✓ = This indicates the presence of phosphate.
\+ = < 2.0 umols amino acid per g. of original material.
++ = 2.0-10.0 umols amino acid per g. of original material.
+++ = > 10.0 umols amino acid per g. of original material.

N.B. These concentrations were found by direct visual observation of the intensity and size of the amino acid spot, compared with standards run under the same conditions. They are intended to give an indication of relative concentrations and not an accurate assay.

\- = None detected.

Solvent system 1: 2-Propanol - Butanone - InHydrochloric acid
(60 : 15 : 25 v/v)

Solvent system 2: 2 Methyl propanol - 2 - Butanone - Propanone - Methanol - Water - (0.88) Ammonia.
(40 : 20 : 20 : 1 : 14 : 5 v/v)

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A NOTE ON THE LONGEVITY AND MOLT CYCLE OF TWO TROPICAL THERAPHOSIDS

by W.J.BAERG and W.B.PECK.

It has been commonly accepted that a long life span is generally typical in spiders of the "primitive" taxa (Bristowe, 1958; Savory, 1966). Actual records confirming the upper limits of old age, however, are relatively rare. It is thence perhaps noteworthy to add the records of two tropical theraphosids which were kept in captivity as adults for longer than ten years.

Phormictopus cancerides (Latreille)

Of four specimens of Phormictopus cancerides that Prof. R. B. Cross brought to the senior author from Port au Prince, Haiti, in August 1959, the single male and one female died within a month. A second female lived for 15 months in captivity, and the third lived 11 years and four months, dying in December 1969. At the time that these spiders were received, it was recorded that this latter female, though small, appeared to be mature. Because mygalomorphs lack an epigynal plate and because other morphological manifestations of maturity in most of them are not known, it is not possible to determine with any degree of certainty whether or not a living female is sexually mature. Nothing is known of the life history of P.cancerides, but assuming that its period of development at least approximates that of Dugesiella hentzi (Girard) (Baerg, 1958 & 1963), and that it was mature, it was estimated that this female was 11 to 13 years old when captured. Granting the accuracy of this estimate, this spider was probably 22 to 24 years old at the time of its death.

Whereas captive tarantulas of several genera have frequently been known to become very docile and accept human handling with no evident distress, this specimen retained a defensive, almost aggressive, demeanor throughout its long captivity. Until shortly before dying, when it

ceased to eat altogether, it would attack anything introduced into its cage with speedy vigor. It consumed a wide variety of arthropods regularly and voraciously. The spider measured 3 7/16 inches from the front of the chelicerae to the spinnerets, and its readily provoked attacks were somewhat awesome.

Between June 1961 and June 1967, this specimen molted regularly each year on a remarkably fixed schedule. Five of the seven molts during this period occurred in the last two weeks of June, and the remaining two molts did not vary from that schedule by more than two weeks. The last two molts prior to death varied widely from the previous regularity. One occurred in September 1968 and the other in February 1969. A general disruption of life processes due to senility may explain the irregularity of the final molts.

Aphonopelma smithi (F.O.P.-Cambridge)

An adult female Aphonopelma smithi received by the senior author as a gift from Prof.F.X.Williams in September 1958, had been in the latter's care already for about one and a half years. The locale of its collection was not recorded more specifically than "southern Mexico". (One of the authors (W.B.P.) has also seen a male believed to be of this species collected by Dr. Thomas Moore near Alajuela, Costa Rica.) Again deducing from the known life history of Dugesiella hentzi, it was estimated that at the time of its capture this spider was at least 12 or 13 years old. It lived in captivity for approximately 13½ years and was probably 26 years old when it died.

This spider was exceptionally gentle. No amount of manipulation or handling ever seemed to upset its "composure". It became the pet and pride of a long succession of graduate students at both the University of Arkansas and Central Missouri State College, and made numbers of excursions to lecture halls of other institutions as an example of spider amenability and venerability. Her size, approaching four inches in length, was as impressive as her good nature.

This specimen of A.smithi molted in 1957 (date not recorded), on June 18, 1959, and on June 19, 1961, giving evidence of a two-year molt cycle. Then, after this circumstance had been reported (Baerg, 1963), she molted again the following year in August 1962, and thereafter returned to a very regular two-year cycle, molting every other June, i.e., in 1962, 1964, and 1966. There was no molt at the expected time in 1968, and the spider died in June 1969. Again, as in Phormictopus, an erratic molt schedule toward the end of life may be indicative of stresses resulting from senility. No readily evident explanation could ever be found for the single instance of an annual molt by this spider in the 13½ years during which it was otherwise observed to molt only in alternative years.

References:

BAERG,W.J. 1958: The Tarantula. Univ.Kansas Press, 88 p.

---------- 1963: Tarantula life history records. J.New York Entomol.Soc. 71 : 233-238.

BRISTOWE,W.S. 1958: The World of Spiders. Collins, London, 304 p.

SAVORY,T.H. 1964: Arachnida. Academic Press, London, 291 p.