restricted to Lower Austria. The breeding population is in decline, and the prospects for its survival are bleak. The species has almost entirely disappeared from orchards in the valley of the March-Thaya, and is now largely restricted to richly-structured farmland mixed with young forestry plantations and to military training grounds. From 1995 up to and including 2007, large fluctuations in breeding numbers were recorded, with a low in 1997 (9 pairs), a peak in 2002 (47), and a decline thereafter. High-quality habitat has become scarce and continues to dwindle. Also, the average number of fledgling per successful pair (3.6) lies well below the values obtained in, for example, western Poland (5.2). Whether the changing predator fauna is of significance in relation to the decline, is hard to say. Sachslehner *et al.*, in their review (pp. 11–28), suggest that numbers of Carrion Crow pairs have declined (through hunting and trapping, although no data are provided), resulting in a disruption of the local predator community (and, consequently, higher predation pressure), but much of this information is circumstantial. The study of S. Wegleitner on nest defence in Great Grey Shrikes (pp. 281–304) shows highly variable defence tactics depending on the presence (or absence) of Fieldfare colonies, distance of predators relative to the nest, identity of predator, and nesting stage (most vigorous during hatching). Unfortunately, an evaluation of the impact of predation on breeding success is not given.

During wintertime, an estimated 600–1600 Great Grey Shrikes use the whole of Austria as their wintering area, and it is these birds that perforce attracted the attention of Austrian shrike aficionados. Ten out of 14 of the field studies detailed in this collection deal with various aspects of winter ecology: phenology (mostly within-year), seasonal and long-term trends (like in The Netherlands: a clear peak in numbers in the mid-1970s), impact of weather on behaviour and presence (snow cover), age and sex structure of local populations (based on captures), habitat choice, territoriality and food (mostly anecdotal). All studies are descriptive and refer to local populations. The one carried out by Peter Sackl (pp. 223–244) in farmland in south-eastern Austria in particular stands out. In contrast to more northerly wintering populations, the number of birds wintering in these pre-alpine lowlands already decreased during periods with 10–30 cm of snow (which northern populations easily cope with by switching to bird hunting). The birds have a preference for a high proportion of arable land in farming districts, where densities of invertebrates far exceed those in grasslands. Apparently, richly structured vegetation is now so rare in lower Austria that the shrikes – during periods with snow – are unable to switch to habitats where small mammals (and birds?) abound. Great Grey Shrike numbers correlated positively with an index of vole abundance (here *Microtus arvalis* and *M. agrestis*, measured as the number of burrows in plots of 50×2 m; this method, however, is prone to give biased results when densities – or number of plots – are low, as demonstrated by Lisická *et al.* in *Folia Zool.* 56: 169–176, 2007).

The papers have extensive English summaries, whereas photographs, maps, figures and tables have English captions as well. This well-edited volume, published at the 50th anniversary of the Forschungsgemeinschaft Wilhelminenberg, is a nice addition to the growing body of Great Grey Shrike literature from Europe.

(RGB)

Sielicki J. & Mizera T. (eds) *Peregrine Falcon Populations: Status and perspectives in the 21st century*. Turul Publishing & Poznań University of Life Sciences, Warsaw & Poznań (www.falconline.eu). ISBN 978-83-920969-6-2. Hardcover with dust jacket, 800 pp. Euro 69.95



The road from bust to boom spans only 40 years in Peregrines, hallmarked by three hefty volumes, each titled *Peregrine Falcon Populations*: the one edited by J. Hickey in 1969, the one edited by T.J. Cade *et al.* in 1988 and the present tome. It's the subtitle which makes the difference, i.e. Their biology and decline, Their management and recovery, and Status and perspectives in the 21st century, respectively. Peregrines are again on top of the world, after reaching precariously low populations levels in the 1960s and 1970s. The present volume gives a detailed country-by-country account of this saga, with an emphasis on Eurasia. The Americas, Australia, SE Asia and Africa are sparsely represented (9 papers, compared with 33 from Eurasia). Many European studies have been published previously in local journals in various languages, but the publication in a single volume, in English, is a great asset (although the inclusion of an overview, summarising all data presented, would have been even better). Especially the contributions from Russia, some published earlier in *Raptors Conservation* (www.ecoclub.nsu.ru/raptors/RC/) but otherwise unavailable to western raptorophiles unless versed in Russian and well-connected, are particularly valuable. These include studies in European Russia (an overview, by V.M. Galushin), on the Kurile Islands (Yu. Artukhin), in the Volga-Ural region (I.V. Karyakin & A.S. Pazhenkov), Taimyr Peninsula (S.P. Khaitonov *et al.*), Yamal and lower Ob (S.P. Paskhalny & M.G. Golovatin), and the

Baikal region (V.V. Ryabtsev). In the latter region, Peregrines declined in the 1970s and 1980s, to recover again in the late 1990s. Interestingly, at present the pairs nest in Saker-fashion in forest-steppe, where they feed largely on *Microtus gregalis* and other small mammals. This feeding habit is typical of *Falco peregrinus japonensis* (which inhabits Central Yakutia in northern Siberia), and the author suggests that this subspecies may have replaced *F.p. peregrinus* which used to breed here before the population crashed. Also, Sakers in this area have declined, perhaps paving the way to a recovery of Peregrines (Sakers ousting Peregrines is mentioned for the Irikliinskoye Reserve in the Transural steppe; p. 344). The recovery of Peregrines in Russia started at a later date than in the rest of Europe, probably associated with economic malaise (collapse of farming and chemical industries) from the late 1980s onward. New threats, also in Russia, are increased human disturbance from mountaineering, skiing resorts and widespread construction of water reservoirs.

Most papers are straightforward faunistic reviews of past and present status in a country (or region), often backed-up by data on reproduction, and varying in the amount of detail. Interesting exceptions are papers on the use of passive integrated transponder (PIT) tags to monitor mortality, dispersal, turnover and recruitment (in Scotland, by G.D. Smith & M.J. McGrady), dietary studies (including a study on the relative importance of racing pigeons in diets of Peregrines in Northern Ireland, by M. Ruddock *et al.*), and a UK record of a hybrid male raising chicks with a wild free-living female (by P.J. Everitt & J. Franklin). The hybrid was misidentified by birders as a Lanner Falcon. After much discussion the ringed male was shot, and its parentage revealed: it was a third-species backcross, namely a Gyrfalcon/Saker \times Peregrine. This case is particularly interesting because falconers often claim that F2 generations and beyond are infertile; this bird clearly wasn't. Also, attention is given to some reintroduction projects, among which the attempt to establish a tree-nesting population in eastern Germany. This hobby-horse of G. Kleinstäuber *et al.* builds on the paradigm that reintroduction programmes are a *conditio sine qua non* in the recovery of Peregrines (ignoring the fact that many species recovered from the same pesticide-induced crash, without reintroductions, as soon as the causes of the decline were removed). Although presented as a success (which, in a sense, it is: there are now tree-nesting Peregrines in Central Europe), the flow of Peregrines is consistently from tree-nesting sites to breeding sites on cliffs and buildings. Even more interesting, in the same volume Wegner *et al.* report a spon-

taneous settlement of a pair on a nest in a poplar in Nordrhein-Westfalen in 2007, well outside the present range of tree-nesting Peregrines. The Peregrines in Nordrhein-Westfalen, formerly breeding on cliffs where nowadays Eagle Owls rule, almost entirely breed on man-made structures (only 7 out of 102 nests in 2007 on cliffs or in quarries), and the settlement on a tree nest may indicate a saturation of industrial sites (where pairs may nest within 300 m of each other). Two more poplar-nesting Peregrines were recorded by Karyakin & Pazhenkov in the forest steppe of Volga-Ural, using old nests of White-tailed Eagle and Grey Heron, whereas at least another 7 pairs in the Volga-Kama taiga used tree-nests.

This well-bound tome is a valuable contribution to the Peregrine literature. The texts by non-English speakers are a bit idiosyncratic, which adds *colour locale* rather than distracts from the message. The authors should be highly commended to have conveyed their results in an international language. The information gathered in the plethora of photographs (take a look at the bewildering variety of habitats, from urban landscapes to utterly desolate places), maps, graphs and tables testifies to the versatility of this raptor, and to the dedication of hundreds of people. Chapeau. (RGB)

Also received

Perrins C. (ed.) 2009. The encyclopedia of birds. Oxford University Press, Oxford. ISBN 978-0-19-956800-0. Paperback, 656 pp. Euro 22.94

This is the second, much expanded edition of a treatise which covers the families of birds across the world. It is lavishly illustrated in full colour, both with photographs and artwork. The texts are written by a team of experts, and hence are authoritative throughout. Anyone wishing to be stunned by the variety and beauty of birds, here is a good start.

Robb M., Mullarney K. & The Sound Approach. 2008. Petrels night and day. A Sound Approach guide. The Sound Approach, Dorset, UK. ISBN 978-90-810933-2-3. Hardcover, 300 pp., 2 CD's. Euro 55
A book on the petrels of the Western Palearctic with abundant photographs and beautiful drawings. Besides a most impressive description of the amazing sounds of these sea birds (including the recordings on two accompanying CD's), a personal narrative on how the material was collected.

ARDEA

TIJDSCHRIFT DER NEDERLANDSE ORNITHOLOGISCHE UNIE (NOU)

ARDEA is the scientific journal of the Netherlands Ornithologists' Union (NOU), published bi-annually in spring and autumn. Next to the regular issues, special issues are produced frequently. The NOU was founded in 1901 as a non-profit ornithological society, composed of persons interested in field ornithology, ecology and biology of birds. All members of the NOU receive *ARDEA* and *LIMOSA* and are invited to attend scientific meetings held two or three times per year.

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