

## **Supplementary information, Data S1 Nomenclature of non-breed dogs and morphological features of Chinese indigenous dogs**

Dogs that do not belong to a specific breed, "non-breed dogs", do not yet have a universally conformed nomenclature. For example, a dog sampled in southern East Asia is often simply called "dogs from southern East Asia". Adam Boyko, who studied African non-breed dogs, called the African dogs sampled from the African countryside "African village dogs"<sup>1</sup>. We call the dogs sampled from the countryside of China "Chinese indigenous dogs". By this term we mean that the dogs may be assumed to represent the "historical" dog population of that region, which has not been replaced in modern time and has not been subjected to strong artificial selection (breeding) in modern time. All these terms have been used in previous publications. An additional consideration is the degree of human control over dogs. "Village dogs" may mean dogs living in the countryside, either under close control (e.g., on leash) of specific owners, or it may mean a dog with a specific owner but which is free-ranging in a village, rather than living tightly (e.g. on leash) with a single human family. Further, there are bona fide free-ranging dogs without owners, e.g., Indian Pariah dogs. In conclusion, the nomenclature for "non-breed dogs" is not consistent, and a unified terminology would be valuable for the field.

The "Chinese indigenous dogs" studied here generally live with Chinese peasant families, normally under strict control (often on leash). These dogs display a relatively broad phenotypic diversity, but share several morphological features presented here (a number of these features are demonstrated in Supplementary information, Figure S1; see also<sup>2</sup>):

### 1) Medium body size

Body size is varied but the dogs are usually of medium body size, like a standard Husky and smaller than a standard Golden Retriever.

### 2) Well-proportioned body structure

The dogs have a strong body and medium leg length, which is distinct from, e.g., the slender Dachshund or Great Dane.

### 3) Diverse coat color and texture

Coat color is often light yellow, but black, white, brown or gray coat color also occurs. The dogs have mostly a single color, except the feet showing light color or pure white.

Coat pattern can also be found: fields of black and white or brindle with black and brown are the most common.

4) Short and hard hair

5) Round head and medium face

The head looks round with a medium face, which is distinct from the sharp head of the Hounds.

6) Lop, half-erect, prick ear

Ear shape shows high diversity. Lop and half-erect ears are more common in Southwest China while dogs in Southeast China usually have prick or half-erect ears.

7) Curly and brushy, or straight and thin, tail.

There are two common tail shapes: curly and brushy or straight and thin. Dogs with the former shape usually carry their tails up. Dogs with the latter shape usually lop their tails under relaxed conditions and get their tails up under stimulated conditions.