On collecting trips as many as five or six were carried alive in the closed hand on several occasions with no effort on its part to bite.

These spiders seek concealment usually beneath boards, logs, bark and stones. They are easily reared from the cocoons, and if one is dropped on the floor of a box with a female she proceeds to suspend it in a web and watch over it. The process is repeated if others are dropped about, showing a rather marked solicitude for the nest.

The writer has liberated swarms of the young in an old woodpile near his garden, with no fear of being bitten. Much has been written within recent years about the evil ways of this spider, but there is little reason to fear its attacks and no reason to wish that it could be exterminated. In truth the writer has no desire to exterminate unconditionally even the rattlesnake or copperhead in its wildest haunts, so marvelously has nature designed the rattlesnake more especially, and in the New World alone. The true naturalist feels no cynicism because nature has placed these in our midst and would not rejoice at their complete extermination.

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THE SIMILARITY OF ACTION OF MALE HORMONES AND ADRENAL EXTRACTS ON THE FEMALE BITTERLING

IN a recent issue of SCIENCE the observation was reported by Barnes, Kanter and Klawans[1] that crude ether extracts of adrenal cortex can initiate the lengthening of the ovipositor of the female bitterling. It was also stated that crystalline androsterone did not produce a positive reaction with these fish. Both of these observations would seem to cast doubt on our contention that the phenomenon in question is evoked by the male hormone.[2]

We wish to point out that such a conclusion is not necessarily true. In the first place, the failure to get a positive reaction with crystalline androsterone in one experiment using two fish is hardly convincing. We have performed many experiments with crystalline synthetic androsterone and have seen a number of positive reactions.[3] Positive reactions are usually, although not always, obtained when the optimum dose and a suitable menstruum are employed. Synthetic testosterone[4] also has been found effective.

But how does the action of adrenal cortical extract harmonize with the male hormone hypothesis? Reichstein[5] has obtained a substance from the adrenal cortex which is capable of stimulating comb growth in the capon, *i.e.*, a compound resembling androsterone physiologically. Mason, Myers and Kendall[6] have oxidized a cortical substance, similar to cortin, into a ketone which also has the stimulating effect on the capon's comb. It thus appears that adrenal cortex contains one or more substances resembling androsterone. These, from our experience, would be expected to have the effect on the female bitterling which Barnes, Kanter and Klawans have found.

The relationship of the adrenals to secondary male characteristics has long been recognized. It is to be hoped that the interesting facts referred to in this note will lead to more definite knowledge in this field.

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PARTHENOGENESIS IN THE GRASSES

IN the November 13th issue of SCIENCE the article on the "Possibility of Parthenogenesis in Grass" suggests that it may be the first report of parthenogenesis in the grasses. There are, however, at least three reported cases: The first by J. De Coulon, "Nardus stricta. Etude physiologique, anatomique et embryologique," *Mem. soc. Vaudiose sc. nat.*, 1: 245–332, 1923; the second by E. F. Gaines and H. C. Aase, "A Haploid Wheat Plant," *Amer. Jour. of Botany*, 13: 373–385, 1926; the third by Helge Stenar, "Parthenogenesis in der Gattung Calamogrostis," *Arkiv. für Botinik.*, 25: 1–8, 1 Taf., 2 fig., 1935.

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ALKALIZE, ALKALINIZE AND ALKALIFY

THREE words are recorded in standard English and American dictionaries to denote the operation of making a material alkaline. These words are "alkalize," "alkalinize" and "alkalify." The word "basify" appears too, but it is defined as meaning "to make into a base by chemical means," which is not equivalent to the other three. Although direct analogy would suggest "alkalinify" as the opposite of acidify, this word is not listed at all.

While acidulate and acidify are familiar enough, the nearly universal practice among chemical writers is to say "add alkali until alkaline" or something equivalent, rather than use the less cumbersome words, alkalize, alkalify or alkalinize. Perhaps if it were known

[1] B. O. Barnes, A. E. Kanter and A. H. Klawans, SCIENCE, 84: 310, 1936.

[2] I. S. Kleiner, A. I. Weisman and D. I. Mishkind, *Jour. Am. Med. Asn.*, 106: 1643, 1936.

[3] I. S. Kleiner, A. I. Weisman and D. I. Mishkind, *Proc. Soc. Exp. Biol. and Med.*, 35: 344, 1936.

[4] I. S. Kleiner, A. I. Weisman, D. I. Mishkind and C. W. Coates, *Zoologica*, 21 (Part 4): 241, 1936.

[5] T. Reichstein, *Helv. chim. acta*, 19: 223, 1936.

[6] H. L. Mason, C. S. Myers and C. C. Kendall, *Jour. Biol. Chem.*, 116: 267, 1936.

that these words are perfectly acceptable, more writers would employ them. This would make for greater simplicity and often for greater clarity in setting down laboratory directions.

So unfamiliar are alkalify, alkalinize and alkalize that many instructors have made a habit of correcting students of elementary chemistry who have used them. Yet "alkalize" has had recognized standing since 1749.

This year a greater number of students than average have sought to use "alkalize" in place of more round-about expressions of the same idea. Probably their practice was inspired by the advertisements of a certain laxative mixture, where the word is used rather loosely. But whatever the source of the stimulus, there is no reason why alkalize, alkalinize or alkalify should not have wider usage. Rather than reprove the students for using these words, we might well follow their example.

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SPECIAL CORRESPONDENCE

FOURTH ANNUAL TRI-STATE (ILLINOIS, IOWA, WISCONSIN) GEOLOGICAL FIELD CONFERENCE

GEOLOGISTS and students of geology in the three above-mentioned states participated in the annual tri-state field conference on October 31 and November 1. The conference was held this year in Calhoun and Jersey counties in central western Illinois. It was conducted by A. H. Sutton, University of Illinois, assisted by J. Marvin Weller, Illinois State Geological Survey.

The conference was attended by 117 persons, who traveled in 35 cars. Geologists from eleven universities, colleges and state surveys of the three states and representatives of six oil companies operating in Illinois were present. Invited guests of the conference included six persons from Washington University, St. Louis, Mo., one from Oklahoma A. and M. College and the manager of the Alton, Ill., *Telegraph*. The geology of the stops was described in a mimeographed log and a blue-print map, furnished each participant at the beginning of the conference. In addition each car was supplied with quadrangle topographic maps of the area visited.

The conference began at Hardin, Calhoun County, at 9 A.M. on Saturday. The first day's trip included eight stops in Calhoun County. The stratigraphic section studied during the day is summarized below: *Mississippian:* St. Louis, Spergen (Salem), Warsaw, Keokuk, Burlington, Sedalia (Fern Glen), Chouteau, Hannibal, Louisiana, Saverton. *Devonian:* Cedar Valley. *Silurian:* Joliet, Kankakee, Edgewood. *Ordovician:* Maquoketa, Kimmswick, Decorah, Plattin, Joachim, St. Peter.

Good exposures of all these formations were visited for examination and fossil collecting. Contacts between most adjacent formations were observed. The Cap-au-Gres faulted monocline was studied and discussed. G. E. Ekblaw, Illinois State Geological Survey, explained the origin of the terraces along Illinois River and gave a brief summary of the Pleistocene and recent history of the area. W. H. Twenhofel, University of Wisconsin, and J. E. Lamar, Illinois State Geological Survey, discussed problems of the St. Peter sandstone, comparing the formation in this area with that in the northern portion of the Mississippi Valley.

The annual dinner and general meeting was held at the Stratford Hotel in Alton, Ill., on Saturday night and was attended by 103 persons. No formal papers were presented, but geologic problems of the area were discussed. Dr. Ekblaw presented a more detailed summary of the geologic history than had been given earlier in the day.

On Sunday, November 1, the trip covered portions of Jersey County. Several of the stratigraphic units which had been examined the previous day were seen again, and the Cap-au-Gres structure was studied in more localities. The conference closed at noon on Sunday at an exposure of Pleistocene varved lake deposits which were made in a pond adjacent to the margin of the Illinoian Ice.

The conference will be held next year in Wisconsin under the leadership of Professor F. T. Thwaites, of the University of Wisconsin.

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SPECIAL ARTICLES

BUILT-UP FILMS OF PROTEINS AND THEIR PROPERTIES

MANY proteins can exist in water as large spherical molecules, but they can also spread on water surfaces, giving elastic solid monomolecular films having great two-dimensional compressibility. The present paper describes experiments made to determine whether the methods[1, 2] developed in this laboratory for studies

[1] I. Langmuir, *Jour. Franklin Inst.*, 218: 143, 1934.

[2] Katharine B. Blodgett, *Jour. Am. Chem. Soc.*, 57: 1007, 1935.