DBA-nieuws

DBA-vogelweek op Texel in najaar 1997 De DBA-vogelweek werd dit jaar gehouden van zaterdag 27 september tot en met zondag 5 oktober 1997. Dit 'experiment' was deels bedoeld om de Noordse Boszanger *Phylloscopus borealis* te forceren. Echter, gedurende de week zou blijken dat het voorkomen van vogels niet alleen bepaald wordt in tijd, maar ook in ruimte (cf Dutch Birding 19: 259, platen 268-269, 1997). Zaterdag begon al goed met een Rode Wouw *Milvus milvus*, vijf Grauwe Franjepoten *Phalaropus lobatus* in het Wagejot, enkele Grote Piepers *Anthus richardi*, Bladkoningen *P inornatus* en een Ortolaan *Emberiza hortulana*. Aat Schaftenaar, nog geen kwartier op het eiland, ontdekte een eerste-winter Bergfluiter *P bonelli* tegenover het Texel Birdwatching Center (TBC). De vogel zou de hele week aanwezig blijven en zong regelmatig. Het TBC bleek een uitstekende uitvalsbasis. Niet alleen door de foerageer- en slaapmogelijkheden, maar ook door de aanwezige informatie (schoolbord, kaart van Texel, 'warden' Arend Wassink zelf en niet in het minst de bibliotheek). Onder meer een Roodkeelpieper *A cervinus* op maandag en een melding van een Klein Waterhoen *Porzana parva* op woensdag hielden de hoofden de volgende drie dagen bij de les. De 'big day' op dinsdag werd gewonnen door het team van Jeroen de Bruin, Nils van Duivendijk, Diederik Kok en Han Zevenhuizen (121 soorten), op de voet gevolgd door Dick Groenendijk en Hein Prinsen met 120 soorten. Twee fietsteams scoorden 106 en 107 soorten en het totaal aantal soorten kwam uit op 151.

De woensdag werd laat in de middag verstoord door een pieperbericht dat 'grote pijlstormvogels' langs de Westerslag vlogen. Nadat iedereen zich naar het strand had gespoed, werd er in ieder geval een 'grote pijl' gezien die door een deel van de aanwezigen als Grote Pijlstormvogel *Puffinus gravis* werd gedetermineerd. Gedurende die middag en de navolgende dagen werd duidelijk dat we de beste zeetrekdagen uit de Nederlandse geschiedenis meemaakten, met 100en Grauwe Pijlstormvogels *P griseus*, enkele Noordse Pijlstormvogels *P puffinus*, 10-tallen Vale Stormvogeltjes *Oceanodroma leucorhoa*, een Rosse Franjepoot *P fulicaria*, vele jagers *Stercorarius*, waaronder twee adulte Kleinste Jagers *S longicaudus*, Vorkstaartmeeuwen *Larus sabini*, twee Kleine Alken *Alle alle* en een Papegaaiduiker *Fratercula arctica*. Met c 180 soorten mag de week bijzonder geslaagd genoemd worden. Op de eerste zaterdag was er verder nog te genieten van een voorstelling met dia's van Ed Opperman (Nieuw-Zeeland en Australië). Op donderdag kweten Nils van Duivendijk en Diederik Kok zich goed van hun taak tijdens de 'mystery bird-competitie'. Winnaar werd Enno Ebels, met 22 van de 36 goed, gevolgd door Roland van der Vliet met 21 goed. De laatste zaterdag passeerden in een sfeervol en volgepakt TBC enkele bijzonder fraaie plaatjes van Roy de Haas de revue (Canada en de VS). AREND WASSINK & GIJSBERT VAN DER BENT

DBA-vogelweek op Texel in september 1998 De periode van de DBA-vogelweek in het najaar van 1998 is al bekend. Aan voorspellingen en het wekken van verwachtingen waagt bijna niemand zich meer, maar toch hopen we in de periode van zaterdag 12 september tot en met zondag 20 september 1998 een ornithologische slag te slaan op Texel. Het Texel Birdwatching Center (Vuurtorenweg 94, De Cocksdorp, Texel, Noord-Holland, telefoon 0222-316416) zal bij de organisatie een grote rol spelen. Bezoekers en deelnemers zijn alvast gewaarschuwd dat deze vogelweek een wat 'zwaarder' karakter zal krijgen dan gebruikelijk. GIJSBERT VAN DER BENT

Trends in systematics

Acrocephalus and *Hippolais* relationships: shaking the tree

Molecular phylogenetic studies are having a revisionary impact on avian taxonomy. Recently, Leisler et al (1997) employed the powerful (but not infallible) technique of mitochondrial DNA (mtDNA) sequencing to untangle the evolutionary relationships of several warblers of the genera *Acrocephalus* and *Hippolais*. A molecular perspective of relationships in this group is particularly welcome since most species are rather nondescript and offer few clues to their taxonomic status and relationships. Relationships among *Acrocephalus* and *Hippolais* have been uncertain at various levels (eg, genera, subgenera and species). The main problem is that groupings which were made on the basis of morphological characters may not reflect actual relationships. For instance, although the status of *Acrocephalus*

and *Hippolais* has almost always been accepted without question, there is little morphological and genetic evidence to separate the two genera (Williamson 1968, Sibley & Ahlquist 1990) and Booted *H caligata* and Olivaceous Warbler *H pallida* can appear very similar to *Acrocephalus* warblers (Harris et al 1995), particularly in profile and habits (eg, Harvey & Porter 1984). Detailed knowledge of phylogenetic relationships would also be extremely helpful to interpret historical trends in the ecology, behaviour and morphology of reed warblers.

Leisler et al (1997) set out to investigate the relationships of 27 species and subspecies of *Acrocephalus* and three species of *Hippolais* (Icterine *H icterina*, Booted and Olivaceous Warbler). To determine whether *Hippolais* and *Acrocephalus* are more closely related to each other than to other warblers, the study also included representatives of several other genera traditionally classified as Sylviidae (ie, *Cisticola, Cettia, Locustella, Phylloscopus* and *Regulus*). As is now standard practice in this research field, Leisler et al (1997) analysed long sequences of mtDNA (ie, 1068 base pairs) and constructed phylogenetic trees using three different algorithms. Their study yielded several surprises and strongly suggests that Booted and Olivaceous Warbler should be classified among the reed warblers. At the level of species, the new data indicate that several forms previously included in 'polytypic' species are better regarded as separate species.

Higher relationships

The new molecular findings demonstrate that *Acrocephalus* and *Hippolais* are close relatives; the other warbler genera turned out to be more distantly related. Among *Acrocephalus* warblers, three main groups were identified (figure 1), one representing the small plain reed warblers (eg, Paddyfield *A agricola* and Reed Warbler *A scirpaceus*), another formed by the small streaked species (eg, Sedge *A schoenobaenus* and Moustached Warbler *A melanopogon*) and a third representing the large plain species (eg, Great Reed *A arundinaceus* and Clamorous Reed Warbler *A stentoreus*). Surprisingly, Booted and Olivaceous Warbler did not cluster with Icterine Warbler but were nested within the *Acrocephalus* tree and emerged as the sister-group of the large plain reed warblers. This means that Booted and Olivaceous Warbler are, in fact, reed warblers and that they can not be maintained in *Hippolais*. The existence of four major groups of reed warblers is also suggested by morphological analyses which are reported in the same paper. Statistical analysis of differences in 20 morphological characters identified four major clusters corresponding to the four phylogenetically defined groups of reed warblers.

At lower taxonomic levels, the molecular phylogenetic data also produced interesting results. Among the small plain species of reed warblers, two basic groups can be distinguished: one formed by Paddyfield Warbler and two similar eastern Asian forms and another formed by Blyth's Reed Warbler *A dumetorum* and several European and African forms. Black-browed Reed Warbler *A bistrigiceps* turned out to be a member of the group of streaked species and did not appear to be closely related to Paddyfield or Manchurian Warbler *A tangorum*, near which it has been placed in some taxonomic lists. Relationships among the streaked species could not be resolved with confidence.

The study showed that Basra Reed Warbler *A griseldis* holds a position at the base of the large reed warbler group. The remaining large species form two major groups, one of these consisting of strictly African taxa. In the Western Palearctic, this group is represented only by Cape Verde Warbler *A brevipennis*. In traditional lists, the latter species is often placed alongside the small plain reed warblers. The new study shows that it is in fact closer to the large species. From similarities in plumage and vocalizations, Hazevoet (1995) inferred a close relationship with Greater Swamp Warbler *A rufescens*. This is now supported by molecular data. The other group is formed by the Great Reed Warbler complex. Relationships among these forms have been controversial and are further discussed below.

How many genera should be recognized?

In order to represent natural groups, genera and other higher taxa should represent monophyletic groups of taxa. Monophyletic (natural) taxa are complete phylogenetic units. A monophyletic taxon comprises all the taxa descending from a given hypothesized ancestor, irrespective of their morphological distinctiveness. The term monophyly is easily illustrated by means of the 'cut method' (Sober 1988): draw a line through any branch in figure 1; all species to the right of that cut comprise a monophyletic group. When a previously accepted group turns out to represent an unnatural (non-monophyletic) assemblage of species, taxonomic changes are inevitable. The discovery that both *Acrocephalus* and *Hippolais*,

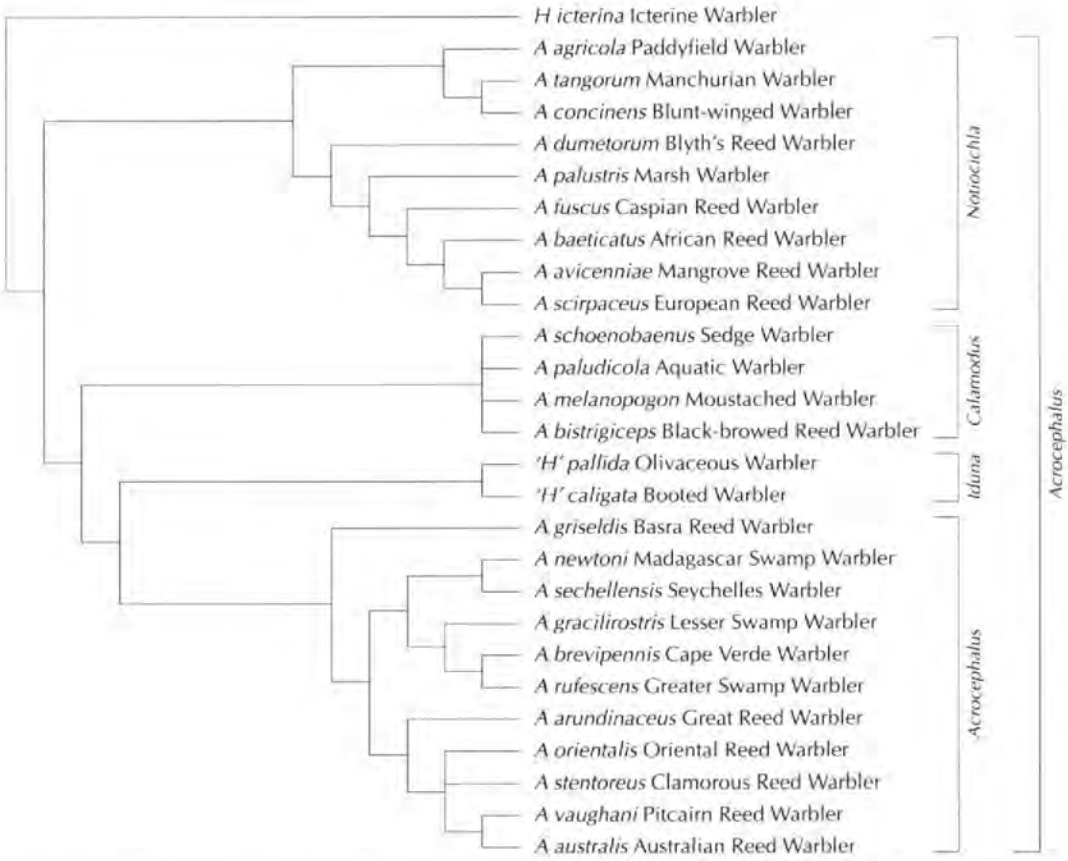

FIGURE 1 Evolutionary relationships among several *Acrocephalus* and *Hippolais* warblers, as inferred from DNA sequences (Leisler et al 1997). Groupings on the right indicate narrow and broad genus limits

as currently defined, are not monophyletic means that at least some generic names have to be changed.

However, once monophyletic groups are defined there are no obvious 'rules' that dictate at which particular level those groups should be recognized taxonomically. In other words, it is arbitrary whether a particular monophyletic group, such as the small plain reed warblers, should be recognized at the level of genus or subgenus. A phylogenetic study may determine objectively whether a group is natural (monophyletic) but the taxonomic rank of these groups is arbitrary and largely depends on practical considerations. It is only a matter of convention whether the reed warblers should be placed into four narrowly defined genera, as suggested by Leisler et al (1997), or into one broadly defined genus (figure 1). In the former option, *Acrocephalus* (as currently defined) is split into three genera, *Notiocichla* for the small plain species, *Calamodus* for the streaked species and *Acrocephalus* for the large plain species, with Booted and Olivaceous Warbler placed in an additional genus *Iduna*. If these four genera are recognized, at least 15 species would become known under a different name. Several arguments may be cited in favour of the proposal by Leisler et al (1997) to adopt narrow genus limits in the reed warblers. First, the group of reed warblers comprises a large number of species; grouping them into four genera would highlight the major subdivisions in the group. Sibley (1996) already recognized 36 species of *Acrocephalus*; if the results of the present study are taken into account, *Acrocephalus* would comprise 40 or more species and would

rank among the 30 largest genera of birds (Sibley & Monroe 1990). Second, there is high statistical support for the monophyly of the four groups (Leisler et al 1997). Third, the four groups can be separated on the basis of morphological characters (Leisler et al 1997).

An alternative is to place all reed warblers, including Booted and Olivaceous Warbler, in *Acrocephalus*. This would result in a name change for Booted and Olivaceous Warbler but not for the other species. The latter two species would then become known as *Acrocephalus caligatus* and *Acrocephalus pallidus*, respectively. The four major groups discussed above could still be recognized as subgenera. Recognition of one broad genus would have the least impact on nomenclature and may also be preferable given the fact that relationships of the distinctive Thick-billed Warbler *A aedon* are still unclear. The phylogenetic relationships of Thick-billed Warbler and other *Acrocephalus* and *Hippolais* warblers are currently being investigated by Andreas Helbig (pers comm). In the interim, I suggest that the four main groups of reed warbler identified by Leisler et al (1997) be tentatively recognized as *Acrocephalus*.

Species limits

Phylogenetic studies are not strictly necessary to define species limits. However, one way in which they have proved to be very useful is to test whether previously recognized 'polytypic' species (species composed of a number of 'subspecies') represent natural (monophyletic) groups. The taxonomy of the group of small plain-backed species has proved to be particularly difficult to resolve. In the past, the rare Manchurian Warbler has been considered a subspecies of either Black-browed Reed Warbler (eg, Williamson 1968) or Paddyfield Warbler (eg, Alström et al 1991) or, more recently, as a separate species (Round 1994, Sibley 1996, Sangster et al 1997). The phylogeny obtained by Leisler et al (1997) now suggests that its closest relative is Blunt-winged Warbler *A concinens*, which means that continued lumping with Paddyfield or Black-browed Reed Warbler is no longer justified. Interestingly, mtDNA sequences of populations of Paddyfield Warbler in Kazakhstan ('*agricola*') and Crimea, Ukraine ('*septimus*') turned out to be markedly different, showing a genetic distance of 4.5%. Although these populations are presently known to differ only by subtle colour differences, and '*septimus*' is often not even recognized as a valid subspecies (but see Stepanyan & Matyukhin 1984), the genetic data suggest that '*septimus*' may represent a cryptic species. Clearly, this needs to be verified with more and other data.

The taxonomy of African Reed Warbler *A baeticatus* has been a subject of controversy over the past 20 years (eg, Fry et al 1974, Clancey 1975, Dowsett-Lemaire & Dowsett 1987). In northern Africa, isolated populations are found in Senegal (Colston & Morel 1984), Lake Chad (Fry et al 1974) and in north-eastern Africa (Ash et al 1989). Each of these populations has been described as a separate subspecies but the status of these taxa and their relationships with other species have been unclear. The population in north-eastern Africa, which was named *avicenniae* by Ash et al (1989), is particularly distinctive and is characterized by relatively pale, olive-brown upperparts, with a rusty tinge confined to the rump and uppertail-coverts, and differs from all populations of African Reed Warbler in having uniform creamy-white underparts with very pale flanks (Ash et al 1989). It inhabits coastal mangroves in the southern Red Sea (Eritrea, Sudan, Somalia, Saudi Arabia and North Yemen) and occurs only marginally south of the borders of the Palearctic. Reed warblers observed at the Red Sea coast in southern Egypt may represent this species (Peter Meininger in litt). Although *avicenniae* was originally described as a northern subspecies of African Reed Warbler, the new molecular study indicates that it is in fact closer to European Reed Warbler. The form *avicenniae* differs from the latter species in coloration of upperparts, wing and foot structure and habitat (Ash et al 1989). As yet unpublished data indicate that its song is slower than that of European Reed Warbler (Leisler et al 1997). Because *avicenniae* is distinct from both African Reed and European Reed Warbler, the proposal by Leisler et al (1997) to recognize it as a separate species, Mangrove Reed Warbler *A avicenniae*, seems well founded.

Even more surprising was the finding that the two 'subspecies' of Reed Warbler, *A s scirpaceus* and *A s fuscus*, are not sister-taxa, *scirpaceus* being more closely related to *avicenniae* and *baeticatus* than to *fuscus*. This means that if *baeticatus* and *avicenniae* are considered as species, the more distantly related *fuscus* should also be treated at the level of species. If *scirpaceus* and *fuscus* are recognized as two monotypic species they may be named European Reed Warbler *A scirpaceus* and Caspian Reed Warbler *A fuscus* ('Eastern Reed Warbler' for the latter species

301 Mangrove Reed Warbler / Mangrovekarekiet *Acrocephalus avicenniae*, Shuqaiq, Asir Province, Saudi Arabia, May 1995 *(Peter Symens)*

302 Caspian Reed Warbler / Kaspische Karekiet *Acrocephalus fuscus*, Jubail, Saudi Arabia, 16 April 1991 *(Arnoud B van den Berg)*

would invite confusion as this name is sometimes used for Oriental Reed Warbler *A orientalis*). The breeding range of Caspian Reed Warbler is situated in central and eastern Asia Minor, Levant, the Caspian area and central Asia, and may extend west into central Turkey (Roselaar 1995) and south to the Nile Delta, Egypt (Goodman & Meininger 1989). It is not known whether Caspian Reed Warbler is always separable in the field from European Reed and Marsh Warbler *A palustris*. In the European identification literature, Caspian Reed Warbler is mostly treated as a taxon which could provide identification pitfalls while identifying a potential Blyth's Reed or Marsh Warbler, rather than as a form which is interesting in itself. Consequently, our knowledge about the status of Caspian Reed Warbler in Europe is still rudimentary. However, Caspian Reed Warbler is a common migrant in Israel (Shirihai 1996) and probably elsewhere in the Middle East, which suggests that it is currently being overlooked in (western) Europe. Before a detailed identification paper is available, observers may consult the accounts by Pearson (1981), Harvey & Porter (1984), Schulze-Hagen & Barthel (1993) and Harris et al (1995) for information about plumages and bare parts of Caspian Reed Warbler and about individual and age variation.

The taxonomy of the complex of large reed warblers has been unstable for many years (Salomonsen 1929, Stresemann & Arnold 1949, Shirihai et al 1995). The traditional view that similar forms with non-overlapping breeding ranges should be lumped as 'subspecies' of large and variable 'polytypic' species is gradually being elbowed aside by the view that several former subspecies are actually quite distinct and should be treated as full species. For instance, Pearson & Backhurst (1988), who studied Basra Reed Warbler on the wintering grounds in eastern Africa, pointed out that it is far more distinctive than its status as a 'subspecies' of Great Reed Warbler had previously suggested. Pearson & Backhurst (1988) showed that Basra Reed and Great Reed Warbler differ in size, bill shape, plumage and leg coloration, habitat and song and concluded that both taxa should be recognized as distinct species. The basal position of Basra Reed Warbler among the large reed warblers (figure 1) emphatically supports that conclusion. Another form previously included in Great Reed Warbler is Oriental Reed Warbler, a long-distance migrant which appears on the Western Palearctic list on the strength of two records in Israel (Shirihai 1996). The new study showed that Oriental Reed Warbler is actually more closely related to Clamorous Reed than to Great Reed Warbler. Leisler et al (1997), therefore, concluded that Oriental Reed Warbler is best treated as a full species, a conclusion earlier reached by Shirihai et al (1995) on the basis of plumage features, biometrics and results from a preliminary DNA study. Another form, Australian Reed Warbler *A australis*, is mostly treated as a subspecies of Clamorous Reed Warbler. The molecular data obtained by Leisler et al (1997) contradict this view; it is actually closer to Pitcairn Reed Warbler *A vaughani*, an eastern Polynesian endemic, than to Clamorous Reed Warbler, supporting the view held by Shirihai et al (1995) that Australian Reed Warbler is specifically distinct.

Although the new molecular data support several conclusions which were recently reached on the basis of more traditional characters, they also illuminate how 'wrong' (ie, unnatural) species limits have been in the not-so-distant past. The uncomfortable fact that at least five widely recognized 'polytypic' species are assemblages of forms that are not closely related (ie, Paddyfield, Reed, African Reed, Great Reed and Clamorous Reed Warbler) calls into question the status of other widely accepted, but as yet poorly corroborated, polytypic species. Reassessments of the taxonomy of African Reed, Booted, Olivaceous and Clamorous Reed Warbler may be particularly rewarding. Given the many as yet unsampled forms, the reed warbler complex is still a goldmine for future phylogenetic and taxonomic studies and the study by Leisler et al (1997) is an indication that more surprises are to be expected.

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