白冠长尾雉(*Syrmaticus reevesii*)的窝卵数、孵卵节律及其对环境温度和降水的响应

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摘 要：窝卵数和孵卵节律是鸟类生活史的重要方面，亲鸟在孵卵期间需要权衡自身的能量需求与胚胎的热需求。白冠长尾雉(*Syrmaticus reevesii*)是一种中国特有的生活在山地森林中的单亲鸟类，面临寒冷环境和能量压力，亲鸟可能会调整孵卵行为以应对这些限制。于 2020 至 2022 年 3–7 月在湖北省广水市平靖关村和湖北中华山鸟类省级自然保护区跟踪了 21 只野生雌性白冠长尾雉，对白冠长尾雉的窝卵数、孵卵节律及其对环境温度和降水的响应进行了研究。结果显示，窝卵数为 7.72±1.51，并表现出明显的季节性下降，且窝卵数与产卵期平均温度呈显著的负相关关系(P<0.05)。在孵卵期，亲鸟每天离巢 0.74±0.46 次，离巢时长为 99.23±72.93min，坐巢率为 93.11±5.06%，离巢高峰在 13:00 左右，且离巢时长与日均温和日降雨量均呈显著的负相关关系（P<0.05）。本研究表明雌性白冠长尾雉会根据环境温度和降水调整孵卵行为，其集中在下午的单峰活动模式可能主要是由胚胎温度需求而不是生理需求驱动的。

The clutch size, incubation rhythm of Reeves's Pheasant (*Syrmaticus reevesii*) and their responses to ambient temperature and precipitation

Abstract: Clutch size and incubation rhythm are critical components of avian life history. Incubating birds must balance the trade-offs between their energy requirements and the thermal needs of the developing embryos. Reeves's Pheasant (Syrmaticus reevesii) is a uniparental bird endemic to China that lives in mountain forests, and female Reeves's Pheasants may adjust their incubation behavior to cope with cold environments and energy stress. Using satellite tracking, we tracked 21 wild female Reeves's Pheasants in northern Hubei Province, China from 2020 to 2022, and explored the birds' clutch size, incubation rhythm and their responses to ambient temperature and precipitation. The average clutch size of Reeves's Pheasant was 7.72 ± 1.51, showing strong seasonal declines, and was markedly affected by the average temperature during the spawning period. During the incubation period, the females took 0.74 ± 0.46 recesses per day with an average recess duration of 99.23 ± 72.93 mins and an average nest attendance of 93.11 ± 5.06%. There was a peak of nest departures at around 13:00, and the recess duration was significantly negatively correlated with both daily mean temperature and daily precipitation. Our findings demonstrated that female Reeves's Pheasants adjusted their behavior in response to the changing ambient temperature and precipitation, and the unimodal pattern of recess timing may not be driven primarily by the physiological needs of incubating females, but by the thermal needs of their developing embryos.