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A large modern Southeast Asian human skeletal collection from Thailand

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1. Introduction

The accumulation of reference collections of human skeletons of known sex and age at death for use in anatomical and anthropological research has a long, well recognised, and well published history in western countries. The Terry and Hamman-Todd collections in the USA are the most well known and have been used extensively in developing methods used in personal identification from unknown human skeletons, particularly the fundamental estimation of age at death and sex [1].

Anthropological research refining methods of personal identification in forensic anthropology in our increasingly mobile world has become more complex and challenging over recent decades. This has reinforced recognition of the value of regionally-derived skeletal collections in defining population differences in all aspects of skeletal morphology and pathology, both in forensic anthropology and bioarchaeology. Komar and Grivas [2], for example, cite numerous publications calling for regionally specific standards in postcranial bone morphometrics. Mann [3] makes a similar call for regional collections that illustrate diversity in disease and trauma.

This paper describes a large regional human skeleton collection held at Khon Kaen University, northeast Thailand and addresses the questions of whether the collection may be representative of the regional population from which it is drawn, and beyond the region, how widely it may be representative of Southeast Asians, or East Asian populations. These points are important for determining the geographical extent to which data and standards derived from the collection may be applied in addressing questions in forensic anthropology. To address these aims, this paper will review the demographic composition of the collection, assess the socio-economic characteristics of the period during which the donors were living, and what their lives were like.

There is a wide range of issues with use of reference collections in all aspects of skeletal anthropology, discussed later. Regardless of these issues, reference collections form an extraordinarily valuable resource, providing a basis for research on human skeletal biology that cannot be derived by any other means. Large collections such as that at Khon Kaen University (KKU), drawn from local populations in geographic regions outside those with a tradition of anatomical and anthropological research, have a clear value.

2. Description of the collection

2.1 The skeletal collection at KKU Human Skeleton Research Centre (HSRC)

This large collection of 745 skeletons is housed in the Department of Anatomy in the Faculty of Medicine at the University. It has been created from donations to the Department's body bequest programme. Soon after it was established in 1972, the Department started using human cadavers for teaching of medical and allied health professional students. The body donation programme began in 1973 and has been extremely

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