Economic Utility and Nutritional Value of the Common Wombat
evaluating Australian Aboriginal hunting and butchery patterns

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In the rich late Pleistocene southwest Tasmanian archaeological assemblages the c. 20kg to 30kg Tasmanian Common Wombat (Vombatus ursinus) is the second, although very minor, prey species, with the Dasyurus viverrinus variegatus dominating. This is clearly seen in Table 3, where in the Kultauna assemblage the variegatus makes up 98% of the Number of Identified Specimens (NISP) of prey species and 81% of the Minimum Number of Individuals (MNI) of prey species. This pattern is repeated throughout the southwest sites, although it is not known why. While palaeoecological models have been developed to explain this pattern (Cosgrove et al. 1995), our new data suggests it needs to be revisited.

Why is There a Difference between Wombat and Wallaby Selection by People in Late Pleistocene Tasmania?
The results of this comparative economic utility and nutritional analysis with the Kultaunahummus assemblages indicate:

1. That despite the Tasmanian Common wombat being substantially larger at c. 20kg to 30kg, the Dasyurus viverrinus variegatus was the dominant prey as they had a higher combined calorific, quality and larger quantity.
2. That although fatty wombat meat was nutritionally important, the low number of their bones indicate off-site processing, for dietary and other uses.
3. That the low number of wombat bones in the archaeological assemblages may also suggest they were often processed less often (i.e. low carrying capacity) or they were difficult to capture (poor optimal foraging return ratios).

Economic Utility and Nutritional Study

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Wombat Economic Utility Study

Economic utility or anatomy studies provide an estimate of the amount of fat, meat, fat, bone and marrow obtainable from specific parts of an animal. This provides an assessment of the likelihood that particular body parts or elements will be selected and transported by humans.

Three wombats were collected from road-kills (Table 1). The wombat bones were then dissected into five body parts (Figure 1). The gross weight or tibia weight were recorded.

Meat Utility Index MUI

To evaluate the amount of meat associated with specific body parts, the Meat Utility Index (MUI) following Lawler et al. (2002) was used. MUI relates to the ratio of the meat to the sectional area of the bone. The results indicate that the fat content is higher associated with the femur and tibia, while the pelvis and the cranium are lower. This contrasts with the Bennett’s walrus MUI (2016) where the majority of the interest is associated with the cranial and pelvic areas.

To clearly illustrate the difference in the distribution of meat on the two main prey species from late Pleistocene southwest Tasmania, the wombat and marl MUI data has been normalised in a scale of 1 to 100 to calculate the MUI in Figures 2 and 3.

Economic Utility Results Compared to the Fauna from Late Pleistocene Southwest Tasmania

The analysis of the economic utility and nutritional study shows that the distribution of wombat bones in late Pleistocene southwest Tasmania, the MUI Index (MUI) was compared to the Minimum Number of Animals (MNA) from Kultauna Cave (2012). (Figure 4). The results indicate that some of the higher utility elements such as the pelvis and skull were not often selected by people, while the femur and tibia was heavily selected and transported. Therefore people do not seem to be targeting the common wombat body parts in the largest amount of meat.

The volume results are very different to that of the main prey species, the kultaunahummus. The volume Meat Utility Index (MUI) compared to the Minimum Number of Animals (MNA) from Kultauna Cave indicates that the tibia had the most meat, and was also the most common element in the archaeological assemblages (Figure 5). However, if people were seeking meat then more wombat bones would be expected in the archaeological assemblages as they only provide 7 to 9 kg of meat per animal (25-35% of total body weight - based on the mainland wombat), while the volume provided 14 to 18 kg of meat per animal (25-30% of the total body weight).

Nutritional Analysis of the Wombat

The percentage of unsaturated fatty acids, particularly oleic acid, is a good indicator of bone marrow quality. These fatty acids are more valuable and valuable in depot fat, while the percentage of fatty acids in the wombat by Cosgrove (2011). (Fig 20). Table 3 suggests that the flesh, bristles, while, as marrow from the humerus and femur regions of the wombat is quite valuable for its nutritional value. A plot showing the percentage of fatty acids in the wombat by Cosgrove (2011). (Fig 20). Table 3 suggests that the flesh, bristles, while, as marrow from the humerus and femur regions of the wombat is quite valuable for its nutritional value.

References


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