

# POLYDACTYLISM IN CATS

R. F. SIS, D.V.M., M.S., Ph.D.

Department of Anatomy  
College of Veterinary Medicine  
Texas A & M University  
College Station, Texas 77840

R. GETTY, D.V.M., M.S., Ph.D.

Department of Anatomy  
College of Veterinary Medicine  
Iowa State University  
Ames, Iowa 50010

THE CAT normally has 18 digits, 4 on each hind foot (*Figure 1*) and 5 on each front foot (*Figure 2*); however, polydactyl (hyperdactyl) cats are not uncommon. Such cats sometimes have as many as 8, or even 10, extra digits.<sup>1</sup> There is considerable range in the number and size of these extra digits and the structures related to them.<sup>2</sup> Descriptions of feet from individual polydactyl cats were published as early as 1868.<sup>3-5</sup>

Polydactylism in the cat is a trait induced by a single dominant gene.<sup>2</sup> The probable effect of the gene is to incite some changes in the preaxial part of the limb bud, causing an excess of growth in that area. The trait is not related to sex, and there is no evidence that the responsible gene is lethal when homozygous.<sup>1</sup>

Occasionally, a cat with supernumerary digits is seen at the Iowa State University Small Animal Clinic. Because the condition usually excites considerable interest, the owner is generally proud that the cat has polydactyl feet. This pride is probably

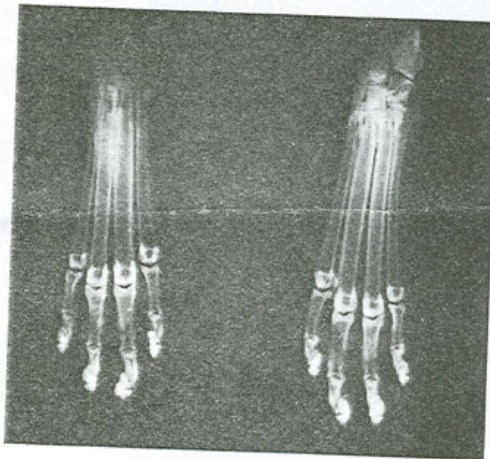
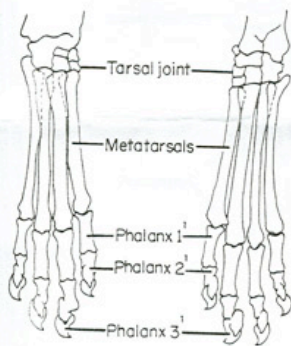
the reason the trait has been propagated and disseminated.

Figures 3 and 4 illustrate polydactylism in an 8-month-old male, yellow domestic short-hair cat. There are two supernumerary digits on each front foot while the right hind foot has one extra digit and the left hind foot has two extra digits.

In all cats observed at the Clinic, the anomaly has been limited to the medial side of the limb. In addition to the extra digits, each with its own terminal pad, there is one extra palmar pad and usually at least one extra plantar pad (*Figures 5 and 6*).

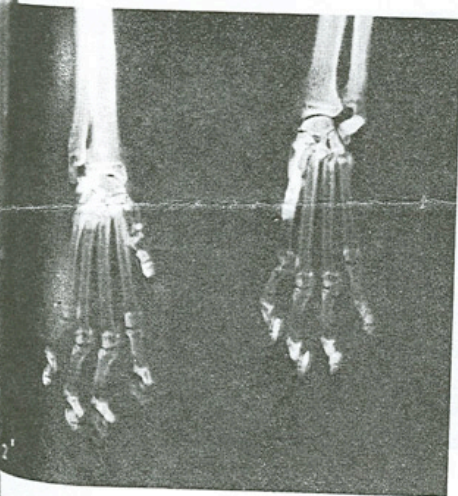
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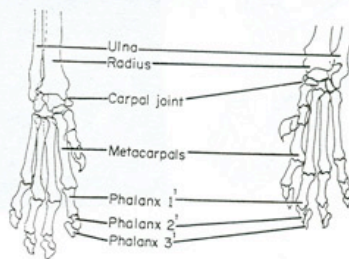


**FIGURE 1**—Above: a posteroanterior radiographic view of the tarsal joint and digits of the adult cat. Above left: the normal radiographic anatomy.

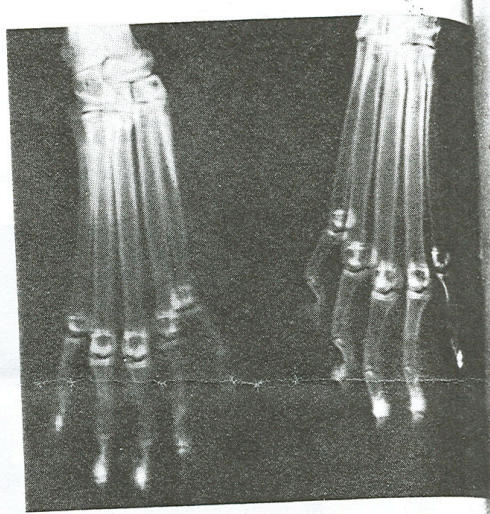
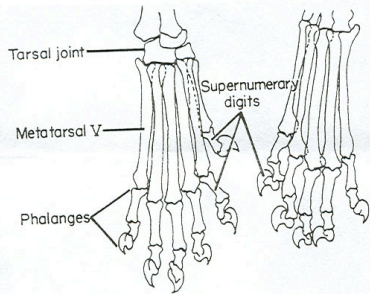
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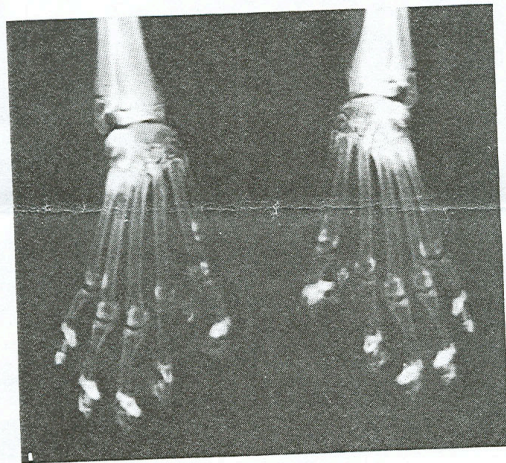
**FIGURE 2**—Left: an anteroposterior radiographic view of the carpal joint and digits of the adult cat. Below: the normal radiographic anatomy.



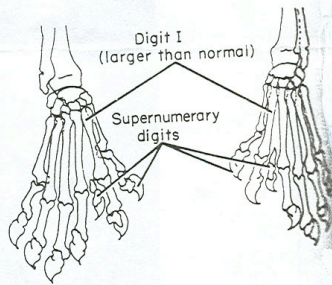
1. The following terminology is that approved by the International Commission for Veterinary Anatomical Nomenclature: proximal, middle and distal phalanges.



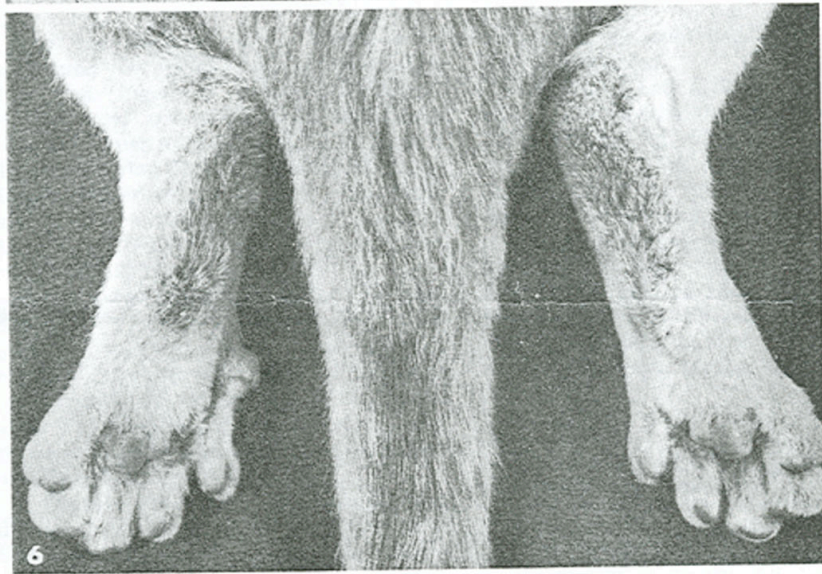
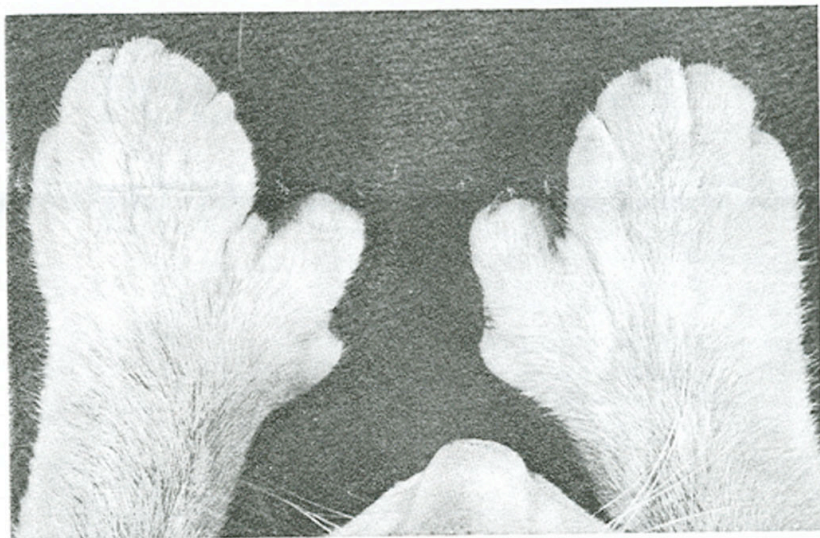
**FIGURE 3**—Above: a posteroanterior radiographic view showing polydactyly in both hind feet. Above left: the radiographic anatomy.



**FIGURE 4**—Left: an anteroposterior radiographic view showing polydactyly in both front feet. Below: the radiographic anatomy.



**FIGURE 5**—Polydactylism, with supernumerary digits on the medial aspect of both front feet.



**FIGURE 6**—Polydactylism, with two extra digits on the medial aspect of the left hind foot and one extra digit on the medial aspect of the right hind foot.