

Short communication

First occurrence of *Eucoleus contortus* in a Little Bustard *Tetrax tetrax*: negative effect of Red-legged Partridge *Alectoris rufa* releases on steppe bird conservation?

DIEGO VILLANÚA,^{1*} FABIÁN CASAS,¹
JAVIER VIÑUELA,¹ CHRISTIAN GORTÁZAR,¹
ELADIO GARCÍA DE LA MORENA² &
MANUEL MORALES²

¹*Instituto de Investigación en Recursos Cinegéticos IREC (CSIC-UCLM-JCCM), Ronda de Toledo s.n. 13071 Ciudad Real, Spain*

²*Departamento Interuniversitario de Ecología, Facultad de Ciencias (Biología), Universidad Autónoma de Madrid, E-28049, Madrid, Spain*

Little Bustard *Tetrax tetrax* populations are rapidly declining in most European countries (BirdLife International 2004). The cereal steppes of central Spain are the most important wintering quarters for the Little Bustard, with more than 90% of the west European population found there (De Juana & Martínez 2001, García de la Morena *et al.* 2004). These steppe habitats are also important partridge hunting areas in Spain. In recent decades, natural populations of Red-legged Partridges *Alectoris rufa* have declined considerably and more than four million farm-reared Partridges are released yearly in autumn to compensate for this decline. This has already raised concerns regarding the possible introduction of new parasites into natural populations (Millán *et al.* 2004a, 2004b).

In winter 2005, 14 Little Bustards (five males, nine females) were captured with cannon-nets in Miguelturra (Ciudad Real, central Spain, UTM 0421739 4311458) for radiotagging. The capture area was close (less than 5 km) to an important hunting estate where Partridge releases are common (about 3000 birds released yearly). One adult male Bustard died due to trauma during the capture and was autopsied. In the parasitological examination, adult forms of a capillarid nematode were found in the crop. After further examination under a stereomicroscope, these were found to represent adults of *Eucoleus contortus* Creplin, 1839 (three males, two gravid females) according

to Anderson (2000). The body condition of the autopsied bird, estimated as the ratio of body weight on cube tarsus length (0.0018 g/mm^3), was lower than in the 15 other adult males captured in the same season ($0.0025 \pm 0.0004 \text{ g/mm}^3$; mean \pm sd). No *E. contortus* have been found in any of four Little Bustards, nor in any of 17 Great Bustards *Otis tarda*, both species sampled in central Spain and necropsied in our laboratory. By contrast, *E. contortus* is present in 7.7% of the Red-legged Partridges from a neighbouring hunting estate where releases of farm-bred gamebirds take place (our unpubl. data).

Like other monoxenous nematodes, *E. contortus* is almost exclusively found in farmed gamebirds (Millán *et al.* 2004b) and had, to the best of our knowledge, never been found in members of the family Otididae (Cordero del Campillo *et al.* 1994). *E. contortus* can affect the host's body condition (Bosch *et al.* 2000), and make their hosts more vulnerable to predation (Millán *et al.* 2002). Our results suggest that the release of farm-reared gamebirds can eventually introduce new pathogens to wild populations of different species, many of which are of conservation concern, as is the case for the Little Bustard. As hypothesized by Tompkins *et al.* (2001), if these parasites are able to find a new host, they can become an additional problem for its conservation.

This is a contribution to the agreement between IREC and Principado de Asturias and to the CICYT Project CGL2004-06147-C02/BOS. We wish to thank I. Hervás, R. Agudo, R. Mateo, M. Martínez and S. Luna for their assistance in the field. F.C. is the recipient of a JCCM grant and E.L.G.d.I.M. was funded by the Ministry of Education's FPU Program. This study was made following European, National and University of Castilla – La Mancha Ethics Committee regulations.

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*Corresponding author.
Email: diego.villanua@uclm.es

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Received 14 November 2005; revision accepted 31 July 2006.