

Ancient head lice on a wooden comb from Antinoë, Egypt*

Seven head lice (*Pediculus humanus capitis* De Geer, 1778) were recovered from the debris found among the fine teeth of a wooden comb excavated in Antinoë, Egypt, and dated between the fifth and sixth centuries AD.

A report by Mumcuoglu and Zias¹ on the discovery of head lice on twelve wooden combs excavated in Israel and dated from the first century BC to the eighth century AD prompted the author to search for head lice on the only comb of similar type kept in the collections of the National Museum of New Zealand. This comb (pl. XXI, 2) was received by the museum in 1914, together with several other archaeological items recovered by the Egypt Exploration Fund during the excavation of town rubbish mounds in Antinoë, Egypt.²

A small amount of reddish-brown dry debris was carefully removed with fine forceps from among the teeth of the comb; the material from each side was placed in separate Petri dishes. Ethanol 95 per cent was added to both samples to facilitate examination under a stereomicroscope. No lice, either whole or broken, were found in the debris from the coarser side of the comb (2.5 teeth per cm) even after treating the sample with a 10 per cent aqueous solution of potassium hydroxide (KOH) for ten minutes at room temperature. However, the debris extracted from the finer side of the comb (6 teeth per cm) contained the remains of seven specimens of head lice (*Pediculus humanus capitis* De Geer, 1778), either whole bodies or parts of them. These were partially or totally covered by compacted debris which was dissolved by treatment with KOH as above. Once cleaned and cleared, the lice were treated with a series of chemicals, and slide-mounted in Canada Balsam following the technique described by the author elsewhere.³ Thus, they are now properly preserved and documented for further research.

The seven lice specimens include: one headless male, two partial female abdomens, one whole late instar nymph, one nymphal abdomen, one whole newly hatched nymph, and one egg containing a fully developed embryo. The number and developmental stages listed above fall well within the range of specimens found by Mumcuoglu and Zias (n. 1) on twelve out of twenty-four combs from the Judean and Negev Deserts in Israel, i.e. only one egg on a comb from Ein Rachel to twelve adults/nymphs and twenty-seven eggs on a comb from Qumran, or four nymphs and eighty-eight eggs on another from Wadi Farah. The effectiveness of fine-toothed combs as delousing instruments can hardly be overstated. Modern combs differ very little in shape and dimensions from their ancient counterparts, and they are still regarded as among the most effective, and indeed the safest, methods of head lice control.⁴

The conditions required for the preservation of the comb and the organic material examined for this study, as well as the circumstances of their burial and subsequent excavation, are similar to those described by Mumcuoglu and Zias. These authors wrote that 'Wars forced many Jews to leave urban areas and to settle in desert caves, where overcrowding and poor hygienic conditions presumably would encourage parasitic infestations'. This inference may be correct, but the evidence of the comb from Antinoë, a community with a comparatively more prosperous and peaceful life,⁵ suggests that living in more benign circumstances does not necessarily mean a drastic reduction in head lice infestation. To judge from a recent report by Maunder (n. 4) the situation does not seem to have changed significantly in the last 2,000 years!

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¹Y. K. Mumcuoglu and J. Zias, 'Head lice, *Pediculus humanus capitis* (Anoplura: Pediculidae) from hair combs excavated in Israel and dated from the first century B.C. to the eighth century A.D.' *Journal of Medical Entomology* 25 (1988), 545-7.

²J. de M. Johnson, *JEA* 1 (1914), 168-81.

³R. L. Palma, 'Slide-mounting of lice: a detailed description of the Canada Balsam technique', *The New Zealand Entomologist* 6 (1978), 432-6.

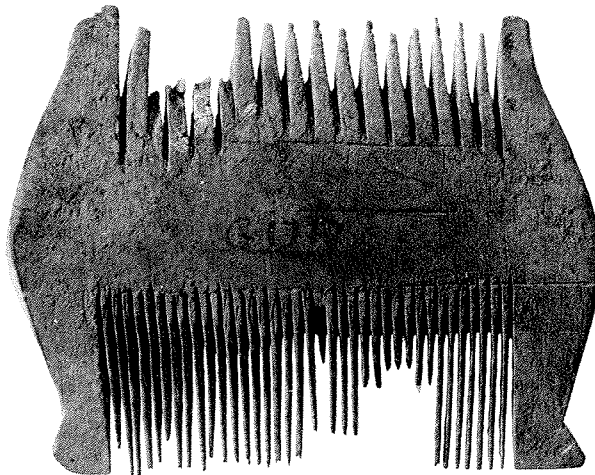
⁴J. W. Maunder, 'The appreciation of lice'. *Proceedings of the Royal Institution of Great Britain* 55 (1983), 1-31.

⁵Johnson, op. cit.



1. Cairo JE 46278, back (pp. 189-93)

A GRAECO-ROMAN STATUE FROM DENDERA



2. Wooden comb from Antinoë, Egypt, dated between the fifth and sixth centuries AD. (Registration no: NMNZ, FE 1717).

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