

# Short Communications

## Confirmation of the chewing louse, *Bovicola breviceps*, in a British llama (*Lama glama*) herd

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LOUSE species identified on South American camelids include the chewing or biting louse, *Bovicola (Damalinia) breviceps*, and the sucking louse, *Microthoracius* species (Fowler 1998). Although *B breviceps* has anecdotally been identified in Great Britain (Duff and others 1999), specimens have not been described in detail. This short communication describes observations on *B breviceps* from llamas in a herd in Devon.

Lice were identified on three llamas that had been culled from a herd of 20 as part of a tuberculosis control programme in September 2008. The infestation was light and mainly present on the axillary and inguinal skin. It was not associated with clinical skin disease; for example, there was no pruritus or grossly visible lesions, and there was no history of skin disease or specific treatment for ectoparasites on the premises from which the llamas originated. Lice were collected from each animal and placed in 70 per cent alcohol for light and electron microscopic examination.

Ten adult female lice were examined by light microscopy (Fig 1a). Morphological features were consistent with *B breviceps* as described by Lyal (1985). The gonapophyses, which have characteristic features for the identification of these parasites, are shown in Fig 1b. These are hook-like structures on the ventral posterior of female lice that trap the hair on which eggs are laid. There is selection pressure on the form of the gonapophyses relating to the structure of the host's hair (Lyal 1985) so that their morphology reflects the host animal species. As lice are generally host-specific, the gonapophyses are morphologically distinctive for each louse species. In *B breviceps* they have a small, pronounced lobe and a broad tapering spur (Lyal 1985). This feature has also been used to confirm the initial identification of *B breviceps* on South American camelids in other countries (Palma and others 2006).

Eight adult female lice were examined by scanning electron microscopy. After dehydration in 70 per cent and then 100 per cent alcohol, the specimens were placed in hexamethyldisilazane for five minutes before air-drying. When dried, the lice were attached to aluminium stubs using double-sided tape, and sputter-coated with gold. Photomicrographs of the lice were taken using the scanning electron

microscope, from which measurements were calculated (Fig 2a). The mean body length was 1.78 mm, mean body width was 0.72 mm and mean head width was 0.46 mm. The sensillar complex of the third antennal segment was also examined, as it has distinguishing features for various *Bovicola* species (Soler Cruz and Martín Mateo 1996). Similar to the observations of Soler Cruz and Martín Mateo (1996), the sensillar complex of the specimens was formed by three pore organs, two sensilla coeloconica with reinforced, everted lips, and 'pit organs' were absent (Fig 2b).

To the authors' knowledge this is the first confirmed report of *B breviceps* on British llamas. The morphological features were similar to those of *B breviceps* as reported elsewhere (Lyal 1985, Soler Cruz and Martín Mateo 1996, Fowler 1998).

The prevalence of lice on British South American camelids is not known, but they were reported by less than 5 per cent of owners in a survey (Tait and others 2002). Although chewing lice can cause pruritus, alopecia and matting of the fibre in heavy infestations (Fowler 1998, Foster 2008), the light infestation in the llamas reported here had no apparent clinical significance. Sucking lice may be more pathogenic, potentially causing anaemia (Fowler 1998); however, these species have not been reported in South American camelids in Great Britain (Foster 2008).

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FIG 1: (a) Adult *Bovicola breviceps* from a British llama. This specimen had a body length of 1.85 mm and width measuring 0.80 mm. (b) *B breviceps* gonapophyses showing a small, pronounced lobe (asterisk) and broad tapering spur (arrowhead)

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