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## Certain Body Temperature Changes in the Snapping and Painted Turtles

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ration usually being made up of shelled corn, corn silage, linseed oilmeal, alfalfa or clover hay and salt. In some cases the check ration has been made up of the above feeds with the exception that the corn silage was not fed.

Briefly, it is interesting to note that the protein consumption (both daily and for the hundred pounds of gain) varied considerably with the ration. For instance on a shelled corn, corn silage, linseed oilmeal, clover hay, salt ration the average daily crude protein consumed per steer was 3.15 pounds and the crude protein consumed for the hundred pounds of gain was 121.40 pounds. On a similar ration excepting that the corn silage was left out the average daily crude protein consumed per steer was 3.5 pounds and for the hundred pounds of gain 135.71 pounds.

The protein consumption varied considerably when other feeds were added.

The actual amount of protein in each hundred pounds of this steer gain is only about 11.65 (approximately correct) pounds therefore only a very small part of the crude protein consumed is stored.

IOWA STATE COLLEGE.

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## CERTAIN BODY TEMPERATURE CHANGES IN THE SNAPPING AND PAINTED TURTLES

F. M. BALDWIN

(*ABSTRACT*)

Experiments performed at Iowa Lakeside Laboratory during the past summer indicate that both forms show fluctuations of from 3 to 6 degrees F. in the so-called non-critical ranges of their environment (50-80 degrees F.). When subjected to a rapid environmental drop the rectal readings show a somewhat greater lag than when cooled more slowly. In both procedures a check in drop is noted at about 40 degrees F. (4.5 degrees C.) and there is maintained for a considerable interval of time.

Some differences in physiological activities are noted accompanying these temperature changes, both forms showing vigorous muscular activity at the outset, followed by a period of comparative quiet, which again later merges into an interval of slow but continuous movement.

When the environmental temperature is raised, a corresponding **rise in body temperature** is noted and as a rule this becomes fatal

if maintained at 102 to 105 degrees F. for any considerable time (a half hour or more). At 80 degrees and above, animals show marked increased activity, with signs of discomfort and a rapid respiration, a frothing about the mouth and an accumulation of moisture upon the head and about the eyes.

Although concrete data on the comparative metabolic rates in these forms are not as yet available, these facts are tentatively interpreted to mean that there is in turtles a slight tendency to compensate for critical temperature changes in their environment.

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THE CORAL REEFS OF FIJI

C. C. NUTTING

(*ABSTRACT*)

This is a brief account of the experiences of a zoologist on the reefs of Makuluva, Fiji. The quarters of the party of naturalists from the State University are described, something of daily life touched upon, and the experiences connected with reef collecting are given. Some of the more interesting animal inhabitants of the reefs are described and illustrated.

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THE TRAPEZIUS MUSCLE OF THE GANOID FISHES

H. W. NORRIS

(*ABSTRACT*)

There has been much uncertainty as to the occurrence of a trapezius muscle in the ganoids. Two distinct muscles have caused confusion — a levator of the fifth branchial arch and a true trapezius; both present in *Amia* (and probably in *Polypterus* Allis), but the trapezius vestigial. In *Lepidosteus* a functional trapezius occurs in the same relative position as the vestigial one in *Amia*. In *Polyodon*, *Scaphirhynchus* and *Acipenser* the trapezius is functional and is innervated by a branch of the *ramus lateralis vagi* that enters the latter from the vagus proper near the vagus ganglion; in *Acipenser*, however, the nerve for the trapezius merely accompanies the *ramus lateralis*. Conclusion: the trapezius muscle is present in all ganoids, but vestigial in *Amia* and *Polypterus*.

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