Dingoes not uniquely Australian

After 8 years of 'working holidays' in Asia and examination of more than 100 canid skulls, Dr Laurie Corbett's verdict is that, far from being uniquely Australian, the dingo is virtually indistinguishable from the wild canid found throughout southern Asia. Accordingly, he suggests that all such creatures, whether found at a Thai dog-meat vendor's or roaming the central Australian desert, should bear the same name: *Canis familiaris dingo*.

Because dingoes came to Australia a long time ago — about 4000 years — scientists have assumed that an evolutionary divergence from other canids would have occurred and so obscured the dingo's origin and ancestral lineage. This is because man's selection pressures are very strong and, in his constant companion, the domestic dog, have produced an extremely diverse range of body sizes, shapes, and behaviours.

However, some previous studies have hinted at a close resemblance between dingoes and dog-like canids (both extant and extinct) found throughout much of mainland Asia and the islands to the south. More evidence was needed to settle the matter, and Dr Corbett's abundant measurements have provided it.

The same canid, descended from the Indian wolf: the Australian dingo (top) and the wild dog of southern Asia (below).

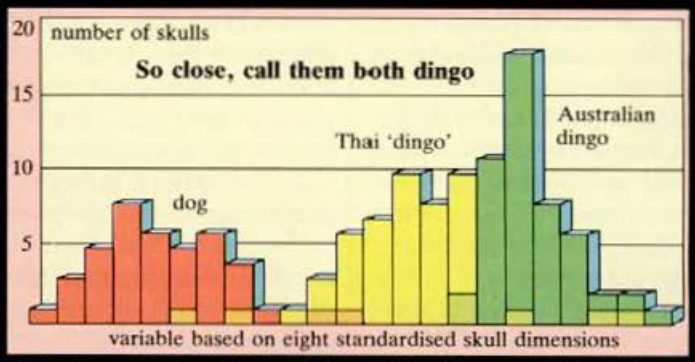
Dr Corbett, a wildlife ecologist with the CSIRO Division of Wildlife and Ecology in Darwin, had already, with his colleagues, established a way of distinguishing Australian dingoes from domestic dogs and their hybrids on the basis of nine skull measurements (see *Ecos* 38).

The method classifies skulls as belonging to one or other of certain groups (dingo, dog, or hybrid), and provides a measure of the 'distance' (in a statistical sense) of any individual skull from the nearest group centre. He applied the same technique to ascertain where Asian canids fitted into the picture.

The skulls of 50 animals Dr Corbett collected from a dog-meat market in rural Thailand proved central to his study. These were semi-wild 'dogs' brought to the market by local villagers. (Dog is a choice dish throughout the region and this, inadvertently, provided Dr Corbett with a unique opportunity to gather samples.)

Analysis of the skull measurements showed that the Thai canids were very close to the dingo (see the chart). On average, their 'distance' from quintessential dingo was less than half that from the typical domestic dog *Canis familiaris familiaris* (41 dingo-like strays from the Canberra dog pound). In fact, only 9 of the 50 were more 'dog-like' than 'dingo-like'.

(The possibility that the Thai canids were hybrids was unlikely since there are very few domestic dogs in rural Thailand — Dr Corbett only saw two in all his ten trips there.)



While it's possible to distinguish most Thai dogs from Australian dingoes on the basis of skull measurements, for practical purposes we may as well call them all dingoes, especially since they have the same breeding pattern and social behaviour.

Other data Dr Corbett collected on body measurements and coat colour confirmed the Thai animals' similarity to the dingo. But clinching the identity argument are behavioural similarities he observed among wild dogs in Burma, southern China, Indonesia, Laos, Malaysia, and the Philippines, as well as Thailand. In all cases, females gave birth in winter, a pattern that contrasts with that in domestic dog breeds, which reproduce all year round.

Furthermore, the structure, social organisation, and behaviour of Asian wild-dog packs also showed tell-tale similarities to those of dingo packs. For example, the 'body language' used in establishing social ranking was the same.

Dr Corbett acknowledges that, statistically, it is possible to discriminate reasonably well between Australian dingo skulls and Thai canid skulls. But the difference in skull dimensions involved is so small that it doesn't justify separating them into different sub-species: it's smaller than that between Australian dingoes living in desert and cool mountainous habitats.

Why have dingoes remained so uniform over such a wide geographic range? Our researcher suggests the absence of cross-breeding with other canid species (wolves, jackals, dholes) may be the main reason. In South-east Asia, the sole progenitor has been the Indian wolf (*Canis lupus pallipes*), which has had the canid field virtually to itself for millennia.

In addition, both the primitive ancestral and modern-day Asian canids have remained largely free of artificial selection pressures and resulting changes in morphology (circumstances that have overtaken the same ancestral canids in the Western world).

Travelling has played a role in keeping the dingo's genetic pot mixed and uniform. Not only did dingoes arrive in Australia several times in the last few thousand years via the boats of Asian seafarers, but evidence suggests they shifted back at least once: biting lice (*Heterodoxus spiniger*) that infest present-day Asian canids probably originated from Australian kangaroos.

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Morphological comparisons of Australian and Thai dingoes: a reappraisal of dingo status, distribution and ancestry. L.K. Corbett. *Proceedings of the Ecological Society of Australia*, 1985, **13**, 277–91.