flattening as also suggested elsewhere for the relatively decreased as compared to other vaejovids. Their highly elliptical bases, thus their numbers are base (i.e., along the finger length) as would be caused by lengthening, individual denticles are not actually “missing”. We consider this arrangement generally discernable from the surrounding denticles. The fixed finger depth is measured at the position of outer (OD) denticle three excluding the denticle; MD length is calculated from the longest MD denticle in close proximity to OD–3 from its tip to the juncture of the adjacent denticle (i.e., does not include the denticle base positioned on the finger). Length decrease is based on the mean as it relates to genera Stahnkeus + Serradigitus. Minimum–maximum (mean) [number of samples]; MD L = median (MD) denticle length; FF_D = fixed finger depth.

This is particularly interesting observation since the chelal fingers in Stahnkeini, in general, are relatively the longest occurring in family Vaejovidae. Tables 1–2 present statistical data that establishes a density quotient of MD and OD denticles on the chelal movable finger (using the sum of the number of these two denticle types). The MD + OD density quotient is calculated by dividing the number of MD + OD by the ratio of the movable finger length divided by the carapace length. The latter ratio normalizes the movable finger length with respect to the adult scorpion size, represented here by the carapace length. Therefore, the density quotient presented in Tables 1–2 is essentially independent of the length of the movable finger.

Tables 1–2 provide three groups of interesting information where Stahnkeini is compared to other representative vaejovid genera and Vaejovis groups: (1) the movable finger, as compared to the carapace length, is the longest in any vaejovid assemblage, in general the finger being longer than the carapace. Genus Franckeus and the “nigrescens” group also exhibit comparable elongated chelal fingers (in the slender monotypic genus
an ecological counterpart of Stahnkeini, the
interest, in genus Franckeus thus explaining their somewhat petite size. Also of
number of genera happen to exhibit relatively the most dense
decrease of 77%! It is interesting to note here that these
Pseudouroctonus
exaggerated, especially when compared to
similar in overall morphometrics. This implies that the
observation because these two taxonomic assemblages
groups, the decrease in Vaejovis MD
“serrated” appearance of the
denticle row and
externally positioned
denticles which are in high contrast to the larger slightly
longer than the carapace, the density value for this group
is less than its absolute number of denticles. In contrast, for
genera Pseudouroctonus and Uroctonites, which, in
general, have the shortest fingers in the vaejovids, the density value is greater than the actual number of
denticles (i.e., the movable finger in this assemblage is
in general shorter than the carapace); (3) accompanying the
density data are actual counts of MD + OD of the
specimens. The genera Pseudouroctonus and Urocto-
nites have some of the highest actual denticle counts in
the family due to their somewhat small MD. In contrast,
tribe Stahnkeini has the smallest numbers of denticles.

It is clear from these data that the tribe Stahnkeini
has the lowest denticle density, averaging 37 denticles.
Its actual denticle counts are also among the lowest,
averaging 40 denticles, only genus Paravaejovis has a
lower number, 26, but due to its quite short fingers, we
calculate a slightly larger density value. Figs. 8–11
depict the distal aspect of the movable finger of several
vaejovid genera and groups, illustrating the proportional
size of the MD denticles as compared to OD. These
figures reveal the somewhat small, compact MD
denticles which are in high contrast to the larger slightly
externally positioned OD denticles.

Elongated MD denticle. We hypothesize here that
the flattening of the individual MD denticle is the
probable cause of the lengthening of the denticle. This
lengthening, plus its flattening, contributes to the
“serrated” appearance of the MD denticle row and
intervening OD denticles. In order to quantify this
lengthening, we constructed a morphometric ratio based
on the fixed finger depth and the length of a MD
denticle. Table 3 shows the result of these data and the
methods of measurement as compared to a
representative set of vaejovid genera and Vaejovis
groups. What is apparent, even from these limited data,
is that Stahnkeini indeed exhibits considerably longer
MD denticles than any of the other vaejovid genera or
Vaejovis groups. When compared to other genera and
groups, the decrease in MD length is even more
exaggerated, especially when compared to
Pseudouroctonus and Uroctonites, where we see a
decrease of 77%! It is interesting to note here that these
genera happen to exhibit relatively the most dense
number of MD in the family (see discussion elsewhere),
thus explaining their somewhat petite size. Also of
interest, in genus Franckeus and the “nigrescens” group,
an ecological counterpart of Stahnkeini, the MD denticle
is 45% shorter than in Stahnkeini. This is an important
observation because these two taxonomic assemblages
both have elongated slender fingers, thus relatively quite
similar in overall morphometrics. This implies that the
slender fingers seen in Stahnkeini are probably not a
factor in this MD denticle length difference.

History of the character. Stahnke (1940a), in his
unpublished thesis, defined this character as follows: “…
fingers of the pedipalps bear a longitudinal row of
subequal, sharply pointed, tooth-like granules,
terminated distad by an extremely large, somewhat
curved tooth …”. As was the case with the modified
basal pectinal teeth of the female (discussed elsewhere),
Stahnke (1940b) did not mention this character in his
very brief synopsis of Vaejovis wupatkiensis (now placed in
Serradigitus). Therefore, Stahnke’s original
description of V. wupatkiensis in fact included no
diagnostic characters! Thirty-four years later, Stahnke
(1974: 130), in his definition of genus Serradigitus,
described this character: “… inner edge of the pedipalp
tarsus has a continuous row of conspicuously serrate,
subequal denticles, uninterrupted, or indefinitely so, by
larger denticles … terminal denticle is abnormally large
and claw-like and bears on its terminus an elongated
whitish cap … interior lateral, large flanking denticles
vary in position and number from six on the type-species
up to 16 on other species …”. This description by
Stahnke is quite accurate and, in many aspects, covers
some of the more subtle characteristics of the serrated
condition discussed in this paper, including, for
example, the indistinguishable MD denticle groups, as
well as the variable number of inner (ID) denticles found
on the fingers, a distinction now used in this paper to
define genus Stahnkeus.

It is interesting to compare the depiction of this character
throughout the years by other scorpiologists. We divide
this comparison into four character components
discussed herein: the serrated MD denticles, enlarged
distal denticle with “whitish cap”, the indistinguishable
denticle groups, and the occurrence of IAD denticles (the
latter applicable to Stahnkeus only). Gertsch & Allred
(1965) and Johnson & Allred (1972), for species Vaejovis
wupatkiensis (now in Serradigitus) did not mention any
of these character components. Williams (1968, 1970a,
1970b) and Hjelle (1970) only mentioned the enlarged
distal denticle (omitting reference to the “whitish cap”),
and ignored the other components. Soleglad (1972)
commented on the serrated denticles, enlarged distal
tooth and the presence of IAD (Vaejovis subtilimanus,
in now Stahnkeus) but did not mention the “whitish cap”
or indiscernable MD groups. Again, Williams (1980),
defining several new species now placed in Serradigitus,
concentrated on the enlarged distal denticle and number
of MD denticle groups, but ignored the serrated
construction of the MD row (the IAD was discussed and
illustrated for Vaejovis harbisoni, now placed in
Stahnkeus). Similarly, Williams & Berke (1986), as they
resurrected genus Serradigitus, continued with the same
depiction as that followed by Williams (1980), again
omitting the serrated nature of the MD denticle row.
Sissom & Stockwell (1991) commented correctly on all components associated with this character, including the $LAD$ exhibited in a couple of their new species. Stockwell (1992) only included the indiscernable denticle $MD$ groups in his key couplet, ignoring the other character components.

**Pectines of the female.** The modified basal pectinal teeth of the female in tribe Stahnkeini is quite unique in Vaejovidae. We consider it a primary synapomorphy for this tribe. This character involves three distinct modifications, which are found on at least the basal tooth and may include two, three, or even sometimes four basal teeth:

1. the tooth is smooth distally, lacking a sensorial area (i.e., the area which contains the peg sensilla);
2. the size and proportion of the individual tooth is usually manifested as a somewhat swollen elongated tooth, but sometimes it is shaped as a shorter and more rounded tooth; and,
3. the distal aspect of the tooth lacks the exterodistal angling as seen on normal teeth, thus its lateral sides are in most cases nearly symmetric.

Of these three modifications, we consider the absence of the sensorial area to be the most significant. In fact, one could argue that the lack of this sensory area is the cause, in part, of the other two modifications. For example (Fig. 12), the second tooth, which exhibits a greatly reduced sensorial area, does not angle externally as much as the other more distal teeth which have a normally developed sensorial area. Generally, a scorpion’s pectinal tooth angles exterodistally to...