



# *Species and Speciation*

# Warm-up (be prepared to discuss)

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What is a species? What makes two species 'different enough' from each other?

*Same?  
Different?*

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**Different!**



Downy Woodpecker  
(*Picooides pubescens*)



Hairy Woodpecker  
(*Leuconotopicus villosus*)



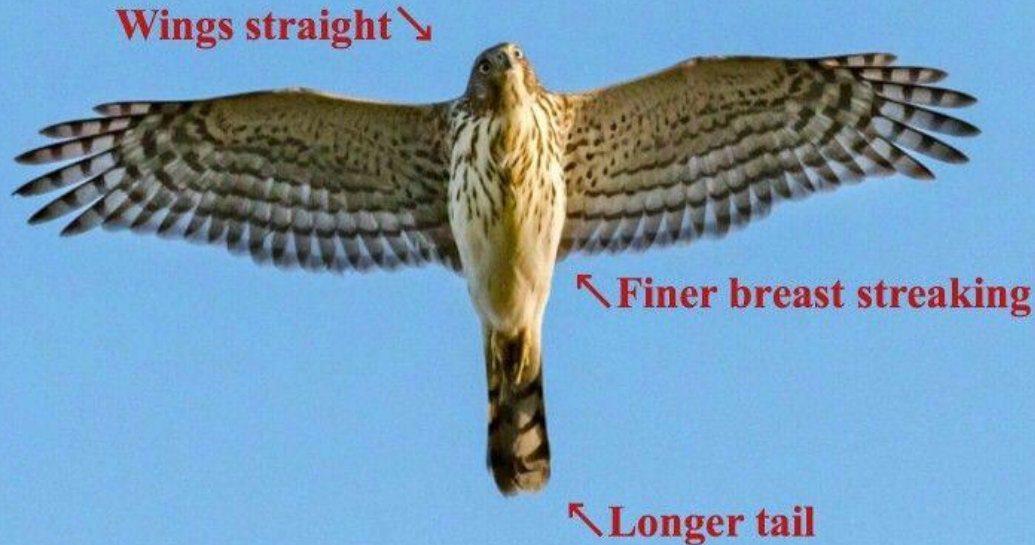
*Same? Different?*

# Sharp-shinned Hawk

**Different!**



# Cooper's Hawk





*Same? Different?*

Bohemian Waxwing (*Bombycilla garrulus*)



Rufous color  
on face

Gray body

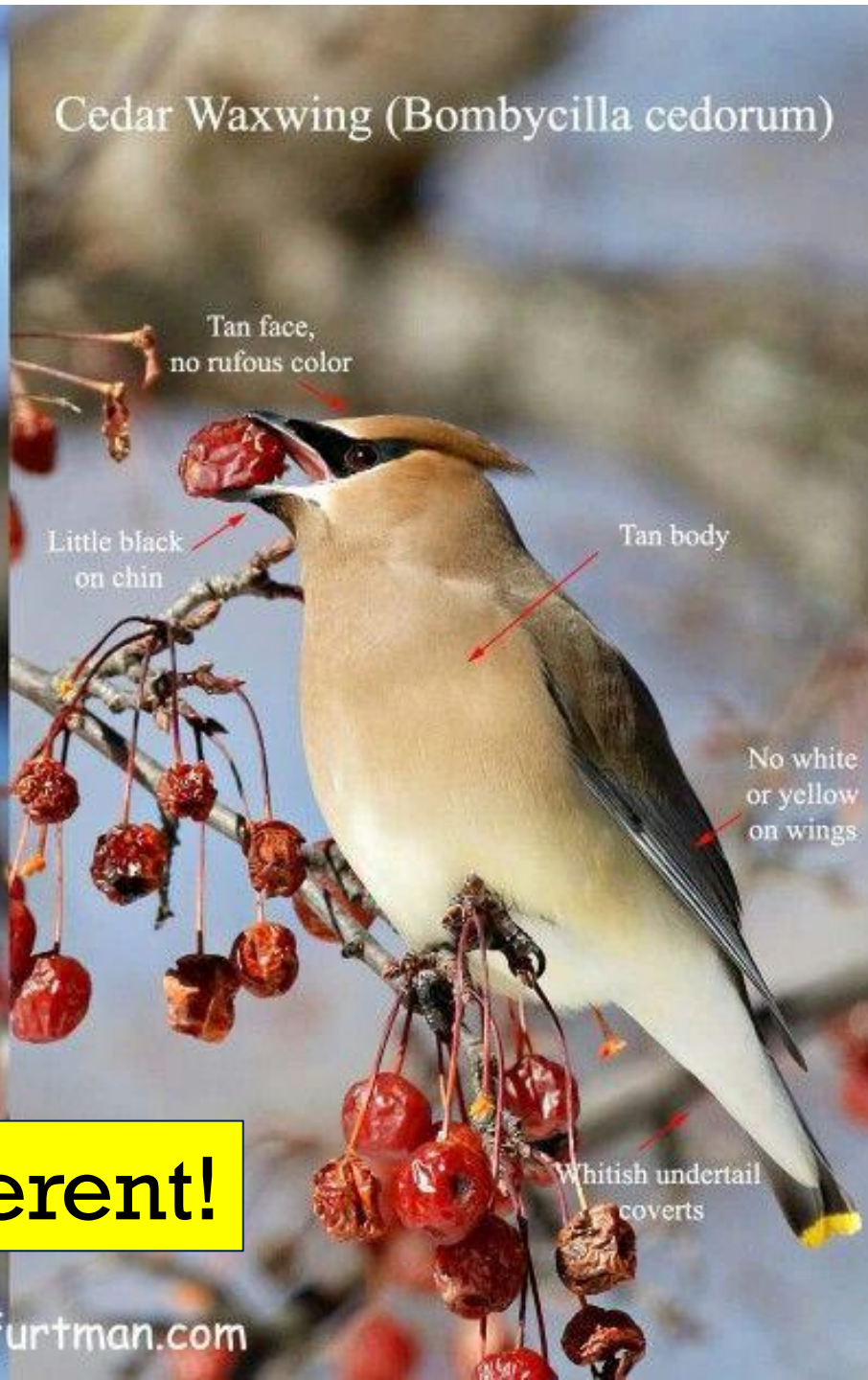
Much black  
on chin

White on wings

Yellow on  
wings

Rufous undertail  
covers

Cedar Waxwing (*Bombycilla cedorum*)



Tan face,  
no rufous color

Tan body

Little black  
on chin

No white  
or yellow  
on wings

Whitish undertail  
covers

**Different!**

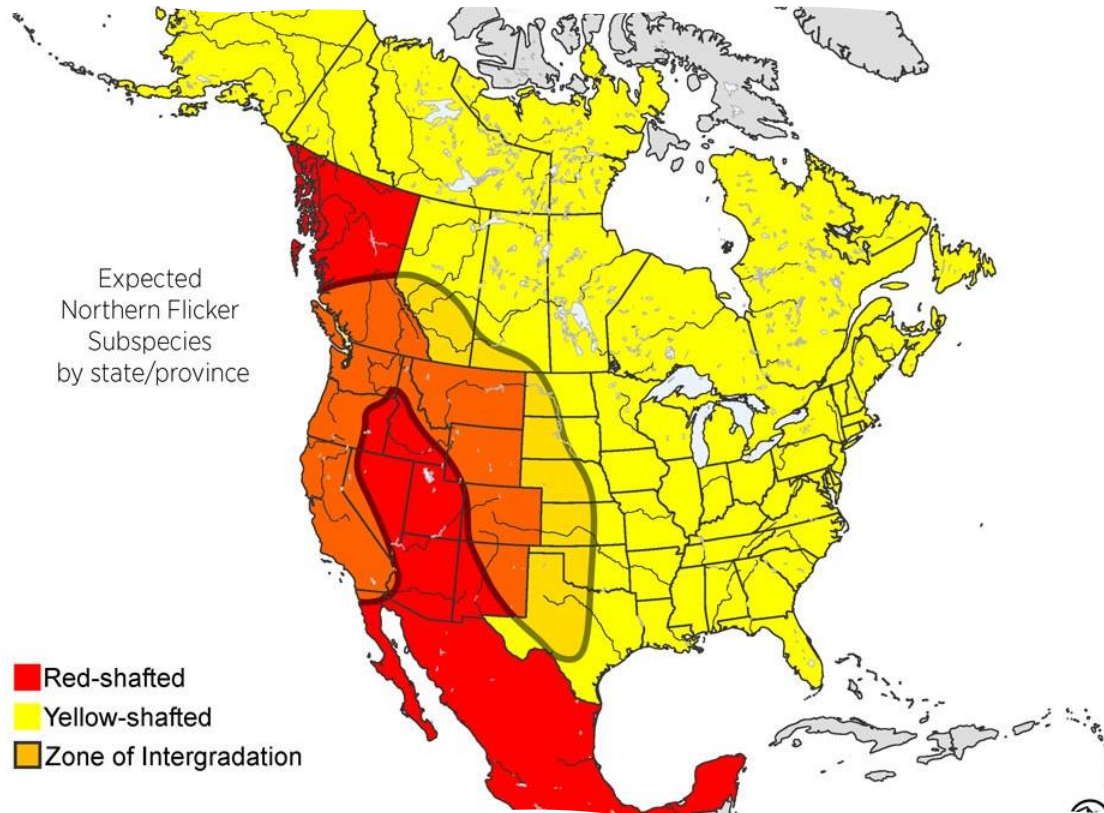




*Same? Different?*

Same!

Northern flicker (*Colaptes auratus*)  
common backyard bird: the two subspecies can interbreed



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# Speciation

An Illustrated Introduction