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Short Communication

Current considerations on the distribution of *Glossina* in west and central Africa

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Tsetse distribution maps are a useful tool for both research workers studying trypanosomiasis and animal and human health authorities. They enable the potential vectors in the country to be identified and provide rapid information about their geographic distribution.

Considerable work is involved in drawing up these maps, including the compilation of publications, unpublished reports and often the examination of entomological collections.

These maps however require frequent up-dating. Ford and Katondo revised their first edition of tsetse distribution maps (1971, 1973) in 1975 and 1977. These maps were revised again by Katondo (1984) and subsequently by Moloo (1985). The revision by Moloo notably included the presence of *Glossina nashi* Potts 1955 in Gabon, where recent captures have been simultaneously recorded by Itard et al. (1984) and Leack and Jannin (1984). Until now this species had been recorded in Gabon by the observation of a single specimen only, reported by Machado (1959).

The publication by Moloo (1985) includes clear synoptic tables and represents a significant event in that it is the most recent revision. We would like to contribute by up-dating records and also clarify some points which, in our opinion, raise difficulties.

Recently, Gouteux et al. (1987) reported the discovery of *G. calliginea* in the Congo and the new species *G. frezili*, occurring in the Congo and Gabon (Gouteux, 1987). The presence of *G. medicorum* in Zaïre and the Central African Republic should be investigated. Indeed, in a recent review, Makumyaviri (1986) did not mention this species in Zaïre, nor did Finelle et al. (1963) in the Central African Republic. The presence of *G. medicorum* in Gabon, recorded originally by Maillot (1956, 1961), refers in fact to *G. frezili* (Gouteux, 1987). On the other hand, Moloo (1985) did not record *G. medicorum* in Togo or Guinea (Conakry) although it had been reported in Togo by Rickenbach (1961) and in Guinea by Maillot (1961). The presence of *G. calliginea* in Ghana and the Central African Republic should, according to

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Eouzan and Ferrara (1978) and also in our opinion, be queried. Similarly, the presence of *G. tabaniformis* in the Ivory Coast seems surprising. Indeed, ecological studies conducted in forest areas of this country over five years have never revealed the presence of this species (Gouteux, 1985) in spite of intensive trapping large numbers of *Austenina*. Laveissière and Challier (1981), who carried out an exhaustive compilation of data available on this subject, did not record it. In fact, its presence in Guinea (Conakry) and Ghana is also questionable. We believe it should not be recorded without checking existing collections or capturing fresh specimens of this species in these three countries.

It should be noted that according to Challier et al. (1983), *G. palpalis palpalis* may be the only subspecies of *G. palpalis* occurring in Benin and that there is no need to query its presence in the Ivory Coast as this has now been established definitively (see also Gouteux and Millet, 1984). The fact that *G. brevipalpis* may occur in Rwanda should also be noted (Hanotier, personal communication, 1989).

In the past, the main survey method involved a team of field collectors catching the flies with hand-nets. This method produced a low yield and the capture of non-man-biting species was rare. The trapping technology has only become generalised in the last decade (WHO, 1986). Long-term sampling is possible therefore, and thus crepuscular and animal-biting species can be caught. The economic importance of the *fusca* group of tsetse-flies (Nash, 1952; Page and Jordan, 1958; Jordan, 1961) justifies further studies on its distribution and the use of traps should improve considerably our knowledge on this subject. Capturing large numbers of specimens will enable us to confirm or refute certain doubtful records. Errors in localisation may be due to mis-labelling or wrong identification. Errors in labelling did indeed occur. Machado (1965) skilfully showed that *Glossina*, supposed to have been brought back from the Zambezi by Livingstone, could not have originated from East Africa but probably came from Sierra Leone. The very low number of specimens examined obviously contributes to wrong identification.

We hope that these remarks will promote a thorough study on the sources of information which have given rise to doubtful geographic attributions.

References

Challier, A., Gouteux, J.P. and Coosmans, M. (1983) La limite géographique entre les sous-espèces *Glossina palpalis palpalis* (Rob.-Desv.) et *G. palpalis gambiensis* Vanderplank (Diptera: Glossinidae) en Afrique Occidentale. Cah. ORSTOM Sér. Entomol. Méd. Parasitol. 21, 207–220.

Eouzan, J.P. and Ferrara, L. (1978) Habitat et rythme d'activité de *Glossina caliginea* dans une zone littorale du Sud-Cameroun. Comparaison avec *Glossina palpalis palpalis*. Cah. ORSTOM Sér. Entomol. Méd. Parasitol. 16, 243–250.

Finelle, P., Itard, J., Yvoré, P. and Lacotte, R. (1963) Répartition des glossines en R.C.A.; état actuel des connaissances. Rev. Elev. Méd. Vét. Pays Trop. 16, 337–348.

Ford, J. and Katondo, K.M. (1971) Maps of tsetse-flies (*Glossina*); distribution in Africa. Annex to OAU/ISCTRC publ. No. 105.

Ford, J. and Katondo, K.M. (1975) Revision of the *Glossina* distribution map of Africa. OAU/ISCTRC publ. No. 109, 252–256.

Ford, J. and Katondo, K.M. (1977) Maps of tsetse-flies (*Glossina*) distribution in Africa, 1973, according to subgeneric groups on scale of 1:5,000,000 (plus a set of 9 maps in colour). Bull. An. Hlth. Prod. Afr. 25, 187.

Gouteux, J.P. (1985) Ecologie des glossines en secteur pré-forestier de Côte d'Ivoire. Relation avec la trypanosomiase humaine et possibilités de lutte. Ann. Parasitol. Hum. Comp. 60, 329–347.

Gouteux, J.P. (1987) Une nouvelle glossine du Congo: *Glossina (Austenina) frezili* sp. nov. (Diptera: Glossinidae). Trop. Med. Parasitol. 38, 97–100.

Gouteux, J.P. and Millet, P. (1984) Observation sur le contact entre *Glossina palpalis palpalis* (Rob.-Desv., 1830) et *G. palpalis gambiensis* Vanderplank, 1949 (Diptera), dans la région de Bouaké (Côte d'Ivoire). Tropenmed. Parasitol. 35, 157–159.

Gouteux, J.P., Frezil, J.L., Louembet, M.T. and Noireau, F. (1987) Présence en République Populaire du Congo de *Glossina medicorum* Austen, 1911 et *G. calliginea* Austen, 1911 (Diptera: Muscidae), C.R. Acad. Sci. Paris, 304, 25.

Itard, J., Jeannin, P. and Leak, S.G.A. (1984) Présence, au Gabon, de *Glossina nashi* Potts, 1955 (Diptera: Muscidae). C.R. Acad. Sci. Paris, 298, 315–16.

Jordan, A.M. (1961) Economic importance of tsetse-flies in Southern Nigeria. Bull. Entomol. Res. 52, 431–441.

Katondo, K.M. (1984) Revision of second edition of tsetse distribution maps. An interim report. Insect Sci. Applic. 5, 381–388.

Laveissière, C. and Challier, A. (1981) La répartition des glossines en Côte d'Ivoire. Cartes à 1/2,000,000. Notice explicative No. 89, ORSTOM, Paris, pp. 34.

Leak, S.G.A. and Jeannin, P. (1984) Occurrence of *Glossina nashi* Potts 1955 (Diptera: Glossinidae) in the Republic of Gabon. Z. Parasitenkd. 70, 685–686.

Machado A. de Barros (1959) Nouvelles contributions à l'étude systématique et biogéographique des glossines (Diptera) Publ. Cult. Co. Diam. Ang. Lisboa, No. 46, 13–90.

Machado A. de Barros (1965) Réexamen des glossines (Diptera) supposées avoir été rapportées du Zambèze par la deuxième expédition de Livingstone. Publ. Cult. Co. Diam. Ang. Lisboa, No. 69, 117–128.

Maillot, L. (1956) Présence de *Glossina medicorum* Austen, 1911 au Gabon (Afrique Equatoriale Française). Bull. Soc. Pathol. Exot. 49, 823–827.

Maillot, L. (1961) Glossines d'Afrique centrale. II. Espèce rares ou peu répandues, mais pouvant jouer un rôle comme vecteur. Rev. Elev. Méd. Vét. Pays Trop. 14, 439–443.

Makumyaviri, M.A. (1986) Un aperçu de la répartition géographique de *Glossina* spp. (Diptera: Glossinidae) au Zaïre. Rev. Méd. Vét. 137, 107–109.

Moloo, S.K. (1985) Distribution of *Glossina* species in Africa. Acta Trop. 42, 275–281.

Nash, T.A.M. (1952) Some observations on resting tsetse-fly populations and evidence that *Glossina medicorum* is a carrier of trypanosomes. Bull. Entomol. Res. 43, 33–42.

Page, W.A. and Jordan, A.M. (1958) The economic importance of some West African species of *fusca* group of tsetse flies. I.S.C.T.R.C. 7th meeting, Brussels, 1958. OAU/STRC Publ. No. 41, 313–314.

Potts, W.H. (1955) A new tsetse-fly from the British Cameroons. Ann. Trop. Med. Parasitol. 49, 218–225.

Rickenbach, A. (1961) Cartes de répartition de glossines en Afrique Occidentale d'expression française. ORSTOM, Paris.

WHO (1986) *Epidemiology and control of African trypanosomiasis.* Report of a WHO Expert Committee. WHO Tech. Rep. Ser. No. 739, Geneva, pp. 127.