

Cuticle Scale Pattern Identification

There are 3 basic scale patterns that make up the cuticle: spinous, coronal, and imbricate.

Spinous: a petal-like scale pattern that is triangular in shape and protrude from the hair shaft. They are found on the fur hairs of seals, cats, and other animals. They are never found in human hairs.

Coronal: a crown-like scale pattern that resembles a stack of paper cups. These patterns are commonly found in the hairs of small rodents and bats, and are rarely seen in human hairs.

Imbricate: a flattened scale pattern consisting of overlapping scales. They are commonly found in human hairs and many animal hairs.

Using the known cuticle photographs in Chart 1 (page 2), describe the scale pattern observed in the following animals:

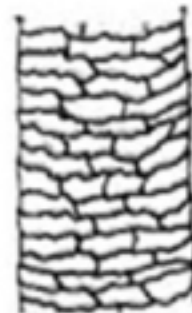
Animal	Scale Pattern
Dog	imbricate
Mouse	coronal
Deer	Imbricate
Cat	Spinous
Rabbit	Spinous
Human	Imbricate



spinous

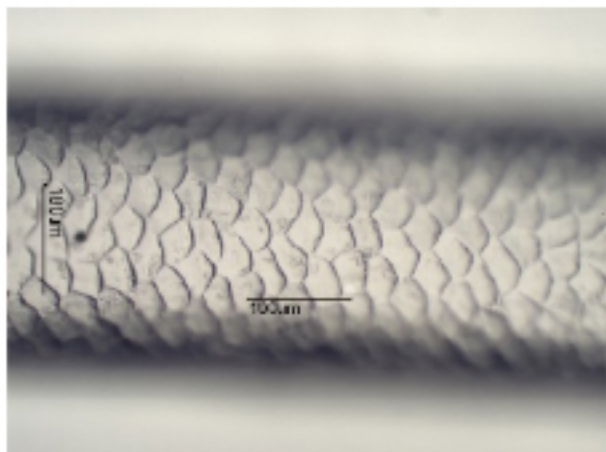


coronal

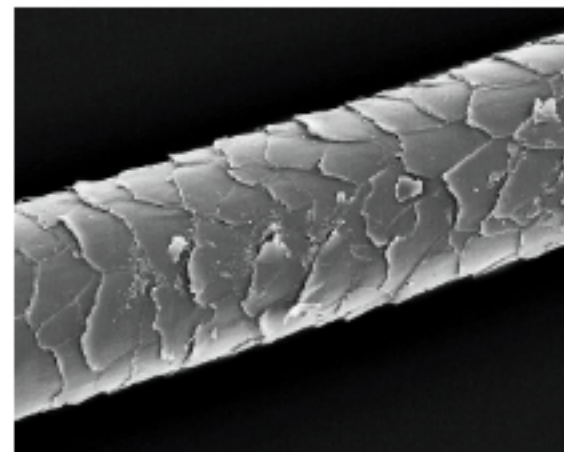


imbricate

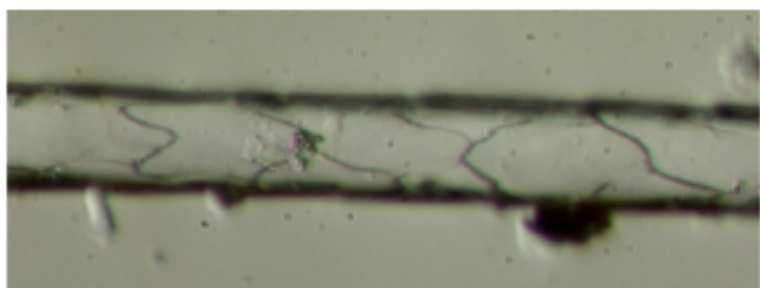
Deer hair cuticle



Human hair cuticle



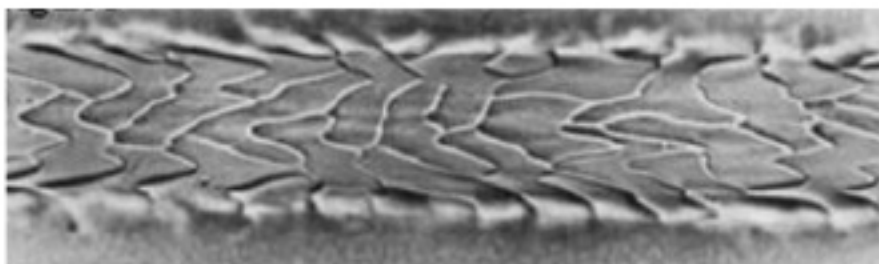
Mouse hair cuticle



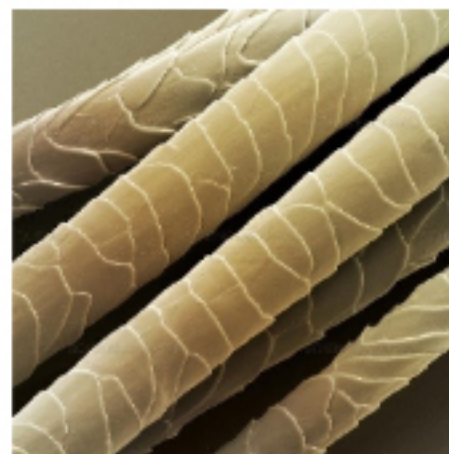
Cat hair cuticle



Rabbit hair cuticle



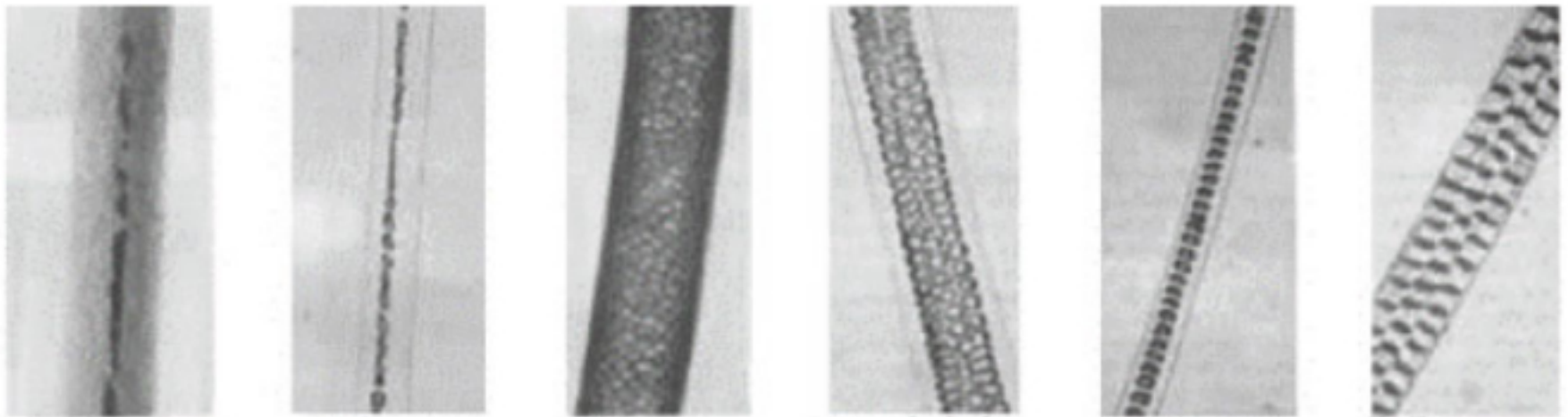
Dog hair cuticle



Species Identification using Medulla Patterns

The medulla is a central core of cells that may be present in the hair. Human hairs generally have no medullae or have fragmented ones that are not well defined. Animal hairs have well defined medulla that are usually continuous or interrupted.

Using the photographs of known medulla patterns in Chart 2 (page 4), determine the species of origin for each of the following:



A

B

C

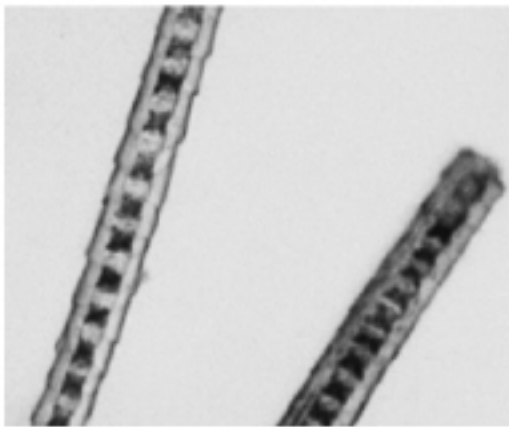
D

E

F

Unknown	Species of Origin
A	Human
B	Dog
C	Deer
D	Rabbit
E	Cat
F	mouse

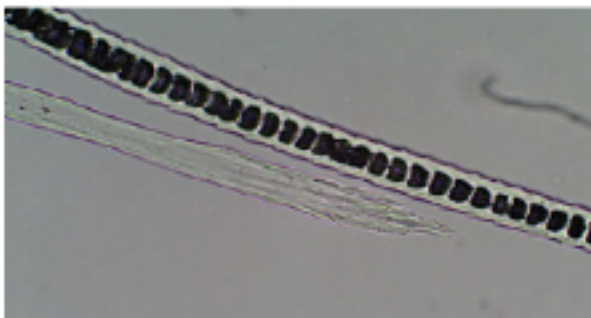
Dog hair medulla



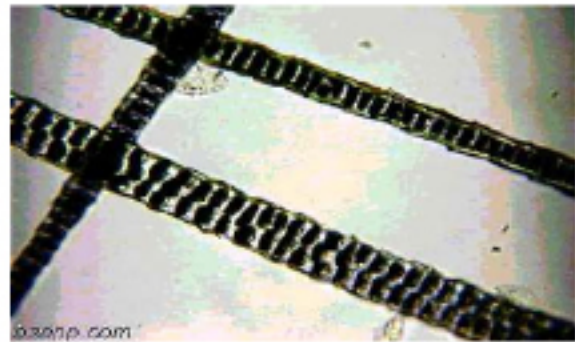
Rabbit hair medulla



Cat hair medulla



Mouse hair medulla



Human hair medulla



Deer hair medulla

