

# Feather Fascination!

with local Birdwatcher,  
Jim Butler



## SIGNALING QUALITY

The Royal Spoonbill in the photo is in full breeding display: vibrant yellow skin above the eye, vivid red on the head, long flowing plume behind the neck and shiny-white plumage with a wash of cream on the chest. Why this elaborate annual make-over? Answer: To send a signal! Bright breeding colouration is one of the most noticeable sexual signals and is often used by females as a basis for mate choice.

In species where female-choice mating is operating, females pick mates from a pool of males of varying quality. Females seek the highest quality males but are unable to assess their quality directly. Evolution has found a way to help the females! The males signal their breeding quality by producing bright colours and long flamboyant plumes for example. This signalling challenges the individual male because it is energetically costly and dangerously conspicuous to predators, therefore his chance of surviving declines. Only high quality males can pay the full cost and survive the danger. High quality males produce these bright colours and extravagant plumes, to ensure that they are chosen as mates by females. Low quality males haven't the requisite resources, and so they will produce duller colours and straggling plumes. In this population of birds, the bright colours and long plumes are honest signals of male quality, used by females to choose their mates. This is the basic idea

behind the use of costly signals in a sexual selection context. Signalling theory postulates that costly signals prevent cheating because it is impossible to produce the signal without the intrinsic quality. If the female responds only to costly signals, the communication evolves to accurately reflect the male's ability to pay the cost.

So why is the Spoonbill looking so resplendent? Because it shows how fit and healthy the individual is and signals high breeding quality.

Happy colourful birding  
~ Jim

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Image: Royal Spoonbill taken by Ed Frazer at Brookfield.