THE INHERITANCE OF COAT AND NOSE COLOUR
IN LONG-HAired DACHSHUNDS

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The dachshund is too well known for any description of it to be necessary here. The long-haired variety, however, is less well known than the smooth, and the official description of its coat may be of value. This resembles that of an Irish setter, both in texture and distribution of ‘feathering’, by which is meant the long hair on the tail, legs, ears and chest. When it first became evident to me that coat colour in the breed had a regular mode of inheritance, I endeavoured to obtain additional information from correspondents and from old records. The results thus obtained were at variance with my own, especially for Brindle and Red coat colours, and apparently such a thing as a brown nose had not been heard of. In fact, I was forced to conclude that my ideas were erroneous, as at that time I had not had the experience of dog breeding, and more especially of dog breeders, that I have since. It was not for two or three years that I realized that the error was more likely to be in the information received than in my own observations. It is not usual to breed from show animals more often than once every twelve months, and then not before they are eighteen months old, so that the collection of data takes time. At the same time I was collecting material regarding the inheritance of ‘overshot’ jaws, and was experiencing the greatest difficulty in getting admissions that such a condition had ever been seen in any particular kennel, though I was frequently informed that it had been known in other breeders’ kennels. Then I was told by one of the recognized authorities on the breed that colour descriptions were not reliable, a lightly marked Brindle not infrequently being described by its owner as a ‘shaded red’, and I have since seen for myself, at shows, dogs so described that undoubtedly were Brindles, this classification being borne out by their progeny. The following statements on these points have been published previously:

‘Die Angaben der Züchter selbst sind niemals als unanfechtbares Material zu betrachten, wenn sie nicht genau kontrollierbar sind. Wenn man diesen Angaben trauen dürfte, dann vererben sich ihre Hunde fast ausnahmslos genau so, wie es die Vereinsverschriften verlangen...alle ihre Hunde vererben sich ideal im Sinne der aufgestellten Rassenkennzeichen... Aus diesem Grunde gibt es trotz dreissigjähriger Spezialklubarbeit noch gar kein zweifelsfrei festgelegtes, zu wissenschaftlicher Ausbeutung geeignetes Material aus der Hundezucht’ (Löns, 1913).

‘Die am meisten zu beachtende Fehlerquelle ist, dass mit oder ohne Wissen des Besitzers Fehlpaarungen stattgefunden haben mögen, so dass ein unrechter Rüde als Vater angegeben wird. Dieser Möglichkeit muss man stets eingedenk sein, wo man auf verdächtige Fälle stößt’ (Anker, 1925).

The situation is perfectly summed up in a recent publication, thus: ‘The birth of a body-marked or blue-eyed pup assumes the proportions of a family scandal, to be hushed up at all costs’ (Briggs & Kalies, 1942). In long-haired dachshunds, the production of a Red with a brown nose is a major catastrophe, and the occurrence of even Brindle puppies is kept quiet by some breeders.
I have dealt with these points at some length to emphasize that all data relating to
dogs must be personally collected, and to explain why my own material is not
fuller. Throughout this paper all the evidence submitted fulfils three conditions: (1) the
dog has been seen by me in the first week of its life; (2) the colour has been confirmed
by me at a later date (see below); (3) the material has only been included when I have
been fully convinced that I have seen the whole of the litter, including any stillborn
puppies.

Previous investigations
Although numerous investigations into the inheritance of coat colour in various breeds
of dogs have been made, I know of only one dealing with the long-haired dachshund.
The results of this were published in 1925 (Anker, 1925). The results obtained are in
general agreement with those given here, with, however, one or two exceptions. Notably,
an all-black and an all-brown are described, also a recessive Red. None of these is
known to me, and as the author, after devoting a whole chapter to the unreliability of
stud books and records generally, obtained all his material from these sources and not
from observation or experiment, I am not inclined to attach much importance to them.
I regard the all-black and the all-brown, which are stated to be very rare, as instances
of the types of Brindle mentioned later in ‘Determination of colour at birth’ (see p. 204).

Classification of coat colours
The four commonly occurring coat colours are described as Brindle or Tiger-marked,
Red, Black and Tan, and Chocolate. Two others, Dapple and White, also exist but are
not included here for reasons given below.

Brindle or Tiger-marked consists of more or less distinct stripes, dark brown in colour
running at right angles to the length of the body. The ground colour may be any shade
from golden red to black. In the latter case the stripes only become visible in a very
bright light when viewed obliquely, and may not be noticed until the result of breeding
from the animal draws attention to the fact that it is in reality a Brindle. The term
Brindle is in general use in this country for this variety, but later in this paper the
symbol $T$ for Tiger-marked has been used to avoid confusion with $B$ for Black and Tan.
The German description is usually Tiger-marked, but Anker (1925), a Swede writing in
German, uses the term ‘Tigerung’ to describe the Dapple. This is unfortunate, as the
term is deprived of its general use, and it is also much more appropriate when applied
to a striped pattern.

Red is a more or less uniform tan colour, but considerable variations exist. All inter-
mediate shades between golden and fox red are met with, possibly due to the presence
or absence of one or more intensifying factors. No attempt is being made here to
separate these variations, as they occur in litters bred from two parents of the same
shade of colour, and very little evidence of segregation has been obtained. What evidence
there is is quite insufficient for any definite statements to be justified. A very deep Red
with what appear to be shaded portions running more or less vertically is sometimes
seen. As in the very dark Brindles, when viewed in a bright light these shaded portions
are seen to be definite stripes of a brown colour, and such an animal mated to Red will
produce puppies with all degrees of brindling, depending on the Black and Tan content
of the two parents.