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RESEARCH ARTICLE

BREEDING BEHAVIOURAL PATTERN AND NATURAL INCUBATION IN OSTRICH

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ABSTRACT

This article is about the breeding behavioral pattern and natural incubation of of ostrich (struthio camelus) which were reared in the captive condition. Male and female attains maturity at 30 months and 24 months respectively. Walking, feeding and running are the most common behaviour in both sexes. Breeding season begins from august to march in southern hemisphere. During this season kantling (male), soliciting (female) and agonistic (male and female) displays are the predominant reproductive characters of ostriches reared in captive conditions. Not much appreciable difference has been found among the genders related to these behaviour. Male cock shows territorial aggressiveness towards hen resulting in mating which may lead to fertile egg production. Cock dug nest bowl of about 15 -20cm deep and 1-2m in diameter and where the hens lay their eggs. Mature female can lay 60-70eggs per year in different clutches.Interval between each clutches around 35-40 days. In each clutches it lays around 14-15 eggs. After fourteen days from laying of its first eggs. Both genders of ostrich incubate egg for a period of 42 days. Change of shift between female and male is noticed during day and night respectively. The study of breeding behaviour and natural incubation helps to better management and more production.

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INTRODUCTION

South Africa is the native of ostrich. Ostrich is now being raised worldwide in countries such as united states, china, korea, india, israel, england, france, iran, iraq, brazil, mexico,and canada. The preferred habitat is open, short-grass plains and semi-desert, although ostriches are found in the hot, fringing desert of the Western Sahara and the true deserts of namibia. They are omnivores, they feed on grass, grains in addition to that they also feed on insects and lizards etc. It has a remarkable tolerance to heat, withstanding air temperatures of 56°c without undue stress. Among the many ways of regulating its body temperature, it controls heat loss during cold weather by covering its thighs with its wings, and during hot weather, by lifting and moving its wings, it creates a gentle breeze. The feathers are excellent insulators, minimizing heat gain from direct solar radiation, as well as reducing heat loss during cold desert. The ostrich is the world's largest living bird.Ostriches are flightless birds, with their great body size and reduced wing size rendering them incapable of flying. They have a long neck, long bare legs and two toes.

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Their strong legs allow them to run up to 70-90 km per hour when necessary. The ostrich has been bred for more than one century, but its behaviour has attracted little attention.

Behaviour

	Male	Female
Sexual Maturity	2-1/2years	2 years
Height	7 feet	7 feet
Weight	130 kg	120 kgs
Colour	Black	Grey
Speed	90 km/hr	90km/hr

Sexual Behaviour

Clucking and fluttering: A breeding hen may express her physiological readiness to breed by emitting a clucking sound made by rapidly opening and closing her beak. Simultaneously, she may flutter her wings by dropping them low and forward, and vibrating them in sequence.

Kantling: This is a typical male territorial behaviour in which the bird drops to his hocks, and fans both wings forward and backward while hitting his head on each side of his spine.

Soliciting: Female bird shows this display as a part of her willingness to mate where she hold her wings forward and down flapping them backward and forward while holding her head close to the ground opening her beak repeatedly to make a clapping sound.

Agonistic display: This is the sign of aggressiveness exhibited by male towards neighbouring male/female birds or other animals.

Courtship display: Importance of this behaviour is that it leads to copulation (sauer and sauer, 1966) which is often initiated by monotonous booming sound (male). Reports proved that unsuccessful attempts at copulation are mainly due to mating without kantling display. Courtship display diminishes in frequency in both male and female when the clutch is being laid (bertram, 1992) as the bird usually goes for brooding

Breeding season

Nothern Hemisphere	March-September
Southern Hemisphere	August-March

Ostriches are seasonal breeders which means that the birds will mate successfully only during certain time or part of the year. Sexual interest and behaviours are expressed during this period. These should be differentiated from opportunistic (budgerigars) and continuous breeders (human). Timing and duration vary based on the different parts of the world (shanawany, 1994a).

Natural incubation: Adult male dug nest bowl about 15-20 cm deep and 1-2 m in diameter and adult female start laying in that nest bowl.After fourteen days from the laying of first eggs both male and female start to brood the eggs in the natural incubation . Male during night hours and female during day time egg temperature usually varies over its surface. It is higher in top than at the bottom. Eggs usually come in contact with the parent birds bare skin. Egg usually turned and aired when the changing shifts occurs. The total incubation period for ostrich egg is around 42 days and the chick will be hatch on alternate days.Eggs which are not suitable for brooding they are discarded and consumed by the birds.

Conclusion

A detailed analysis of behaviour sequences and natural incubation methods can be used for the understanding of the species behaviour pattern, as well as from the captive breeding point of view for developing better husbandry techniques and more production of chicks with less cost.

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