The Sloping Back Controversy

FJ van Kraayenburg

The modern German Shepherd has attracted considerable uninformed comment criticising the high wither accompanied by a supposedly sloping and/or curved backline of the breed.

Unfortunately, German Shepherd enthusiasts have added to this perception of abnormality or un-naturalness by exaggerating these aspects when photographing or showing their dogs. Anatomical evaluation of a German Shepherd Dog requires, amongst others, that a dog be posed in a certain way to evaluation the various angulations required for movement. Fig. 1 and fig. 2 are of the same dog. In fig. 1 the dog stands naturally and in fig. 2 the dog is posed.

Well known American Biokinetologist, Ricardo Carbajal, has made a study of the breed in relation to its anatomy as related to its function. He has concluded that the modern anatomical shape of the dog in itself poses no health risk whatsoever. Also, contrary to such perceptions, he has proved that the modern German Shepherd Dog is unlikely to be affected by the problems seen in some breeds with straight or hollow backs.

He points out an engineering fact that, if one was to build a bridge supported on only two points, the strongest structure is one that curves slightly upwards (fig. 3). This is because a force applied in direction ‘a’ is dissipated in directions ‘b’ rather than downwards.

His studies further indicate that a downward instability in the back of a dog is naturally compensated for by calcium deposits in the lower areas of the vertebrae, (donated by ‘a’ in fig.4) and leads to arthritis. The dog with a slightly upwardly curved back as illustrated in fig.3 would be free of this problem as the back would remain more stable in movement.

This author has also personally confirmed with Prof Lubbe, former specialist in canine back problems at the University of Pretoria Veterinary faculty at Onderstepoort, that back problems in German Shepherds significantly declined since 1980 in accordance with the selection for a slight upwardly curved back.

Biologically the spine is designed to bend forward rather than backwards. This is true for humans as well as animals and is the result of the anatomical construction of the vertebrae. It is easy to bend forwards and roll oneself into a ball, but it is impossible to do so backwards. A rugby player tackled from the front in the stomach area might be winded, but there is no danger to his back if he is bent forward in the tackle. Conversely, a tackle from the back causing the spine to bend backwards could result in serious injury.

Observing a dog jumping will show the spine curving upwards in the jump, not downwards. A dog with a slightly upward curved spine will thus find it easier to jump than a dog with a hollow back.

A high wither in a dog is simply the result of longer dorsal spines of the lumbar (chest) vertebrae. Longer spines provide for more muscle attachment and add to the stability of the back. There is no health hazard here!

Fig. 1. A quality German Shepherd standing naturally

Fig.2. The same dog posed.

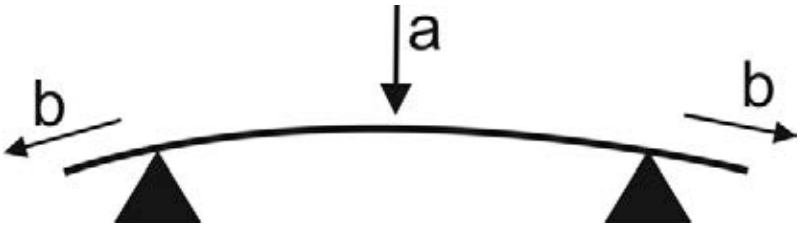

Fig 3. Engineering wise, a bridge that is supported at two points is strongest if slightly curved. This is because a force in direction ‘a’ is dissipated in directions ‘b’.

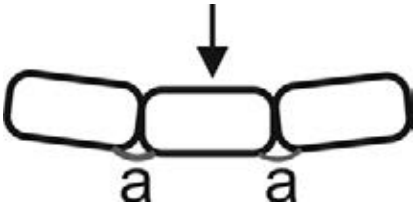

Fig 4. Downward instability of a dog’s back leads to calcium deposits in the lower areas of the vertebrae ‘a’ and thus to arthritis.