

Corrigenda to : « *Equus grevyi*. By C.S. Churcher
Mammalian species No. 453 »

by V. EISENMANN¹ and C.S. CHURCHER²

¹ *Muséum national d'Histoire naturelle, Laboratoire de Paléontologie, URA 12 et URA 1415 du CNRS, 8, rue Buffon, F-75005 Paris, France*

² *Department of Zoology, University of Toronto, Toronto, Ontario, Canada M5S 1A1 and Department of Vertebrate Paleontology, Royal Ontario Museum, Toronto, Ontario, Canada M5S 2C6*

Eisenmann noticed that the skull used to illustrate *Equus grevyi* by Churcher (1993) appeared to be from a Plain's zebra (*E. quagga*). The skull originated from the eastern side of Lake Turkana near Allia Bay, Kenya, and was donated to Churcher by the Kenya Game Department and provided with an export permit as *E. grevyi*. In East Turkana both Grevy's and Plain's zebras (*E. quagga granti*) coexist. Churcher considered its small size to represent intraspecific variation and accepted the Game Department's identification. The skull has since been reexamined by Churcher and Eisenmann's suspicions of its *E. quagga* identity substantiated. The skull is not as elongated or dolichocephalic as in *E. grevyi* (Azzaroli 1966, plates, 37-39, 46 ; Eisenmann 1980, plate I) and has a narrower supraoccipital crest (Eisenmann 1980 ; Groves and Willoughby 1981). Unlike in *E. grevyi*, there are no infundibula (cups or marks) in the lower incisors, lacking also in many Plain's zebras (Eisenmann 1979a, plate I ; Groves and Willoughby 1981), and no plis protostyloid on the lower P2's. The protostyloid is a specially reliable diagnostic character for *E. grevyi*, since it is present on 78 % of the lower P2, and on 97 % of the lower dP2 (Eisenmann 1976, 1981, 1983).

The condylo-basal length of 493 mm is too small for a Grevy's zebra in which the basilar length (about 40 mm shorter than the condylo-basal length) varies between 485 and 560 mm, mean 531.7, n = 51 (Eisenmann 1980, tabl. 25). A basilar length of 453 mm falls within the observed range for a sample of 91 North of Zambesi Plain's zebras (*E. quagga granti* and *E. quagga boehmi*) : 405 to 480 mm, mean 435.9 mm (Eisenmann 1980, tabl. 27). Similarly, the occlusal lengths of the upper and lower cheekteeth for the figured skull (149 and 151 mm, respectively) are smaller than the observed minima in ranges for tooth rows in 51 skulls and 48 mandibles of *E. grevyi* (from 160 to 183 mm [mean : 173.3] for the upper, and from 156 to 187 mm [mean : 173.7] for the lower tooth rows) and agree better with the observed ranges in 91 skulls of northern Plain's zebras, from 124 to 160 mm for the upper and lower tooth rows (means = 143.1 and 144.7, respectively).

Plis caballins are not « absent or weak » in *E. grevyi* as Churcher (1993) states ; this statement should have read « present or weak » (cf. « usually present but may be vestigial », Churcher and Richardson 1978 : 407). They are present in 80 % of 48 premolars, and may reach a length of 4 mm (Eisenmann 1980 : 83).

Eisenmann (1979b) described the third metapodials of 21 *E. grevyi* as not only longer and more slender, but also deeper (anteroposteriorly) than those of 25 Plain's zebras, *contra* McMahon (1975) who found that the anteroposterior relative thickness of one MCIII of Grevy's zebra was intermediate between two MCIII of Plain's zebras. Robb

(1936) found that splint metapodials (II and IV) in monodactyl horses are equally reduced in length in relation to the central metapodials (III), *contra* Groves (1974) who states that in *E. grevyi* the splint bones are much less reduced than in other extant equids.

Eisenmann (1992) and Forsten and Eisenmann (1995) considered that the Pliocene North American *Equus simplicidens* should not be referred to the subgenus *Dolichohippus* as the basicranial proportions of these two species differ strongly. In *Equus simplicidens* the distance from the vomer notch to foramen magnum is much shorter than in *E. grevyi*.

Acknowledgements. – We thank Dr. Ann Forsten, Zoological Museum, Helsinki, Finland, for the suggestions that improved this note.

Bibliography.

- AZZAROLI, A., 1996. – Pleistocene and living Horses of the old World. *Palaeontographia italica*, 61 (n.s. 31) : 1-15.
- CHURCHER, C.S., 1993. – *Equus grevyi*. *Mammalian Species*, no. 453 : 1-9.
- CHURCHER, C.S. and M.L. RICHARDSON, 1978. – Equidae. Pp. 379-422, in : *Evolution of African Mammals* (V.J. Maglio and H.B.S. Cooke eds.) Harvard University Press, Cambridge and London, 641 p.
- EISENMANN, V., 1976. – Le protostylide : valeur systématique et signification phylétique chez les espèces actuelles et fossiles du genre *Equus* (Perissodactyla, Mammalia). *Zeitschrift für Säugetierkunde*, 41 : 349-365.
- EISENMANN, V., 1979a. – Étude des cornets des dents incisives inférieures des *Equus* actuels et fossiles. *Palaeontographia italica*, 71 (n.s. 41) : 55-75.
- EISENMANN, V., 1979b. – Les métapodes d'*Equus* sensu lato (Mammalia, Perissodactyla). *Géobios*, 12 : 863-886.
- EISENMANN, V., 1980. – Les Chevaux (*Equus* sensu lato) fossiles et actuels : crânes et dents jugales supérieures. *Cahiers de Paléontologie*, 186 p.
- EISENMANN, V., 1981. – Étude des dents jugales inférieures des *Equus* actuels et fossiles. *Palaeo-vertebrata*, 10 : 127-226.
- EISENMANN, V., 1983. – Family Equidae. Pp. 155-214. In : *Koobi Fora Research Project. 2. The fossil Ungulates : Proboscidea, Perissodactyla and Suidae* (J.M. Harris ed.). Clarendon Press, Oxford, 321 p.
- EISENMANN, V., 1992. – Origins, dispersals, and migrations of *Equus* (Mammalian, Perissodactyla). *Courier Forschungsinstitut Senckenberg*, 153 : 161-170.
- FORSTEN, A. and V. EISENMANN, 1995. – *Equus (Plesippus) simplicidens* (Cope), not *Dolichohippus*. *Mammalia*, 59 : 85-89.
- GROVES, C.P., 1974. – *Horses, Asses and Zebras in the Wild*. London : David and Charles, 192 p., 12 fig., 16 pl.
- GROVES, C.P. and D.P. WILLOUGHBY, 1981. – Studies on the taxonomy and phylogeny of the genus *Equus*. *Mammalia*, 45 : 321-354.
- MCMAHON, T.A., 1975. – Allometry and biomechanics : lim bones in adult ungulates. *The American Naturalist*, 109 (969) : 547-563.
- ROBB, R.C., 1936. – A study of mutations in evolution. III. The evolution of the equine foot. *Journal of Genetics*, 33 : 267-273.