

Morphological Characteristics and Growth Performance of F₁ hybrids of Red Junglefowl Cocks Crossed with Fayoumi or H'mong Hens

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ABSTRACT: *Red Junglefowl (Gallus gallus) is considered as the direct ancestor of domesticated chickens. The widely speculated on-going gene flow between Red Junglefowl in the wild and some neighbouring native chicken populations in South and Southeast Asia may challenge the reliability of specific morphological markers to differentiate them and may have implications and the utility value of Red Junglefowl in the genetic improvement for disease resistance and adaptive traits of domestic chickens. The intensive monitoring and measurements of morphological and morphometric characteristics of 100 F₁ hybrid birds each from two mating groups involving Red Junglefowl cocks crossing with Fayoumi or H'mong hens were performed from day-old chicks to 12-week-old pullets in this study. The morphological data showed that the typical down feather pattern in striped phenotype as for camouflage, that is critical to the survival of Red Junglefowl in the wild, was not observed in any hybrid chick, suggesting this specific phenotype is likely controlled by a recessive allele and thus a morphological marker for the identification of true Red Junglefowl in their early development stages or life. The high survival rate and improved growth performance of the two F₁ hybrid groups demonstrated the potential value of Red Junglefowl in reconstituting the genetic diversity and possibly improving the adaptability of domestic chickens; therefore the unique wild relative resources that are able to survive in the increasingly fragmented jungles in South and Southeast Asia warrant further exploration and great attention for in situ conservation and sustainable exploitation.*

Keywords: *Red Junglefowl, chicken, hybrid, morphology, performance.*

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