SEASONAL VARIATIONS IN THE RATIO OF SERUM UREA TO CREATININE (U/C) IN BLACK BEARS.

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A previous study showed that U/C varies with bear behavior. The investigation of this relationship was expanded to include bear populations from several locales in the U.S. Over a period of 5 years, 250 serum samples were collected from Colorado, Maine, Minnesota, and Pennsylvania. Field serum samples were frozen (for transport and storage), thawed, and assayed for urea and creatinine. Results showed that U/C values were within normal mammalian limits (>20) in summer, declined in late summer and early fall prior to denning, reached their nadir (<10) in winter during denning, and returned to normal values in spring when activity resumed. However, a number of bears reached their nadir prior to denning. It was concluded that seasonal variations in U/C occur in large populations of bears, and are indicative of annual changes in metabolism. Bears which reached their nadir prior to denning suggest the biochemical state of hibernation is independent of denning behavior.

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