

Dutch Avifaunal List: Taxonomic Changes in 2004–2008

Authors: Sangster, George, van den Berg, Arnoud B., van Loon, André

J., and Roselaar, C.S.

Source: Ardea, 97(3): 373-381

Published By: Netherlands Ornithologists' Union

URL: https://doi.org/10.5253/078.097.0314

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

Dutch avifaunal list: taxonomic changes in 2004–2008

George Sangster^{1,*}, Arnoud B. van den Berg², André J. van Loon³ & C.S. Roselaar⁴



Sangster G., van den Berg A.B., van Loon A.J. & Roselaar C.S. 2009. Dutch avifaunal list: taxonomic changes in 2004–2008. Ardea 97(3): 373–381.

This is the third update on the taxonomy of species and higher taxa on the Dutch List since Voous (1977). It summarizes decisions made by the Commissie Systematiek Nederlandse Avifauna (CSNA) between Jan 2004 and Dec 2008. Changes in this report fall into five categories: (1) the sequence within and among some groups is changed to reflect their phylogenetic relationships (flamingos and grebes, eagles, shanks, gulls, terns, swallows and tits); (2) 20 scientific names are changed due to generic revisions (Aguila pennata. A. fasciata, Chroicocephalus genei, C. philadelphia, C. ridibundus, Hydrocoloeus minutus, Onychoprion anaethetus, Sternula albifrons, Hydroprogne caspia, Megaceryle alcyon, Cecropis daurica, Geokichla sibirica, Cyanistes caeruleus, Lophophanes cristatus, Periparus ater, Poecile montanus, P. palustris, Pastor roseus, Agropsar sturninus, Melospiza melodia); (3) two scientific names replace others presently on the list due to the recognition of extralimital taxa as species (Turdus eunomus, T. atrogularis); (4) one species is added because of a split from a species already on the Dutch List (Sylvia subalpina); (5) two species become monotypic due to the recognition of an extralimital taxon as species (Tarsiger cyanurus, Oenanthe pleschanka).

Key words: systematics, taxonomy, phylogeny, species, higher taxa

¹Dept. of Vertebrate Zoology, Swedish Museum of Natural History, P.O. Box 50007, SE-104 05 Stockholm, Sweden; Dept. of Zoology, Stockholm University, SE-106 91 Stockholm, Sweden; ²Duinlustparkweg 98, 2082 EG Santpoort-Zuid, The Netherlands; ³Kastelenstraat 45-2, 1083 CB Amsterdam, The Netherlands; ⁴Zoological Museum, University of Amsterdam, P.O. Box 94766, 1090 GT Amsterdam, The Netherlands;

*corresponding author (george.sangster@nrm.se)

INTRODUCTION

This report includes taxonomic and nomenclatural changes adopted by the Dutch committee for avian systematics (Commissie Systematiek Nederlandse Avifauna, CSNA) since Sangster *et al.* (2003). We review newly published evidence affecting the scientific names and sequence of taxa on the Dutch List. The committee consists of four members (year of election between parentheses): Arnoud B. van den Berg (1995), André J. van Loon (2002), C.S. Roselaar (1995) and George Sangster (*Secretary*, 1996). The committee's approach towards the recognition of species and higher taxa was described by Sangster *et al.* (1999). Unless otherwise stated, the sequence of species on the Dutch List remains unchanged.

The CSNA continues to work closely with the taxonomic subcommittee of the British Ornithologists' Union (BOU-TSC) and many proposals were considered simultaneously by both committees. Some of these already have been published by BOU-TSC (Sangster *et al.* 2004, 2005, 2007, Knox *et al.* 2008). Responsibility of the decisions included in this report, however, remains that of CSNA.

TAXONOMIC CHANGES

Flamingos and grebes

Phylogenetic analyses based on DNA-DNA hybridization data (van Tuinen *et al.* 2001), mitochondrial and nuclear DNA sequences (van Tuinen *et al.* 2001, Chubb

2004, Cracraft et al. 2004, Ericson et al. 2006, Brown et al. 2008, Hackett et al. 2008, Morgan-Richards et al. 2008, Pratt et al. 2009) and morphology (Mayr & Clarke 2003, Mayr 2004, Manegold 2006; but see Livezey & Zusi 2007) provide overwhelming support for a sister-group relationship of flamingos Phoenicopteriformes and grebes Podicipediformes. This clade was recently named Mirandornithes (Sangster 2005). Mirandornithes will be placed between Ciconiiformes and Accipitriformes. Within Mirandornithes, Phoenicopteriformes will precede Podicipediformes. The sequence within these groups remains unchanged.

Aquila pennata Booted Eagle

Dwergarend

Aquila fasciata Bonelli's Eagle

Havikarend

Recent phylogenetic studies indicate that the species currently included in *Hieraaetus* and *Aquila* do not form separate monophyletic groups (Wink & Seibold 1996, Wink et al. 1998, Wink 2000, Wink & Sauer-Gürth 2000, Roulin & Wink 2004, Wink & Sauer-Gürth 2004, Bunce et al. 2005, Helbig et al. 2005, Lerner & Mindell 2005). The CSNA has considered two alternative taxonomic rearrangements: (i) include all species of Hieraaetus and Aquila in a single genus (Wink & Sauer-Gürth 2004) or (ii) recognise three genera (Helbig et al. 2005). In view of the incongruence among studies in the placement of some eagle taxa and the lack of support for some internal nodes, we feel that recognition of three genera is not sufficiently supported. Therefore, we place the species traditionally included in Hieraaetus in Aquila (cf. Sangster et al. 2005). The sequence and nomenclature of the eagles on the Dutch List becomes as follows:

- Greater Spotted Eagle Aquila clanga
- Lesser Spotted Eagle Aquila pomarina
- Booted Eagle Aquila pennata
- Golden Eagle Aquila chrysaetos
- Bonelli's Eagle Aquila fasciata
- Steppe Eagle Aquila nipalensis
- Eastern Imperial Eagle Aquila heliaca

Taxonomic sequence of shanks Tringa

A recent molecular study of the shanks (Pereira & Baker 2005) offers a well-resolved phylogeny of the shanks (*Tringa, Actitis, Heteroscelus, Catoptrophorus*) based on mitochondrial and nuclear DNA sequences. The results of Pereira & Baker (2005) indicate that it is not necessary to include Common and Spotted Sandpiper (e.g. Johnsgard 1981) and Terek Sandpiper (e.g. Sibley &

Monroe 1990) in *Tringa*. Their results also show that the tattlers *Heteroscelus* and Willet *Catoptrophorus semipalmatus* are part of the *Tringa* clade and that a revision is warranted. The current sequence of the Dutch species of shanks (sensu Voous 1977) does not accurately reflect their phylogenetic relationships and is to be revised as follows:

- Terek Sandpiper Xenus cinereus
- Common Sandpiper Actitis hypoleucos
- Spotted Sandpiper Actitis macularius
- Green Sandpiper Tringa ochropus
- Solitary Sandpiper Tringa solitaria
- Spotted Sandpiper Tringa erythropus
- Greater Yellowlegs Tringa melanoleuca
- Common Greenshank Tringa nebularia
- Lesser Yellowlegs Tringa flavipes
- Marsh Sandpiper Tringa stagnatilis
- Wood Sandpiper Tringa glareola
- Common Redshank Tringa totanus

Generic limits of gulls

Two studies, one based on morphology (Chu 1998) and another based on mitochondrial DNA sequences (Pons *et al.* 2005) have examined phylogenetic relationships of the entire gull clade. Both studies indicate that the genus *Larus*, as currently defined (e.g. Voous 1977, Cramp & Simmons 1983), is not monophyletic.

The results of the two studies show several differences but there are also some important points of agreement. Both Chu (1998) and Pons et al. (2005) indicate a separate position of Swallow-tailed Gull Creagrus furcatus, the kittiwakes Rissa, Sabine's Gull Xema sabini and Ivory Gull Pagophila eburnea from all other gulls, supporting the continued recognition of these genera. Both studies indicate that the 'masked gulls' (which include Slender-billed Gull, Bonaparte's Gull and Black-headed Gull) are not part of the main clade of gulls. Both studies further indicate a sistergroup relationship of Little Gull and Ross' Gull and a separate position of these two species from the main clade of gulls.

We have considered five alternative rearrangements, including those proposed by Chu (1998) and Pons *et al.* (2005). These proposals range from including all species of gulls in a single genus (Chu 1998) to recognising 10 genera, including several genera that are not presently recognised (Pons *et al.* 2005).

Recognising that strongly supported groups are also the ones that are most likely to be stable (i.e. robust to additional data), we recommend a taxonomic arrangement that is intermediate between the two extremes proposed by Chu (1998) and Pons *et al.* (2005). This arrangement recognises the genera *Creagrus, Rissa, Xema, Pagophila, Chroicocephalus, Rhodostethia, Hydrocoloeus* and *Larus*. Recognition of each of these groups is consistent with the results of Chu (1998) and Pons *et al.* (2005) and is supported by high bootstrap values in Pons *et al.* (2005). Little Gull and Ross's Gull are sister taxa but are placed in separate genera in view of their long branch lengths in Pons *et al.* (2005).

The arrangement proposed by Pons et al. (2005), which includes two additional genera 'Leucophaeus' (for some New World gulls including Franklin's Gull L. pipixcan and Laughing Gull L. atricilla) and 'Ichthyaetus' (for southern Palearctic gulls, including Mediterranean Gull L. melanocephalus, Audouin's Gull L. audouinii and Pallas's Gull L. ichthyaetus), is not warranted due to low bootstrap support for the restricted 'Larus'. The phylogenetic position of Saunders's Gull L. saundersi is too poorly resolved and does not support the recognition of a monotypic genus 'Saundersilarus' (Pons et al. 2005). It is tentatively placed in Chroicocephalus, consistent with its traditional place near the 'masked gulls' and the results of Chu (1998).

We recommend to re-arrange the species on the Dutch List as follows. The sequence of the large white-headed gulls (*L. fuscus* through *L. marinus*) is left unchanged (cf. Voous 1977), pending more detailed information on their relationships.

- Ivory Gull Pagophila eburnea
- Sabine's Gull Xema sabini
- Black-legged Kittiwake Rissa tridactyla
- Slender-billed Gull Chroicocephalus genei
- Bonaparte's Gull Chroicocephalus philadelphia
- Black-headed Gull Chroicocephalus ridibundus
- Little Gull Hydrocoloeus minutus
- Ross's Gull Rhodostethia rosea
- Laughing Gull Larus atricilla
- Franklin's Gull *Larus pipixcan*
- Mediterranean Gull Larus melanocephalus
- Audouin's Gull Larus audouinii
- Pallas's Gull Larus ichthyaetus
- Common Gull Larus canus
- Ring-billed Gull Larus delawarensis
- Lesser Black-backed Gull Larus fuscus
- Herring Gull Larus argentatus
- Yellow-legged Gull Larus michahellis
- Caspian Gull Larus cachinnans
- Iceland Gull Larus glaucoides
- Glaucous Gull Larus hyperboreus
- Great Black-backed Gull Larus marinus

Onychoprion anaethetus Bridled Tern Brilstern

Sternula albifrons Little Tern

Dwergstern

Hydroprogne caspia Caspian Tern

Reuzenstern

A molecular study based on mitochondrial DNA sequences has provided a well-resolved phylogeny of the terns (Bridge et al. 2005). The study strongly supports the monophyly of several species groups, including the brown-winged terns (Onychoprion), little terns (Sternula), marsh terns (Chlidonias) and crested terns (Thalasseus). Monophyly of the typical black-capped terns was poorly supported due to the uncertain position of Forster's Tern S. forsteri and Trudeau's Tern S. trudeaui. The crested terns and typical black-capped terns (Sterna) were identified as sister-groups, with the marsh terns, Inca Tern Larosterna inca, Caspian and Gull-billed Terns and Large-billed Tern Phaetusa simplex as their successive outgroups. The little terns and brown-winged terns were placed outside this group, which means that 'Sterna', as currently recognised (Voous 1977), is a paraphyletic group. Bridge et al. (2005) proposed a revision of the terns in which 12 genera are recognised. We have adopted this arrangement with the exception of Thalasseus, recognition of which is contra-indicated by the low bootstrap support (cf. Sangster et al. 2005). With this exception, we follow the taxonomy proposed by Bridge et al. (2005). As a result, the taxa on the Dutch List are to be listed as follows:

- Bridled Tern Onychoprion anaethetus
- Little Tern Sternula albifrons
- Gull-billed Tern Gelochelidon nilotica
- Caspian Tern Hydroprogne caspia
- Whiskered Tern Chlidonias hybrida
- Black Tern Chlidonias niger
- White-winged Tern Chlidonias leucopterus
- Sandwich Tern Sterna sandvicensis
- Forster's Tern Sterna forsteri
- Common Tern Sterna hirundo
- Roseate Tern Sterna dougallii
- Arctic Tern Sterna paradisaea

Megaceryle alcyon Belted Kingfisher

Bandijsvogel

A recently published phylogenetic analysis of the kingfishers indicates that Pied Kingfisher *Ceryle rudis* is the sister taxon of the 'green' kingfishers *Chloroceryle* and is not closely related to *Ceryle alcyon* (Moyle 2006). This implies that the current treatment of *Megaceryle* as a subgenus of *Ceryle* does not accurately reflect their phylogenetic relationships. In view of their distinctive morphology and to avoid paraphyly of *Ceryle*, three genera of ceryline kingfishers are recognised, i.e. *Megaceryle*, *Ceryle* and *Chloroceryle*. Both Miller (1912, 1920) and Fry (1980) emphasised anatomic differences among the three groups in support for treatment as three genera (see also Pascotto *et al.* 2006). These data indicate that Belted Kingfisher should be reclassified in the genus *Megaceryle*. Belted Kingfisher (currently *Ceryle alcyon*) therefore becomes *Megaceryle alcyon* (cf. AOU 1998).

Cecropis daurica Red-rumped Swallow

Roodstuitzwaluw

Red-rumped Swallow is traditionally included in *Hirundo*. Previous studies suggest that '*Hirundo*' (sensu Voous 1977) does not represent a monophyletic group of species and indicate that the red-rumped swallows *Cecropis* are not part of the clade of typical mud-nesting martins (Sheldon & Winkler 1993, Sheldon *et al.* 1999). A recent study, which included nearly all recognised swallow species, provided strong support for the position of Red-rumped Swallow in *Cecropis* (Sheldon *et al.* 2005). The scientific name of Red-rumped Swallow (currently *Hirundo daurica*) thus becomes *Cecropis daurica* (cf. Dickinson 2003, Sangster *et al.* 2005).

The current sequence of the Dutch species of swallows (sensu Voous 1977) does not accurately reflect their phylogenetic relationships and is to be revised as follows:

- Sand Martin Riparia riparia
- Eurasian Crag Martin Ptyonoprogne rupestris
- Barn Swallow Hirundo rustica
- Common House Martin Delichon urbicum
- Red-rumped Swallow Cecropis daurica

Tarsiger cyanurus Red-flanked Bluetail

Blauwstaart

Red-flanked Bluetail and Himalayan Bluetail *T. rufilatus* differ in song, calls, adult plumage and biometrics (Cramp 1988, Martens & Eck 1995, Roselaar & Shirihai, in prep.). Red-flanked and Himalayan Bluetail are therefore best treated as two species. As a result, Red-flanked Bluetail becomes a monotypic species (cf. Knox *et al.* 2008).

Oenanthe pleschanka Pied Wheatear

Bonte Tapuit

Pied Wheatear and Cyprus Pied Wheatear *O. cypriaca* are best treated as two species based on differences in song, female plumage, the extent of sexual dimorphism in plumage and biometrics, habitat selection and

behaviour (Christensen 1974, Sluys & van den Berg 1982, Svensson 1992, Small 1994, Flint 1995). Pied Wheatear thus becomes a monotypic species.

Geokichla sibirica Siberian Thrush

Siberische Lijster

Recent phylogenetic studies have shown that the genus *Zoothera* – as recognised by Voous (1977) – comprises two clades that are not closely related (Klicka *et al.* 2005, Voelker & Klicka 2008). One clade (the *Zoothera* clade) includes *Zoothera* dauma and several Indo-Malayan and Australasian species. The other clade (the *Geokichla* clade) includes several African and Indo-Malayan species. Siberian Thrush is not part of the *Zoothera* clade but part of the *Geokichla* clade (Klicka *et al.* 2005, Voelker & Outlaw 2008; see also Voelker & Klicka 2008). We follow Voelker & Outlaw (2008) and place Siberian Thrush in *Geokichla*. Consequently, the scientific name of Siberian Thrush (currently *Zoothera sibirica*) becomes *Geokichla sibirica*.

Turdus eunomus Dusky Thrush

Bruine Lijster

Naumann's Thrush T. naumanni and Dusky Thrush show differences in the pattern and/or coloration of head, upperparts, breast, tail, bill and legs (e.g. Cramp 1988, Clement 1999) and in habitat (Roselaar & Shirihai, in prep.). Naumann's and Dusky Thrushes are therefore best treated as two distinct species (cf. Stepanyan 1990, Helbig 2005, Knox et al. 2008). Until recently, Naumann's Thrush T. naumanni and Dusky Thrush were combined in a single species based on the existence of intermediate specimens. However, no detailed studies of the interactions of Naumann's and Dusky Thrushes in the zone of contact are available and there is no evidence to suggest that these taxa are merging into a single population. A recent study concluded that the breeding ranges of Naumann's and Dusky Thrushes do not overlap and that hybridisation is relatively rare (Roselaar & Shirihai, in prep.).

Turdus atrogularis Black-throated Thrush

Zwartkeellijster

A review of the distribution and interactions of Redthroated Thrush *T. ruficollis* and Black-throated Thrush, in combination with previously described differences in morphology (Portenko 1981, Cramp 1988, Clement 1999) suggests that these taxa are best treated as species (cf. Stepanyan 1990, Ernst 1996, Helbig 2005, Knox *et al.* 2008).

Red-throated and Black-throated Thrushes co-exist in a zone that spans several 100 km. Both taxa are

found together near Razdolinsk, Russia (Gibet et al. 1967), in the Kuraj plateau, eastern Altay mountains, Russia (Ernst 1992, 1996), in the Zapadnyy Sayan (= West Sayan) mountains (Yanushevich & Yurlov 1950, Prokofyev 1988, Rogacheva 1992), in the Tuva region (Berman & Zabelin 1963) and in the Manskoye Belogorye mountains (Kim & Pakulov 1959) and other parts of the Vostochny Sayan (= East Sayan) mountains (Yudin 1952). In some areas, Red-throated and Black-throated Thrushes occur syntopically. Both taxa are found in all forests in the Bolshiye Ury river basin, Zapadnyy Sayan mountains (Prokofyev 1988) and in both the dark-coniferous taiga and subalpine belt of the Manskoye Belogorye mountains, Vostochny Sayan mountains (Kim & Pakulov 1959). Nests of Red-throated and Black-throated Thrushes have been found within 30-40 m of each other in the Tuva region, Russia (Berman & Zabelin 1963). In other parts of the overlap zone, Red-throated and Black-throated Thrushes occupy different habitats (Folitarek & Dementiev 1938, Yudin 1952, Stakeev 1979, Ernst 1992, 1996, Rochacheva 1992).

Field observations suggest that interbreeding between Red-throated and Black-throated Thrushes is very limited in Mongolia (Mauersberger 1980) and absent in the eastern Altay, Russia (Ernst 1992, 1996). Mixed pairs of Red-throated and Black-throated Thrushes have never been observed (Ernst 1996). In the Sayan mountains, young Black-throated Thrushes have been found two to three weeks earlier than young Red-throated Thrushes (Ernst 1992). It has been suggested that a difference in the timing of breeding may prevent hybridisation of Red-throated and Black-throated Thrushes (Ernst 1996) and may contribute to reproductive isolation.

Previous reports of extensive intergradation may have been based on misidentification of 'pure' specimens. Occurrence of black malar stripes or throat streaks in *ruficollis*-like birds is not an indication of hybridisation but fall within the normal range of variation of Red-throated Thrushes (Roselaar & Shirihai, in prep.).

A preliminary study of vocalisations, based on a small sample of Red-throated Thrushes and one Blackthroated Thrush, indicated that their songs might be very different (Arkhipov *et al.* 2003).

Sylvia cantillans Subalpine Warbler
Baardgrasmus
Sylvia subalpina Moltoni's Warbler
Moltoni's Baardgrasmus
Moltoni's Warbler (currently 'S. c. moltonii') differs from

other Subalpine Warbler taxa in plumage, moult, timing of breeding, habitat and contact calls (Gargallo 1994, Shirihai et al. 2001, Brambilla et al. 2007). Recent studies have shown that the breeding ranges of Moltoni's Warbler and nominate Subalpine Warbler S. c. cantillans overlap at several localities in mainland Italy without evidence for interbreeding (Brambilla et al. 2006, 2008a,c). Playback tests conducted within and outside the area of overlap in Italy have demonstrated that the two groups do not respond to each other's songs (Brambilla et al. 2008a). A molecular phylogenetic study indicated that Moltoni's Warbler and Subalpine Warbler form separate clades and failed to find evidence for gene flow, even in areas where the two forms have overlapping breeding ranges (Brambilla et al. 2008b). The level of sequence divergence between Moltoni's Warbler and other Subalpine Warbler taxa is consistent with those typically observed in species taxa, including several pairs of Sylvia warblers (Brambilla et al. 2008b). Therefore, Moltoni's Warbler and Subalpine Warbler are best treated as separate species (cf. Brambilla et al. 2008a,b,c). The correct scientific name for Moltoni's Warbler is Sylvia subalpina Temminck, 1820, rather than Sylvia moltonii Orlando, 1937 (Baccetti et al. 2007). Pending further research, Subalpine Warbler includes the forms cantillans, albistriata and inornata (cf. Brambilla et al. 2008b).

Generic limits of tits

Molecular phylogenetic analysis of the tits (Paridae) based on mitochondrial DNA sequences (Gill et al. 2005) suggests the existence of six major clades among species traditionally included in Parus: blue tits ('Cyanistes'), great tits ('Parus'), North American crested tits ('Baeolophus'), Eurasian crested tits ('Lophophanes'), coal tits ('Periparus') and chickadees ('Poecile'). The data indicate that the blue tits (P. caeruleus, P. cyanus) are sister to all other species of tits (Paridae). However, their phylogenetic position relative to Yellow-browed Tit Sylviparus modestus and Sultan Tit Melanochlora sultanea differed between analyses. Hume's Ground-Jay Pseudopodoces humilis, previously misclassified in Corvidae, was sister to the great tits in one analysis but sister to all tits except 'Cyanistes', Sylviparus and Melanochlora in another. The position of Pseudopodoces humilis among tits was previously suggested by James et al. (2003) based on morphological and preliminary mitochondrial DNA data. Gill et al. (2005) proposed to recognise nine genera of tits. They argued that, in addition to Pseudopodoces, Sylviparus and Melanochlora, the six groups of Parus should each be elevated to generic level. We have adopted the arrangement proposed by Gill et al. (2005) based on the following considerations: (i) Parus would not be monophyletic if the status quo is maintained, (ii) inclusion of Pseudopodoces, Sylviparus and Melanochlora in Parus would result in an even more diverse taxon, (iii) Parus is one of the largest genera of birds; its subdivision into several genera would add phylogenetic information, (iv) the major groups of tits are characterised by high genetic distances in all molecular data sets, i.e. proteins (Gill et al. 1989), DNA-DNA hybridisation (Sheldon et al. 1992, Slikas et al. 1996) and mitochondrial DNA sequences (Gill et al. 2005), and (v) there is growing international support for the break-up of Parus into several genera (e.g. AOU 1997, Gill et al. 2005, Sangster et al. 2005, Clements 2007). The gender of the name Poecile is controversial; we follow David & Gosselin (2008) and treat Poecile as masculine. The tits on the Dutch List should be listed as follows:

- Blue Tit Cyanistes caeruleus
- Great Tit Parus major
- Crested Tit Lophophanes cristatus
- Coal Tit Periparus ater
- Willow Tit Poecile montanus
- Marsh Tit Poecile palustris

Generic limits and sequence of starlings

Phylogenetic analyses of mitochondrial and nuclear DNA sequences (Lovette & Rubenstein 2007, Lovette et al. 2008, Zuccon et al. 2008) have clarified the evolutionary relationships among the starlings. These studies indicate that Rosy Starling and Daurian Starling are more closely related to the mynas than to Common and Spotless Starlings. We adopt the generic revision proposed by Lovette et al. (2008) and Zuccon et al. (2008). Rosy Starling (currently Sturnus roseus) becomes Pastor roseus, and Daurian Starling (currently Sturnus sturninus) becomes Agropsar sturninus. The starlings on the Dutch list should be listed in the following sequence:

- Common Starling Sturnus vulgaris
- Rosy Starling Pastor roseus
- Daurian Starling Agropsar sturninus

Melospiza melodia Song Sparrow

Zanggors

Although the name *Melospiza melodia* has been used for Song Sparrow for a long time (e.g. AOU 1983), the species was placed in *Zonotrichia* by Voous (1977). Phylogenetic studies based on allozymes (Zink 1982), mitochondrial DNA sequences (Zink & Blackwell 1996, Carson & Spicer 2003), and morphological, behav-

ioural, oological and allozymic characters (Patten & Fugate 1998) indicate that Song Sparrow is closely related to Swamp Sparrow *Melospiza georgiana* and Lincoln's Sparrow *M. lincolnii* and is not part of *Zonotrichia*. The hypothesis of a close relationship between Song Sparrow, *M. georgiana* and *M. lincolnii* is also supported by a supertree analysis (Jønsson & Fjeldså 2006). The correct scientific name of Song Sparrow is therefore *Melospiza melodia*. Song Sparrow was recently added to the Dutch List (Wolf & Ebels 2006).

ACKNOWLEDGEMENTS

We thank the members of the British Ornithologists' Union Taxonomic Sub-Committee for their helpful comments and discussion. The work of the CSNA is supported by the Netherlands Ornithologists' Union (NOU) and the Dutch Birding Association (DBA).

REFERENCES

- American Ornithologists' Union (AOU) 1983. Check-list of North American birds. 6th edition. American Ornithologists' Union, Washington, DC.
- American Ornithologists' Union (AOU) 1997. Forty-first supplement to the American Ornithologists' Union Check-list of North Am. Birds. Auk 114: 542–552.
- American Ornithologists' Union (AOU) 1998. Check-list of North American birds. 7th edition. American Ornithologists' Union, Washington, DC.
- Arkhipov V.Yu., Wilson M.G. & Svensson L. 2003. Song of the Dark-throated Thrush. Brit. Birds 96: 79–83.
- Baccetti N., Massa B. & Violani C. 2007. Proposed synonymy of *Sylvia cantillans moltonii* Orlando, 1937, with *Sylvia cantillans subalpina* Temminck, 1820. Bull. Brit. Ornithol. Club 127: 107–110.
- Berman D.I. & Zabelin V.I. 1963. New material of the avifauna of Tuva. Ornitologiya 6: 153–160. (In Russian)
- Brambilla M., Florenzano G.T., Sorace A. & Guidali F. 2006. Geographical distribution of Subalpine Warbler *Sylvia cantillans* subspecies in mainland Italy. Ibis 148: 568–571.
- Brambilla M., Janni O., Guidali F. & Sorace A. 2008a. Song perception among incipient species as a mechanism for reproductive isolation. J. Evol. Biol. 21: 651–657.
- Brambilla M., Quaglierini A., Reginato F., Vitulano S. & Guidali F. 2008c. Syntopic taxa in the *Sylvia cantillans* species complex. Acta Ornithol. 43: 217–220.
- Brambilla M., Reginato F. & Guidali F. 2007. Habitat use by Moltoni's Warbler *Sylvia cantillans moltonii* in Italy. Ornis Fenn. 84: 91–96.
- Brambilla M., Vitulano S., Spina F., Baccetti N., Gargallo G., Fabbri E., Guidali F. & Randi E. 2008b. A molecular phylogeny of the *Sylvia cantillans* complex: cryptic species within the Mediterranean basin. Mol. Phylogen. Evol. 48: 461–472.

- Bridge E.S., Jones A.W. & Baker A.J. 2005. A phylogenetic framework for the terns (Sternini) inferred from mtDNA sequences: implications for taxonomy and plumage evolution. Mol. Phylogen. Evol. 35: 459–469.
- Brown J.W., Rest J.S., Garcia-Moreno J., Sorenson M.D. & Mindell D.P. 2008. Strong mitochondrial DNA support for a Cretaceous origin of modern avian lineages. BMC Biology 6: 6.
- Bunce M., Szulkin M., Lerner H.R., Barnes I., Shapiro B., Cooper A. & Holdaway R.N. 2005. Ancient DNA provides new insights into the evolutionary history of New Zealand's extinct giant eagle. PLoS Biol. 3(1): e9.
- Carson R.J. & Spicer G.S. 2003. A phylogenetic analysis of the emberizid sparrows based on three mitochondrial genes. Mol. Phylogen. Evol. 29: 43–57.
- Christensen S. 1974. Notes on the plumage of the female Cyprus Pied Wheatear. Ornis Scand. 5: 47–52.
- Chubb A.L. 2004. New nuclear evidence for the oldest divergence among neognath birds: the phylogenetic utility of ZENK. Mol. Phylogen. Evol. 30: 140–151.
- Chu P.C. 1998. A phylogeny of the gulls (Aves: Larinae) inferred from osteological and integumentary characters. Cladistics 14: 1–43.
- Clement P. 1999. Kennzeichen und Taxonomie von Bechsteindrossel Turdus ruficollis und Naumanndrossel T. naumanni. Limicola 13: 217–250.
- Clements J.F. 2007. The Clements Checklist of Birds of the World. Sixth edition. Cornell University Press, Ithaca.
- Cracraft J., Barker F.K., Braun M., Harshman J., Dyke G.J., Feinstein J., Stanley S., Cibois A., Schikler P., Beresford P., García-Moreno J., Sorenson M.D., Yuri T. & Mindell D.P. 2004. Phylogenetic relationships among modern birds (Neornithes): towards an avian tree of life. In: Cracraft J. & Donoghue M. (eds) Reconstructing the tree of life. Oxford Univ. Press, Oxford, pp. 468–489.
- Cramp S. (ed.) 1988. The birds of the Western Palearctic, 5. Oxford Univ. Press, Oxford.
- Cramp S. & Simmons K.E.L. (eds) 1983. The birds of the Western Palearctic, 3. Oxford Univ. Press, Oxford.
- David N. & Gosselin M. 2008. Grammatical gender of *Poecile* and *Leptopoecile*. Dutch Birding 30: 19.
- Dickinson E.C. (ed.) 2003. The Howard and Moore complete checklist of the birds of the world. Third edition. Chistopher Helm, London.
- Ericson P.G.P., Anderson C.L., Britton T., Elzanowski A., Johansson U.S., Källersjö M., Ohlson J.I., Parsons T.J., Zuccon D. & Mayr G. 2006. Diversification of Neoaves: integration of molecular sequence data and fossils. Biol. Lett. 2: 543–547.
- Ernst S. 1992. Zur Vogelwelt des Östlichen Altai. Mitt. Zool. Mus. Berlin 68 Suppl. Ann. Ornithol. 16: 3–59.
- Ernst S. 1996. Zweiter Beitrag zur Vogelwelt des Östlichen Altai. Mitt. Zool. Mus. Berlin 72 Suppl. Ann. Ornithol. 20: 123–180.
- Flint P. 1995. Separation of Cyprus Pied Wheatear from Pied Wheatear. Brit. Birds 88: 230–241.
- Folitarek S.S. & Dementiev G.P. 1938. Birds of the Altai State Reserve. Trav. Réserve État Altai 1: 7–91. (In Russian)
- Fry C.H. 1980. The evolutionary biology of the kingfishers (Alcedinidae). Living Bird 18: 113–160.
- Gibet L.A., Artamoshin A.S. & Selivonin Ye.A. 1967. On the distribution of some birds in central Siberia. Ornithologiya 8: 341. (In Russian)

- Gill F.B., Funk D.H. & Silverin B. 1989. Protein relationships among titmice (*Parus*). Wilson Bull. 101: 182–197.
- Gill F.B., Slikas B. & Sheldon F.H. 2005. Phylogeny of titmice (Paridae): II. Species relationships based on sequences of the mitochondrial cytochrome-b gene. Auk 122: 121–143.
- Hackett S.J., Kimball R.T., Reddy S., Bowie R.C.K., Braun E.L., Braun M.J., Chojnowski J.L., Cox W.A., Han K.-L., Harshman J., Huddleston C.J., Marks B.D., Miglia K.J., Moore W.S., Sheldon F.H., Steadman D.W., Witt C.C. & Yuri T. 2008. A phylogenomic study of birds reveals their evolutionary history. Science 320: 1763–1768.
- Helbig A.J. 2005. Anmerkungen zur Systematik und Taxonomie der Artenliste der Vögel Deutschlands. Limicola 19: 112–128.
- Helbig A.J., Kocum A., Seibold I. & Braun M.J. 2005. A multigene phylogeny of aquiline eagles (Aves: Accipitriformes) reveals extensive paraphyly at the genus level. Mol. Phylogen. Evol. 35: 147–164.
- James H.F., Ericson P.G.P., Slikas B., Lei F.-M., Gill F.B. & Olson S.L. 2003. *Pseudopodoces humilis*, a misclassified terrestrial tit (Paridae) of the Tibetan Plateau: evolutionary consequences of shifting adaptive zones. Ibis 145: 185–202.
- Jønsson K.A. & Fjeldså J. 2006. A phylogenetic supertree of oscine passerine birds (Aves: Passeri). Zool. Scr. 35: 149–186.
- Kim T.A. & Pakulov V.A. 1959. The results of the passerine bird censusing in the Manskoye Byelogorye Massif, East Sayans. Ann. Krasnoyarsk State Pedagogical Inst. 15: 257–263. (In Russian)
- Klicka J., Voelker G. & Spellman G.M. 2005. A molecular phylogenetic analysis of the "true thrushes" (Aves: Turdinae). Mol. Phylogen. Evol. 34: 486–500.
- Knox A.G., Collinson J.M., Parkin D.T., Sangster G. & Svensson L. 2008. Taxonomic recommendations for British birds: fifth report. Ibis 150: 833–835.
- Lerner H.R.L. & Mindell D.P. 2005. Phylogeny of eagles, Old World vultures, and other Accipitridae based on nuclear and mitochondrial DNA. Mol. Phylogen. Evol. 37: 327–346.
- Livezey B.C. & Zusi R.L. 2007. Higher-order phylogeny of modern birds (Theropoda, Aves: Neornithes) based on comparative anatomy. II. Analysis and discussion. Zool. J. Linn. Soc. 149: 1–95.
- Lovette I.J. & Rubenstein D.R. 2007. A comprehensive molecular phylogeny of the starlings (Aves: Sturnidae) and mockingbirds (Aves: Mimidae): congruent mtDNA and nuclear trees for a cosmopolitan avian radiation. Mol. Phylogen. Evol. 44: 1031–1056.
- Lovette I.J., McCleery B.V., Talaba A.L. & Rubenstein D.R. 2008. A complete species-level molecular phylogeny for the "Eurasian" starlings (Sturnidae: *Sturnus, Acridotheres*, and allies): recent diversification in a highly social and dispersive avian group. Mol. Phylogen. Evol. 47: 251–260.
- Manegold A. 2006. Two additional synapomorphies of grebes Podicipedidae and flamingos Phoenicopteridae. Acta Ornithol. 41: 79–82.
- Martens J. & Eck S. 1995. Towards an ornithology of the Himalayas: systematics, ecology and vocalizations of Nepal birds. Bonn. Zool. Monogr. 38: 1–445.
- Mauersberger G. 1980. Ökofaunistische und biologische Beiträge zur Avifauna mongolica. II. Gruiformes bis Passeriformes. Mitt. Zool. Mus. Berlin 56 Suppl. Ann. Ornithol. 4: 77–164.

- Mayr G. 2004. Morphological evidence for sister group relationship between flamingos (Aves: Phoenicopteridae) and grebes (Podicipedidae). Zool. J. Linn. Soc. 140: 157–169.
- Mayr G. & Clarke J. 2003. The deep divergences of neornithine birds: a phylogenetic analysis of morphological characters. Cladistics 19: 527–553.
- Miller W. deW. 1912. A revision of the classification of the kingfishers. Bull. Am. Mus. Nat. Hist. 31: 239–311.
- Miller W. deW. 1920. The genera of ceryline kingfishers. Auk 37: 422–429.
- Morgan-Richards M., Trewick S.A., Bartosch-Harlid A., Kardialsky O., Phillips M.J., McLenachan P.A. & Penny D. 2008. Bird evolution: testing the metaves clade with six new mitochondrial genomes. BMC Evolutionary Biology 8: 20.
- Moyle R.G. 2006. A molecular phylogeny of kingfishers (Alcedinidae) with insights into early biogeographic history. Auk 123: 487–499.
- Pascotto M.C., Höfling E. & Donatelli R.J. 2006. The Ringed Kingfisher, Ceryle or Megaceryle torquata (Cerylinae, Alcedinidae, Coraciiformes)? An osteological view. Ornitol. Neotrop. 17: 481–490.
- Patten M.A. & Fugate M. 1998. Systematic relationships among the emberizid sparrows. Auk 115: 412–424.
- Pereira S.L. & Baker A.J. 2005. Multiple gene evidence for parallel evolution and retention of ancestral morphological states in the shanks (Charadriiformes: Scolopacidae). Condor 107: 514–526.
- Pons J.-M., Hassanin A. & Crochet P.-A. 2005. Phylogenetic relationships within the Laridae (Charadriiformes: Aves) inferred from mitochondrial markers. Mol. Phylogen. Evol. 37: 686–699.
- Portenko L.A. 1981. Geographical variation in Dark-throated Thrushes (*Turdus ruficollis* Pallas). Trudy Zool. Inst. Akad. Nauk SSSR/Proc. Zool. Inst. Acad. Sci. USSR 102: 72–109. (In Russian)
- Pratt R.C., Gibb G.C., Morgan-Richards M., Phillips M.J., Hendy M.D. & Penny D. 2009. Towards resolving deep Neoaves phylogeny: data, signal enhancement and priors. Mol. Biol. Evol. 26: 313–326.
- Prokofyev S.M. 1988. Birds of the Bolshiye Ury river basin (Sayano-Shushensky Reserve). In: Contributions to the fauna of central Siberia and the adjacent regions of Mongolia. Inst. Animal Morph. and Ecol., USSR Acad. Sci, Pub., Moscow, pp. 97–112. (In Russian)
- Rogacheva H. 1992. The birds of Central Siberia. Husum Drückund Verlagsges., Husum.
- Roselaar C.S. & Shirihai H. In prep. Handbook of Geographical Variation and Distribution of Palearctic birds. Vol 1, Passerines. A & C Black, London.
- Roulin A. & Wink M. 2004. Predator-prey relationships and the evolution of colour polymorphism: a comparative analysis in diurnal raptors. Biol. J. Linn. Soc. 81: 565–578.
- Sangster G. 2005. A name for the flamingo-grebe clade. Ibis 147:612-615.
- Sangster G., Collinson J.M., Helbig A.J., Knox A.G. & Parkin D.T. 2004. Taxonomic recommendations for British birds: second report. Ibis 146: 153–157.
- Sangster G., Collinson J.M., Helbig A.J., Knox A.G. & Parkin D.T. 2005. Taxonomic recommendations for British birds: third report. Ibis 147: 821–826.

- Sangster G., Collinson J.M., Knox A.G., Parkin D.T. & Svensson L. 2007. Taxonomic recommendations for British birds: fourth report. Ibis 149: 853–857.
- Sangster G., Hazevoet C.J., van den Berg A.B., Roselaar C.S. & Sluys R. 1999. Dutch avifaunal list: species concepts, taxonomic instability, and taxonomic changes in 1977–1998. Ardea 87: 139–165.
- Sangster G., van den Berg A.B., van Loon A.J. & Roselaar C.S. 2003. Dutch avifaunal list: taxonomic changes in 1999–2003. Ardea 91: 279–285.
- Sheldon F.H. & Winkler D.W. 1993. Intergeneric phylogenetic relationships of Swallows estimated by DNA–DNA hybridization data. Auk 110: 798–824.
- Sheldon F.H., Slikas B., Kinnarney M., Gill F.B., Zhao E. & Silverin B. 1992. DNA–DNA hybridization evidence of phylogenetic relationships among major lineages of *Parus*. Auk 109: 173–185.
- Sheldon F.H., Whittingham L.A. & Winkler D.W. 1999. A comparison of cytochrome b and DNA hybridization data bearing on the phylogeny of swallows (Aves: Hirundinidae). Mol. Phylogen. Evol. 11: 320–331.
- Sheldon F.H., Whittingham L.A., Moyle R.G., Slikas B. & Winkler D.W. 2005. Phylogeny of swallows (Aves: Hirundinidae) estimated from nuclear and mitochondrial DNA sequences. Mol. Phylogen. Evol. 35: 254–270.
- Shirihai H., Gargallo G., Helbig A.J., Harris A. & Cottridge D. 2001. *Sylvia* warblers: identification, taxonomy and phylogeny of the genus *Sylvia*. Helm, London.
- Sibley C.G. & Monroe B.L. 1990. Distribution and taxonomy of birds of the world. Yale Univ. Press, New Haven.
- Slikas B., Sheldon F.H. & Gill F.B. 1996. Phylogeny of titmice (Paridae): I. Estimate of relationships among subgenera based on DNA–DNA hybridization. J. Avian Biol. 27: 70–82.
- Sluys R. & van den Berg M. 1982. On the specific status of the Cyprus Pied Wheatear 'Oenanthe cypriaca'. Ornis Scand. 13: 123–128.
- Small B.J. 1994. Separation of Pied Wheatear and Cyprus Pied Wheatear. Dutch Birding 16: 177–185.
- Stakheev V.A. 1979. On the ecology of Black-throated and Redthroated thrushes in the Altay Reserve. In: Labutin Yu.V. (ed.) Migratsii i ekologiya ptits Sibiri. Yakut. Fil. Sib. Otd. Akad. Nauk SSSR, Yakutsk, pp. 184–186. (In Russian)
- Stepanyan L.S. 1990. Conspectus of the ornithological fauna of the USSR. Academy of Sciences, Moskow. (In Russian)
- Svensson L. 1992. Identification guide to European passerines. Fourth edition. Stockholm.
- van Tuinen M., Butvill D.B., Kirsch J.A.W. & Hedges S.B. 2001. Convergence and divergence in the evolution of aquatic birds. Proc. R. Soc. London B 268: 1345–1350.
- Voelker G. & Klicka J. 2008. Systematics of *Zoothera* thrushes, and a synthesis of true thrush molecular systematic relationships. Mol. Phylogenet. Evol. 49: 377–381.
- Voelker G. & Outlaw D. 2008. Establishing a perimeter position: speciation around the Indian Ocean Basin. J. Evol. Biol. 21: 1779–1788.
- Voous K.H. 1977. List of recent Holarctic bird species. Brit. Ornithol. Union, London.
- Wink M. 2000. Advances in DNA studies of diurnal and nocturnal raptors. In: Chancellor R.D. & Meyburg B.-U. (eds) Raptors at Risk. WWGBP, Berlin / Hancock House, Surrey, pp. 831–844.

- Wink M. & Sauer-Gürth H. 2000. Advances in the molecular systematics of African raptors. In: Chancellor R.D. & Meyburg B.-U. (eds) Raptors at Risk. WWGBP, Berlin / Hancock House, Surrey, pp. 135–147.
- Wink M. & Sauer-Gürth H. 2004. Phylogenetic relationships in diurnal raptors based on nucleotide sequences of mitochondrial and nuclear marker genes. In: Chancellor R.D. & Meyburg B.-U. (eds) Raptors Worldwide. WWGBP, Berlin, pp. 483–498.
- Wink M. & Seibold I. 1996. Molecular phylogeny of Mediterranean raptors (family Accipitridae and Falconidae). In: Muntaner J. & Mayol J. (eds) Biología y conservación de las rapaces Mediterráneas. Monogr. 4 SEO, Madrid, pp. 335–344.
- Wink M., Seibold I., Lotfikhah F. & Bednarek W. 1998. Molecular systematics of holarctic raptors (order Falconiformes). In: Chancellor R.D., Meyburg B.-U. & Ferrero J.J. (eds) Holarctic birds of prey. WWGBP, Berlin, pp. 29–48.
- Wolf P.A. & Ebels E.B. 2007. Zanggors op Kabbelaarsbank in april 2006. Dutch Birding 29: 31–33.
- Yanushevich A.I. & Yurlov K.T. 1950. Vertical distribution of mammals and birds in the West Sayan mountains. Annals of the West Siberian Section, USSR Acad. Sci., Biol Ser. 3 (2): 3–33. (In Russian)
- Yudin K.A. 1952. Observations on the distribution and biology of birds of the Krasnoyarsk Territory. Ann. Zool. Inst. USSR Acad. Sci. 9 (part 5): 1029–1060. (In Russian)
- Zink R.M. 1982. Patterns of genic and morphologic variation among sparrows in the genera *Zonotrichia, Melospiza, Junco*, and *Passerella*. Auk 99: 632–649.
- Zink R.M. & Blackwell R.C. 1996. Patterns of allozyme, mitochondrial DNA, and morphometric variation in four sparrow genera. Auk 113: 59–67.
- Zuccon D., Pasquet E. & Ericson P.G.P. 2008. Phylogenetic relationships among Palearctic–Oriental starlings and mynas (genera *Sturnus* and *Acridotheres*: Sturnidae). Zool. Scr. 37: 469–481.

SAMENVATTING

In dit derde overzicht sinds de publicatie van Voous (1977) worden de beslissingen besproken die de Commissie Systematiek Nederlandse Avifauna (CSNA) in de periode van januari 2004 tot december 2008 heeft genomen over taxonomische wijzigingen van vogelsoorten die op de Nederlandse lijst staan. De wijzigingen kunnen worden onderverdeeld in vijf groepen: (1) de volgorde van sommige soorten en groepen is aangepast, zodat deze overeenkomt met de huidige inzichten over hun fylogenetische verwantschap (flamingo's en futen, arenden, ruiters, meeuwen, sterns, zwaluwen en mezen); (2) 20 wetenschappelijke namen zijn gewijzigd als resultaat van revisies op het genusniveau (Aquila pennata, A. fasciata, Chroicocephalus genei, C. philadelphia, C. ridibundus, Hydrocoloeus minutus, Onychoprion anaethetus, Sternula albifrons, Hydroprogne caspia, Megaceryle alcyon, Cecropis daurica, Geokichla sibirica, Cyanistes caeruleus, Lophophanes cristatus, Periparus ater, Poecile montanus, P. palustris, Pastor roseus, Agropsar sturninus, Melospiza melodia); (3) de namen van twee soorten worden gewijzigd, omdat de taxa waartoe deze voorheen werden gerekend nu als aparte soorten worden beschouwd (Turdus eunomus, T. atrogularis); (4) één soort wordt toegevoegd aan de Nederlandse Lijst, omdat dit taxon nu als aparte soort wordt beschouwd (Sylvia subalpina); (5) twee soorten worden monotypisch, omdat ondersoorten die niet in Nederland zijn vastgesteld, nu als aparte soorten worden beschouwd (Tarsiger cyanurus, Oenanthe pleschanka).



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.

NETHERLANDS ORNITHOLOGISTS' UNION (NOU)

Chairman - J.M. Tinbergen, Animal Ecology Group, University of Groningen, P.O. Box 14, 9750 AA Haren, The Netherlands Secretary - P.J. van den Hout, Royal Netherlands Institute for Sea Research (NIOZ), P.O. Box 59, 1790 AB Den Burg, Texel, The Netherlands (hout@nioz.nl)

Treasurer – E.C. Smith, Ir. van Stuivenbergweg 4, 6644 AB Ewijk, The Netherlands (ekko.diny@planet.nl) Further board members - E. Boerma, G.J. Gerritsen, J. Komdeur, J. Ouwehand, G.L. Ouweneel, J.J. de Vries

Membership NOU – The 2010 membership fee for persons with a postal address in The Netherlands is €42 (or €25 for persons <25 years old at the end of the year). Family members (€9 per year) do not receive journals. Foreign membership amounts to €54 (Europe), or €65 (rest of the world). Payments to ING-bank account 285522 in the name of Nederlandse Ornithologische Unie, Sloetmarke 41, 8016 CJ Zwolle, The Netherlands (BIC: INGBNL2A and IBAN: NL36INGB0000285522). Payment by creditcard is possible. Correspondence concerning membership, payment alternatives and change of address should be sent to: Erwin de Visser, Sloetmarke 41, 8016 CJ Zwolle, The Netherlands (nou.ledenadmin@gmail.com).

Research grants – The NOU supports ornithological research and scientific publications through its Huib Kluijver Fund and the 'Stichting Vogeltrekstation'. Applications for grants can be addressed to the NOU Secretary. Donations to either fund are welcomed by the NOU treasurer.

Internet - www.nou.nu

ARDEA

Editors of ARDEA – Rob G. Bijlsma, Wapse (Editor in chief); Christiaan Both, Groningen; Niels J. Dingemanse, Groningen; Dik Heg, Bern; Ken Kraaijeveld, Leiden; Jouke Prop, Ezinge (Technical editor); Julia Stahl, Oldenburg; B. Irene Tieleman, Groningen; Yvonne I. Verkuil, Groningen

Dissertation reviews – Popko Wiersma, Groningen

Editorial address – Jouke Prop. Allersmaweg 56, 9891 TD Ezinge, The Netherlands (ardea.nou@planet.nl)

Graphics - Dick Visser, Haren

Artwork - Jos Zwarts, Bunnik

Internet - www.ARDEAjournal.nl

Subscription ARDEA – Separate subscription to ARDEA is possible. The 2010 subscription rates are $\in 36$ (The Netherlands), $\in 42$ (Europe), and €50 (rest of the world). Institutional subscription rates are €53, €69, and €78, respectively). Papers that were published more than five years ago can be freely downloaded as pdf by anyone through ARDEA's website. More recent papers are available only to members of the NOU and subscribers of ARDEA-online. Receiving a hard-copy with additional access to ARDEA-online costs €55 (The Netherlands and Europe), €70 (rest of the world), or €110 (institutions). Subscriptions to ARDEA-online (without receiving a hard copy) cost €40 (individuals worldwide), or €85 (institutions). Payments to ING-bank account 125347, in the name of Nederlandse Ornithologische Unie, Ir. van Stuivenbergweg 4, 6644 AB Ewijk, The Netherlands (BIC: INGBNL2A and IBAN: NL16INGB0000125347). Correspondence concerning subscription, change of address, and orders for back volumes to: Ekko Smith, Ir. van Stuivenbergweg 4, 6644 AB Ewijk, The Netherlands (ekko.diny@planet.nl).

Exchange of publications – All periodicals sent in exchange for ARDEA should be addressed to: Library of the Netherlands Ornithologists' Union (NOU), c/o Tineke Prins, Institute of Systematics and Population Biology, Zoological Museum, P.O. Box 94766, 1090 GT Amsterdam, The Netherlands.

Books for review – should be addressed to: ARDEA Secretariat, c/o J. Prop, Animal Ecology Group, Biological Centre, P.O. Box 14, 9750 AA Haren, The Netherlands. After review, the books will be deposited in the NOU Library in Haren.

NOU Library (journals) - Mauritskade 57, Amsterdam, Mo-Fr 10:00-16:00 (to check in advance by telephone + 31 20 525 6614). NOU Library (books) - Library Biological Centre, Kerklaan 30, Haren (G.), Mo-Thu 09:00-17:00 (to check at www.rug.nl/bibliotheek/locaties/bibfwn/index).

© Nederlandse Ornithologische Unie (NOU), 2009 Layout by Dick Visser, Haren, The Netherlands

Printed by Van Denderen, Groningen, The Netherlands, October 2009 Downloaded From: https://complete.bioone.org/journals/Ardea on 25 Apr 2024 Terms of Use: https://complete.bioone.org/terms-of-use