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Relationship between wild-living and village-living dogs in New Guinea

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Surbakti *et al.* (1) provide DNA evidence for an ancestral relationship between a population of wild-living dogs found at high altitudes of Indonesian Papua and the captive population of New Guinea Singing Dogs (NGSD). They argue that founding members of the captive NGSD population derived from a population like that of the Papuan wild-living dogs (Highland Wild Dogs, HWDs). Further, they estimated that '72% of the HWD genome is most like captive NGSD or dingoes, the representative groups for Oceanic populations' and concluded that 'this is in stark contrast to the village dogs of New Guinea which share 87% of their genome with breed dogs and only 13% with the Oceanic dogs' (1). Their data on New Guinea village dogs derive from research published by Shannon *et al.* (2). Data from that study were not appropriate to the comparison made by Surbakti *et al.*

There is no evidence that founding members of the captive NGSD population were wild-living animals or the progeny of wild-living animals, or that high-altitude wild-living dogs were formerly isolated from other New Guinea canids (3). Further, early reports of village-living dogs from all altitudes of New Guinea were of animals that looked, behaved, and vocalized like NGSDs, and there are places in New Guinea where village-based populations of dogs still are dominated by animals that are phenotypically and behaviorally like NGSDs (3). An hypothesis of no difference between NGSDs or HWDs and pre-colonization village-living dogs can be refuted only by genetic studies that compare captive NGSDs and HWDs with low, middle, and high altitude village-living dogs that are selected on the basis of their similarities to NGSDs or HWDs (3).

The New Guinea village dogs examined by Shannon *et al.* were from urban locations where there had been from 70 to 120 years of contact with introduced breeds of dogs (4). Their results reflected ‘hybridisation with dogs introduced after European colonisation’ (3) and cannot provide information about differences between either captive NGSDs or HWDs and the village dogs of pre-colonial New Guinea. They do not indicate a ‘stark contrast’ between these populations.

If the founding members of the captive NGSD population were village-living dogs, as evidence suggests, then the Surbakti *et al.* paper supports a conclusion that ‘at the time of European colonisation, wild dogs and most, if not all, village dogs of New Guinea comprised a single though heterogeneous gene pool’ (3). Since that time, village-living New Guinea dogs will have interbred with dogs of introduced breeds with the outcome that high altitude, wild-living dogs are likely to provide the purist genetic strain of the pre-colonial New Guinea dog population. That strain may well represent an archaic lineage of the animals that came to be called ‘dogs’ (*Canis lupus familiaris*, 5, 6). There is no need to validate the importance of existing populations of New Guinea wild-living dogs by constructing arguments that distinguish them from pre-colonization New Guinea village-living dogs. They are important. They do not need special pleading that risks misinterpreting evidence.

FOOTNOTES

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The authors declare no competing interest.

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