



Conservation of Tengmalm's Owl and Sichuan Wood Owl in Lianhuashan Mountain, Gansu, China

Authors: Fang, Yun, Tang, Song-Hua, Gu, Yuan, and Sun, Yue-Hua

Source: *Ardea*, 97(4) : 649

Published By: Netherlands Ornithologists' Union

URL: <https://doi.org/10.5253/078.097.0437>

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.

Conservation of Tengmalm's Owl and Sichuan Wood Owl in Lianhuashan Mountain, Gansu, China

Yun Fang¹, Song-Hua Tang^{1,2}, Yuan Gu^{1,2} & Yue-Hua Sun¹

¹Key Laboratory of Animal Ecology and Conserv. Biol., Institute of Zoology, Chinese Academy of Sciences, Beijing 100101, P.R. of China (sunyh@ioz.ac.cn); ²Graduate School of Chinese Academy of Sciences, Beijing 100101, P.R. of China

The Lianhuashan Mountain is located in south Gansu province, China, and the coniferous forest is dominated by spruce *Picea asparata* and fir *Pinus tebulaeformis*. The coniferous forest along the Qinghai-Tibet Plateau is an important biodiversity area inhabited by many endemic birds, such as the Chinese Grouse *Bonasa sewerzowi*, Sichuan Jay *Perisoreus internigrans*, Sichuan Wood Owl *Strix davidi* and Tengmalm's Owl *Aegolius funereus beickianus*.

Natural nests of Tengmalm's Owl were found in cavities in dead firs (Sun *et al.* 2004). At Lianhuashan, historic selective logging of large trees before 1998 resulted in few large diameter trees suitable as owl nesting sites. Consequently, we started an owl nest-box project in 2002 within the Lianhuashan Nature Reserve. In 2002 and 2003, 67 small nest boxes for the Tengmalm's Owl and 48 large boxes for the Sichuan Wood Owl were placed in coniferous trees at 4–6 m above the ground. Nest boxes were designed to imitate natural nests and contained no nest materials. We placed nest boxes in relation to forest cover. In 2003, four pairs of Tengmalm's Owl bred for the first time in the nest boxes. From 2003–07, 4–7 nest boxes have been occupied each year by Tengmalm's Owl.

The Sichuan Wood Owl, listed as a vulnerable species, was first found in Lianhuashan in 1995 (Sun *et al.* 2001). A playback transect line census in 2007 found only 2–3 pairs in an area around 500 ha. In 2005, the first pair of Sichuan Wood Owls was found in a large nest box along with two eggs. The laying date was estimated between 15–20 April. Both young fledged on 21 June and the elder juvenile survived until the winter (Fang *et al.* 2007). We placed video equipment inside the nest box to monitor their life history and behaviour. In 2007, a pair of Sichuan Wood Owls laid 3 eggs in the same nest box. The laying date

was estimated to occur between 29 March – 3 April. All three young fledged successfully by 3 June, but died 20 days later.

The five young Sichuan Wood Owls from the 2005 and 2007 nests fledged in June but because of bad weather conditions (cold, rainy) and high human disturbance, only one young survived to its first winter. During the owl breeding season, local people collect medicinal materials and bamboo in the breeding habitat of the owls. The increased human activity has badly affected the landscape of Lianhuashan, including the owl's habitat. Improved communication between local government and residents is needed.

Meanwhile, there is a need to establish additional nest boxes, especially large boxes for the Wood Owl, so that the study area can be extended to cover more habitats possibly used by the owls.

This study is supported by grants from the National Natural Science Foundation of China (30620130110). BP Conservation Programme supported our work in 2002 and 2003. Many thanks to Dr. Wolfgang Scherzinger and Dr. Siegfried Klaus for their help and advice, and Li Jinlin, Luo Peipeng and Jiang Yingxin for their assistance with field work. Liu Xiusheng, Zhang Xuezhong and others in the Lianhuashan Natural Reserve helped greatly with our work.

Sun Y. H., Fang Y., Scherzinger W. & Klaus S. 2004. Breeding notes of the Boreal Owl (*Aegolius funereus beickianus*) at Lianhuashan in Gansu, China. *Chin. J. Zool.* 39: 99–100. (In Chinese)

Sun Y.H., Scherzinger W., Liu N.F., Klaus S. & Fang Y. 2001. The new distribution areas of Sichuan Wood Owl *Strix davidi* in Gansu. *Chin. J. Zool.* 47: 473–475. (In Chinese)

Fang Y., Sun Y.H. & Scherzinger W. 2007. Preliminary observations on the breeding of the Sichuan Wood Owl at Lianhuashan, Gansu. *Chin. J. Zool.* 42: 146–147. (In Chinese)

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.

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. Ouweland, 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. Dingemans, Groningen; Dik Heg, Bern; Ken Kraaijeveld, Leiden; Kees van Oers, Heteren; 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)

Internet – www.ardeajournal.nl. The website offers free downloads of all papers published in Ardea and forerunners from 1904 onwards. The most recent publications are available only to subscribers to Ardea and members of the NOU.

Subscription ARDEA – Separate subscription to ARDEA is possible. The 2010 subscription rates are €36 (The Netherlands), €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).

World Owl Conference Special

Editors – David H. Johnson, Dries Van Nieuwenhuysse and James R. Duncan, in cooperation with Jouke Prop and Rob G. Bijlsma

Technical editor – Jouke Prop

Dutch summaries – Arie L. Spaans, Dries Van Nieuwenhuysse, Jouke Prop, Rob G. Bijlsma, or authors

Graphs and layout – Dick Visser

Drawings – Jos Zwarts

Cover photos - Serge Sorbi

front – Snowy Owl

back – Snowy Owl, Great Grey Owl and young Tengmalm's Owl

Production – Hein Bloem, Johan de Jong and Arnold van den Burg

© Nederlandse Ornithologische Unie (NOU), 2009

Printed by Van Denderen, Groningen, The Netherlands, December 2009