

Corrections in the Nomenclature of Three
Anophelines (Diptera: Culicidae)

Ronald A. Ward¹

ABSTRACT. The authorship of *Anopheles (Cellia) annulatus* de Rook is credited to Haga (1930) on evidence that de Rook (1930) does not fulfill the criterion of publication. *Anopheles (Anopheles) pseudumbrosus* Haga is synonymized with *An. (Ano.) barbumbrosus* Strickland and Chowdhury. *Anopheles (Ano.) niger* Herrick is removed from the list of *nomina nuda* and is considered a *lapsus calami* for *An. (Ano.) nigripes* of Theobald (in part) thus becoming a junior synonym of *An. (Ano.) barberi* Coquillett.

Anopheles (Cellia) annulatus Haga

In 1944, Lee and Woodhill (p. 175) indicated that the authorship of *Anopheles longirostris* var. *annulata* de Rook, 1930 was in doubt, as they were unable to trace the original description and believed that it originally appeared in an official report. At that time, they considered that the first verified description of var. *annulata* appeared in Swellengrebel and Rodenwaldt (1932:213). The description was originally attributed to Brug with a 1930 date. This was soon changed to de Rook (1930) in a brief note by Rodenwaldt (1932) that stated the description was taken from de Rook's report which was supposed to have been published before the appearance of their book ("Die Anophelien von Niederländisch-Ostindien"). This was not the case, and he cryptically says, "For certain reasons this did not occur" (translation).

Subsequent cataloguers (Stone, Knight and Starcke 1949; Knight and Stone 1977) have followed Rodenwaldt (1932) and have listed this species as *Anopheles annulatus* de Rook. Stone apparently questioned the status of de Rook's report and on 23 January 1957 received a letter from D. J. Lee with the following comment from R. H. Black:

"The original report was submitted by de Rook to the N.E.I. Government. It was quoted by Swellengrebel and Rodenwaldt. Lost during World War II de Rook found a copy in Netherlands, New Guinea. He had roneoed copies made at Sorong, Neth. N. G. and the translation is from one of these roneoed copies."

Further clarification of the report is provided by J. Bonne-Wepster in a letter dated 1 April 1958 to A. Stone in which she states:

"The original description of *longirostris* var. *annulatus* de Rook was in an official report of this author about conditions on the Upper Digul. He was then medical officer to the soldiers

¹Department of Entomology, Walter Reed Army Institute of Research, Washington, D. C. 20012 and Research Associate, National Museum of Natural History, Smithsonian Institution, Washington, D. C. 20560.

and political prisoners stationed there. As the authorities did not like the human point of view he took about these conditions, the report was never published. Rodenwaldt subtracted the description from this unpublished report. Erroneously he mentions Brug as the author of the description. . . . Later he corrected this mistake."

The Smithsonian Library has an English translation of the above report which was donated to the library in 1946 by R. H. Black. The title of the report is, "Malaria and *Anopheles* on the Upper Digul", and is dated 25 October 1929. It is a carbon typescript and contains 63 numbered pages, 2 unnumbered pages of references plus 4 tables. The description appears on pp. 43-45 of the translated report.

In an attempt to locate the original report to verify whether it had actually been printed, I contacted R. Sloof at the Royal Tropical Institute in Amsterdam. He was unable to find the report in their files or library, but did furnish a reference which cited portions of de Rook's report (Mooij 1932). Thus it appears, that only 3 copies of the above translated report are extant¹ -- all of which are typed or are carbon copies of Professor Black's translation. There is no mention of the de Rook report in the current bibliographic indices of the early 1930's (Tropical Disease Bulletin, Index Medicus, Index Catalog of Medical and Veterinary Zoology, Review of Applied Entomology B, Rivista di Malariaologia and Zoological Record). For this reason, I conclude that the de Rook report did not meet the criteria of publication so that the name var. *annulata* de Rook was never available (International Code of Zoological Nomenclature 1964, Sections III and IV). Therefore, *An. (Cellia) annulatus* cannot be attributed to the 1930 de Rook report.

The emendation by Rodenwaldt (1932) of *annulatus* of Brug is preceded by a prior publication by Haga which has been hitherto neglected. While perusing the early Netherlands Indies literature on malaria, I encountered a 1930 paper by J. Haga entitled, "Tabellen voor determinatie der in Nederländisch-Oost-Indië voorkomende Anophelinen." Haga prepared this paper for his own use and for instructing sanitary officers due to the discovery of new and additional species of *Anopheles* from New Guinea by Dr. H. de Rook, Sanitarian Officer First Class. He also incorporated changes in anopheline nomenclature made by workers in India. In this paper, Haga presents keys for the identification of adult (both sexes) and larval anophelines of the Netherlands East Indies to replace the existing keys of Swellengrebel (1921) and Rodenwaldt (1924) which he considered incomplete and no longer usable. The introduction gives an acknowledgement which states, "I am obligated to express my thanks to S. L. Brug, Dr. H. de Rook, and Prof. Dr. E. Walch for help of various sorts" (translation).

Couplets are furnished for the discrimination of female, male and larval, "*A. longirostris* var. *annulatus*" on pp. 368, 373 and 380 respectively. As these conform to the descriptions in de Rook's 1930 report and the keys in Swellengrebel and Rodenwaldt (1932), there is no doubt that Haga (1930) is the first publication that can be cited for *An. annulatus*. As Haga does not attribute var. *annulata* to any one of the workers mentioned in the previous paragraph, he must

¹Copies are present at the School of Public Health and Tropical Medicine, University of Sydney, Australia, the Smithsonian Institution and the London School of Hygiene and Tropical Medicine.

be considered as the author of this taxon which should be recorded as *An. (Cellia) annulatus* Haga.

Anopheles (Anopheles) pseudumbrosus Haga

The name "*pseudumbrosus*" appears in the adult and larval keys on pp. 364, 366 and 372 of Haga's 1930 publication and in a list containing newly named species (p. 369). In the list, *A. pseudumbrosus* is followed by the notation that it was formerly *Myzorhynchus barbirostris* var. *pallidus* Swellengrebel, 1919. Swellengrebel and Rodenwaldt (1932) verify the synonymy of var. *pallidus* with *barbirostris* and indicate that this variety should be known as *Anopheles barbirostris typicus* Var. *barbumbrosa* Strickland and Chowdhury, 1927. The descriptions of *pseudumbrosus* in Haga's keys and of Var. *barbumbrosa* of Swellengrebel and Rodenwaldt are similar. It is possible that Haga (1930) made an error in the spelling (*lapsus calami*) of *barbumbrosus* when reporting *pseudumbrosus*. As Haga provided sufficient information for the recognition of the latter species, I am synonymizing *pseudumbrosus* with *An. (Ano.) barbumbrosus* Strickland and Chowdhury.

Anopheles (Anopheles) niger Herrick

While at the Agricultural College in Mississippi (now Mississippi State University), Glenn W. Herrick published a brief paper describing various mosquito collections made in the state during the course of mosquito control activities at the college (Herrick 1905). On p. 283, Herrick states, "*Anopheles*. -- We have taken a fourth species of this genus, undoubtedly *niger*." On the basis of this information, Stone, Knight and Starcke (1959) considered *Anopheles niger* Herrick to be a *nomen nudum*.

In examining the literature for a further reference to this name, a citation to *Anopheles niger* was found under *Coelodiazesis barberi* (Coquillett, 1903) in Howard, Dyar and Knab (1917:1036) as a *nomen nudum*. No discussion of this assignment was made, but under the list of specimens examined is the following record (p. 1038), "Mississippi, October 15, 1905 (G. W. Herrick)." An examination of the United States National Museum collection revealed the presence of 2 female specimens of *Anopheles barberi* Coquillett collected by G. W. Herrick. The first is the specimen cited by Howard, Dyar and Knab (1917) and has the locality, "Agric. Coll., Miss." on the label, while a second female from the same locality has the date "7-24 1905" and a separate folded microscope slide label with the following data: "336./ *A. nigripes* / Agri. Coll. / 7-23-1905 / G.W.H. / 336."

Howard, Dyar and Knab (1917:1036) list *An. nigripes* of Theobald (1907:40, in part) also as a synonym of *Coelodiazesia barberi*. In the discussion of *nigripes* Staeger, Theobald (1907:40) mentions that he has seen material from Mississippi State through the auspices of "Professor Glenn Herrick." It is apparent that specimens of *barberi* were sent by Herrick to Theobald in 1905 and received the name *nigripes* from Theobald. In the process of preparing the 1905 publication, Herrick or the printer erroneously transcribed *nigripes* as *niger*. *Anopheles niger* should thus be considered a *lapsus calami* rather than a *nomen nudum*, and therefore it is a junior synonym of *An. (Ano.) barberi*.

ACKNOWLEDGEMENTS

I wish to thank George Steyskal for translating the introduction to Haga (1930) and Michael E. Faran and John F. Reinert for their useful comments on the manuscript.

LITERATURE CITED

- Coquillett, D. W. 1903. A new *Anopheles* with unspotted wings. *Can. Entomol.* 35:310.
- Haga, J. 1930. Tabellen voor determinatie der in Nederlândsch-Oost-Indië voorkomende Anophelinen. *Geneesk-Tijdschr. Ned.-Ind.* 70:363-82.
- Herrick, G. W. 1905. Notes on some Mississippi mosquitoes. *Entomol. News* 16: 281-3, 1 pl.
- Howard, L. O., H. G. Dyar and F. Knab. 1917. The mosquitoes of North and Central America and the West Indies. Systematic description, part 2. Carnegie Inst. Wash. Publ. No. 159, Vol. 4, p. 525-1064.
- International Commission on Zoological Nomenclature. 1964. International code of zoological nomenclature adopted by the XV International Congress of Zoology. International Trust for Zoological Nomenclature, London. 176 p.
- Knight, K. L. and A. Stone. 1977. A catalog of the mosquitoes of the world (Diptera: Culicidae). The Thomas Say Foundation, Vol. 6, *Entomol. Soc. Am.*, 611 p.
- Lee, D. J. and A. R. Woodhill. 1944. The anopheline mosquitoes of the Australasian region. *Dep. Zool., Univ. Sydney, Monogr.* 2, 209 p.
- Mooij, W. 1932. De malariabestrijding te Tanahmerah, Bovendigoel. *Geneesk. Tijdschr. Ned.-Ind.* 72:66-82.
- Rodenwaldt, E. 1924. Kaart en determineertable van de Anophelinen van Ned. Oost-Indië. Uitgave Burg. Geneesk. Dienst Ned.-Ind. Topograph. Inrichting, Batavia.
- _____. 1932. *Anopheles punctulatus longirostris*. Var. *annulata* de Rook 1930. *Geneesk. Tijdschr. Ned.-Ind.* 72:1239.
- Stone, A., K. L. Knight and H. Starcke. 1959. A synoptic catalog of the mosquitoes of the world (Diptera, Culicidae). The Thomas Say Foundation, Vol 6, *Entomol. Soc. Am.*, 358 p.
- Strickland, C. and K. L. Chowdhury. 1927. An illustrated key to the identification of the anopheline larvae of India, Ceylon, and Malaya, west of Wallace's line with practical notes on their collection. Thacker, Spink and Co., Calcutta and Simla. 67 p.
- Swellengrebel, N. H. 1921. Die anophelien van Nederlândsch Oost-Indië. 2te auflage. *Meded. Kolon. Inst. Amst.* 15 (*Trop. Hyg.* 10):1-155.

Swellengrebel, N. H. and E. Rodenwaldt. 1932. Die anophelen von Niederländisch-Ostindien, 3te auflage. Gustav Fischer, Jena. 242 p., 24 pl.

Theobald, F. V. 1907. A monograph of the Culicidae or mosquitoes. Vol. 4, Br. Mus. (Nat. Hist.), London. 639 p., 16 pl.