A COMMENT ON THE GENERIC ALLOCATION OF THE OLD WORLD SPECIES OF THE GENUS *COLUBER*.

By: K.R.G. Welch, 6 Almond Close, Worle, Avon, England BS22 ORR.

Contents: Introduction - Discussion - Allocation of generic names - Acknowledgements - References.

INTRODUCTION

The genus *Coluber* is still considered by many authors to contain about twenty five species despite its partition 40 years ago by Inger and Clark (1943) into five genera. Welch (1980) reviewed the situation in a brief note and recommended the use of *Haemorrhois* Boie, 1826 for the European-African-Asian species of *Coluber*. Here as a preliminary note to a further study of the Old World species the situation is discussed further with a comment on the generic allocation of present day species of *Coluber*.

DISCUSSION

Inger and Clark (1943) divided *Coluber* into five genera (*Coluber* Linnaeus, *Masticophis* Baird & Girard, *Zamenis* Wagler, *Platyceps* Blyth, and *Haemorrhois* Boie) with six species listed of unknown generic position. The division was based on three characters:

1. scale reduction patterns: for a full explanation of this method see Clark and Inger (1942). The use of scale reduction patterns has often lacked support but as stated by Dowling (1967 p. 141) "...a statement of the mode of scale row reduction belongs in every generic defini-

tion, and its possible value should be considered in all taxonomic studies".

2. hemipenis: *Coluber* and *Masticophis* have enlarged basal spines while *Zamenis*, *Platyceps* and *Haemorrhois* lack them.
3. arrangement of lateral head scales: this writer disagrees with the definition of *Platyceps* under this heading, 'fifth and sixth supralabial enter orbit', since in *najadum* the fifth and sixth or fourth and fifth may enter the orbit (Hellmich 1956, Welch pers. observ.). The latter of the two combinations is given as a character of *Zamenis* by Inger and Clark.

Prior to 1943 Ortenburger (1928) and Smith (1941) recognised *Masticophis* as a full genus. It is here recommended to recognise *Coluber* as defined and restricted by Inger and Clark (1943 p. 142). The remaining three genera present a greater problem. One is immediately faced with the fact that (*Zamenis*) *dahli* Fitzinger and (*Platyceps*) *najadum* Eichwald are now recognised as subspecies of the same species, *najadum najadum* and *najadum dahli* (see Mertens & Wermuth, 1960). The same species (*najadum*) has been shown above to weaken the argument to differentiate *Zamenis* from *Platyceps* under the heading of lateral head scale arrangement. These two points suggest the uniting of the two genera. On the subject of *Zamenis-Platyceps-Hemorrhois* two alternatives are available:

a. uniting the three genera as one, as suggested by Welch (1980), also Welch (1982, 1983),
b. uniting *Zamenis* and *Platyceps* while recognising the monotypic *Hemorrhois*.

This writer now believes the first of these alternatives to be too conservative and obscures all relationships. The second arrangement recognises the uniqueness of *hippocrepis* in Europe, Where it differs from all other *Coluber* species in the presence of suboculars separating the eye com-

pletely from the supralabials. It is this second arrangement that is adopted here.
With reference to the six species whose generic position Inger and Clark (1943 p. 144) were unable to confirm four (*karelinii* Brandt, *algirus* Jan, *dorri* Lataste, *socotrae* Günther) are listed below. The other two have since been placed elsewhere: *Coluber fasciolatus* Shaw, in the genus *Argyrogena* Werner by Wilson (1967), and *Herpetodryas dipsas* Schlegel in the genus *Ptyas* (see Maas, 1950).

ALLOCATION OF GENERIC NAMES

Taking into account the data mentioned above, the former genus *Coluber* is here divided as follows:

Coluber Linnaeus

Coluber Linnaeus, 1758, Syst. Nat., ed. 10 (1): 216. Species typica: *constrictor* Linnaeus.

Referred species: *constrictor* Linnaeus (North America); *spinalis* Peters (China, Mongolia and Korea).
The zoogeography of this genus looks familiar when compared to other reptile genera such as *Agkistrodon, Alligator* and *Elaphe*.

Masticophis Baird & Girard

Masticophis Baird & Girard, 1853, Cat. N. Amer. Rept., 98. Species typica: *ornatus* Baird & Girard.

Referred species: *anthonyi* Stejneger (Mexico); *aurigulus* Cope (Mexico); *barbouri* Van Denburgh & Slevin (Mexico); *bilineatus* Jan (Mexico and U.S.A.); *flagellum* Shaw (Mexico and U.S.A.); *lateralis* Hallowell (Mexico and U.S.A.); *mentovarius* Duméril & Bibron (Mexico south to Colombia and Venezuela); *taeniatus* Hallowell (Mexico and U.S.A.).

Hemorrhois Boie

Hemorrhois Boie, 1826, Isis von Oken Vol. 19, 982. Species typica: *hippocrepis* Linnaeus, by original designation.
Haemorrhois Boie, 1827, Isis von Oken Vol. 20, 538. Species typica: *Coluber trabalis* Pallas according to Wagler (1830, Nat. Syst. Amph.: 189).
Periops Wagler, 1930, Nat. Syst. Amph.: 189. Species typica: *hippocrepis* Linnaeus, by original designation.

Referred species: *hippocrepis* Linnaeus (Spain and northwest Africa).

Comment: Boie (1826) listed *Hemorrhois* for the species *hippocrepis* Linnaeus. In 1827 he further listed *Haemorrhois* for which Wagler (1830: 189) designated *Coluber trabalis* Pallas as the type, while Wagler himself listed *Periops* for *hippocrepis*. Boulenger (1893 p. 379) listed *Haemorrhois* Boie 1826 and 1827 as *nomen nudum*.
The present rules of nomenclature (Inter. Code Zool. Nomencl.) do accept names published before 1931 (art. 13) where they are accompanied with a valid specific name. As Boie (1826) mentioned *hippocrepis* with *Hemorrhois*, this genus name was validly described and is available (art. 16 a iii). *Haemorrhois* Boie, 1827, though there is no indication that this was an emendation of *Hemorrhois*, Boie, 1826, in differing by only one letter is acceptable as being a variable spelling of the same word (art. 58). As such *Haemorrhois* Boie, 1827 is to be considered a junior homonym of *Hemorrhois* Boie, 1826. *Haemorrhois* Boie, 1826 as listed by Agassiz (1844 Zool. Nomen, Rept., 20), Boulenger (1893), Inger and Clark (1943) and Welch (1980, 1982, 1983) appears to be unjustified emendations.

Eremiophis Fitzinger

Eremiophis Fitzinger, 1843, Syst. Rept.: 25. Species typica: *trabalis* Boie = *caspius* Gmelin. *Hierophis* Fitzinger, 1843, Syst. Rept.: 26. Species typica: *viridiflavus* Lacépède. *Platyceps* Blyth, 1860, J. As. Soc. Bengal 29, 114. Species typica: *ventromaculatus* Gray.

Referred species: *algirus* Jan (northwest Africa *brevis* Boulenger (Somalia); *caudaelineata* Günth (Iran); *dorri* Lataste (Senegal and Mali); *elega tissimus* Günther (Arabia); *florulentus* Geoffroy (north and east Africa); *gemonensis* Laurenti (Europe); *jugularis* Linnaeus (Europe, southwest Asia and U.S.S.R.); *karelini* Brandt (Afghanista Iran, Pakistan and U.S.S.R.); *keniensis* Parker (Kenya); *najadum* Eichwald (Europe east to Iran, U.S.S.R.); *ravergieri* Menetries (Egypt east to Pakistan and U.S.S.R.); *rhodorhachis* Jan (Somal north and east to India); *rogersi* Anderson (Lib east to Iraq); *scorteccii* Lanza (Somalia); *sina* Schmidt & Marx (Sinai); *socotrae* Günther (Socot *somalicus* Boulenger (Somalia); *taylori* Parker (Somalia); *thomasi* Parker (Arabia); *variabilis* Boulenger (Arabia); *ventromaculatus* Gray (Israe east to Pakistan); *viridiflavus* Lacépède (Europ

Comment: Here I include the genera *Zamenis* and *Platyceps* of Inger and Clark and it is this gen which is the base of further study by this writ It should be noted that neither of the generic names *Zamenis* or *Platyceps* are being used for t following reasons:

Zamenis: The type of *Zamenis* Wagler was designated by Fitzinger (1843 p. 26) as *Zamenis aesc lapii* Wagler = *Coluber aesculapii* Lacépède not of Linnaeus. As *aesculapii* Lacépède is generall regarded as synonymous with *Elaphe longissima* Laurenti, *Zamenis* must be considered primarily synonym of *Elaphe* Fitzinger. As stated by Loveridge (1957, p. 257) " the subsequent desig

tion of *Natrix gemonensis* Laurenti as a type of *Zamenis* Wagler by Ortenburger (1928) and Inger and Clark (1843) is therefore untenable, and *Zamenis* Wagler is a synonym of *Coluber* only in part". *Platyceps*: This name is antedated by *Eremiophis* as listed above.

ACKNOWLEDGEMENTS

I wish to thank A.B. van Woerkom and Dr. M.S. Hoogmoed for comments on an earlier draft; A.F. Stimson (BMNH, London) and Dr. M.S. Hoogmoed for answering questions and queries on matters of nomenclature; and J.A. Smith and K.J.T. for translation of original german publications.

REFERENCES

Boulenger, G.A., 1893. Catalogue of snakes in the British museum. London (1): 1-448.

Clark, P.J. & R.F. Inger, 1942. Scale reduction in snakes. Copeia, 1942: 163-170.

Dowling, H.G., 1967. Hemipenis and other characters in colubrid classification. Herpetologica, Vol. 23: 138-142.

Fitzinger, L., 1843. Systema Reptilium. 106 p.

Haas, C.P.J., 1950. Checklist of the snakes of the Indo-Australian Archipelago. Treubia, Vol. 20: 511-625.

Hellmich, W., 1956. Die Lurche und Kriechtiere Europas. C. Winter, Heidelberg.

Inger, R.F. & P.J. Clark, 1943. Partition of the genus *Coluber*. Copeia, 1943 (3): 141-145.

Loveridge, A., 1957. Checklist of the reptiles and amphibians of East Africa. Bulletin of

the Museum of Comparative Zoology, Vol. 117: 151-362.

Mertens, R. & H. Wermuth, 1960. Die Amphibien und Reptilien Europas. V.W. Kramer, 264 p.

Ortenburger, A.I., 1928. The whip snakes and racers: genera *Masticophis* and *Coluber*. Memoirs of the University of Michigan Museum Vol. 1: 1-247.

Smith, H.M., 1941. Notes on Mexican snakes of the genus *Masticophis* . Journal of the Washington Acadamy of Science, Vol. 31: 388-398.

Welch, K.R.G., 1980. A comment on the European colubrid genus *Haemorrhois* . South Western Herpetological Society Bulletin, Vol. 3: 14-15.

---, 1982. Herpetology of Africa. A checklist and bibliography of the Orders *Amphisbaenia*, *Sauria* and *Serpentes*. R.E. Krieger, Publ. Co., Inc., Melbourne, Florida, U.S.A. pp. I-X, 1-293.

---, 1983. Herpetology of Europe and Southwest Asia. A Checklist and bibliography of the Orders *Amphisbaenia*, *Sauria* and *Serpentes*. R.E. Krieger.

Wilson, L.D., 1967. Generic reallocation and review of *Coluber fasciolatus* Shaw (*Serpentes*: *Colubridae*). Herpetologica, Vol. 23: 260-275.