



FIG 1: Stone curlew (*Burhinus oedicnemus distinctus*) with cutaneous pox nodules on the right leg

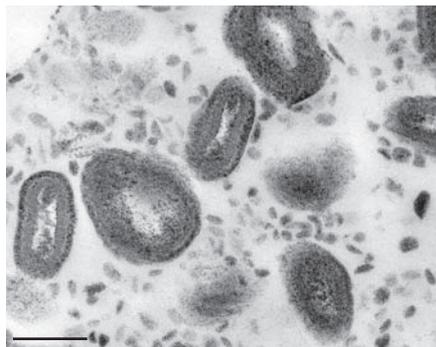


FIG 2: Electron micrograph of pox virions isolated from a stone curlew (*Burhinus oedicnemus distinctus*). Uranyl acetate counterstain. Bar=225 nm

Currently, avian pox is a new conservation problem in threatened bird species in the Canary Islands (Medina and others 2004) (*Burhinus oedicnemus* is listed in Annex 1 of the EU Birds Directive). The disease could be an important factor in the decrease in populations of affected species of birds in the Canary Islands, as has been reported on island ecosystems such as Hawaii for other bird species (Tripathy and others 2000). Poxvirus particles are very persistent in the environment, and cutaneous infection can occur by direct contact with infected individuals or by mechanical transmission of the virus to broken skin (Docherty and others 1991).

The presence of avian pox in endemic stone curlews should be considered as a conservation problem in this endangered species, and possibly a problem for management and conservation of other endemic and threatened bird species in the Canary Islands ecosystem.

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(Medina and others 2004), short-toed larks (*Calandrella rufescens*) and Berthelot's pipits (*Anthus berthelotti*) (Smits and others 2005). Because of this, veterinary surgeons and biologists responsible for managing the wild avian species in the Canary Islands are concerned about the impact of the disease.

Two endemic subspecies of stone curlews inhabit the Canary Islands: *B o distinctus* is present on the eastern islands of the archipelago (Gran Canaria, Fuerteventura and Lanzarote), whereas *B o insularum* is present on the western islands (Tenerife, La Palma, La Gomera and El Hierro) (Martín and Lorenzo 2001). Five stone curlews were submitted to the Wildlife Rehabilitation Center of Tafira (WRCT) from Gran Canaria and Fuerteventura islands showing large cutaneous nodules on the legs and toes (Fig 1). Histopathological examination of skin biopsies revealed ballooning degeneration of epidermal cells and eosinophilic intracytoplasmic inclusion bodies characteristic of poxvirus. In addition, eight stone curlews submitted to the WRCT without initial lesions of poxvirus infection developed similar cutaneous lesions some weeks later.

Examination of formalin-fixed tissue from the cutaneous nodules from two birds by electron microscopy revealed numerous typical pox virions (150 x 300 nm) (Fig 2). Pox virions were ovoid and contained a dumbbell-shaped nucleoid.

## References

- DOCHERTY, D. E., LONG, R. I. R., FLICKINGER, E. L. & LOCKE, L. N. (1991) Isolation of poxvirus from debilitating cutaneous lesions on four immature grackles (*Quiscalus* sp). *Avian Diseases* **35**, 244-247
- MARTÍN, A. & LORENZO, J. A. (2001) *Aves del Archipiélago Canario*. Lemus F. Editions. pp 293-298
- MEDINA, F. M., RAMÍREZ, G. A. & HERNÁNDEZ, A. (2004) Avian pox in white-tailed laurel-pigeons from the Canary Islands. *Journal of Wildlife Diseases* **40**, 351-355
- SMITS, J. E., TELLA, J. L., CARRETE, M., SERRANO, D. & LÓPEZ, G. (2005) An epizootic of avian pox in endemic short-toed larks (*Calandrella rufescens*) and Berthelot's pipits (*Anthus berthelotti*) in the Canary Islands, Spain. *Veterinary Pathology* **42**, 59-65
- TRIPATHY, D. N., SCHNITZLEIN, W. M., MORRIS, P. J., JANSSEN, D. L., ZUBA, J. K., MASSEY, G. & ATKINSON, C. T. (2000) Characterization of poxviruses from forest birds in Hawaii. *Journal of Wildlife Diseases* **36**, 225-230

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## WILDLIFE

# Poxvirus infection in stone curlews in the Canary Islands

WE wish to report a recent outbreak of cutaneous avian pox infection in endemic stone curlews (*Burhinus oedicnemus distinctus*) from the Canary Islands.

Several cases of poxvirus infection have been reported in the past few years in wild birds from the Canary Islands, such as white-tailed laurel pigeons (*Columba junoniae*)



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