

## Checklist of the Mosquitoes of Bangladesh

by

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ABSTRACT. The last checklist of mosquitoes of what is now Bangladesh appeared in 1971. Since then there have been extensive additions and changes to the record of our mosquito fauna. A revised list is presented here. It includes 113 species, including 34 anophelines and 79 culicines.

Bangladesh was formerly the eastern part of Pakistan. It is surrounded by the Indian states of West Bengal, Meghalaya, Assam, Mizoram and Tripura and Burma on the east and the Bay of Bengal on the south (Fig. 1). Bangladesh is situated between 21°N and 27°N latitude. The tropic of cancer divides the country into two halves. The northern half is between the tropical and humid sub-tropical regions (humid mesothermal climate). The southern half is a tropical wet and dry region (tropical rainy climate). The average yearly rainfall in the country is 80 inches.

In the catalog of the mosquitoes of the world, Knight and Stone (1977) mentioned only five mosquito species from Bangladesh in their distribution lists. But in the references for certain species, they named a number of workers who had collected nine species of mosquitoes from localities which now belong to Bangladesh, and as such Knight and Stone's (1977) catalog can be referenced for nine more species. In this catalog they mentioned one culicine, *Culex* (*Culiciomyia*) *viridiventer* as occurring in Bangladesh, but the places mentioned therein are actually outside the geographical boundaries of Bangladesh, and hence, this species has been excluded from the present checklist of the mosquitoes of Bangladesh.

Before the partition of India in 1947, several workers collected mosquitoes from different parts of India, including areas of Bangladesh (James & Liston 1911; Barraud 1923, 1924, 1926, 1927, 1928, 1929, 1933 and 1934; Covel 1927 and 1931; Christophers 1933, Puri 1936 and 1948). These references for the relevant species have been included in the present checklist.

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In the early part of Pakistani period, Quraishi and Talibi (1956) compiled the records of mosquitoes collected by different workers. Another reliable but unpublished data of anopheline mosquitoes of Bangladesh is available in the Plan of Operation (1960) of Malaria Eradication Programme (MEP) of Bangladesh. During the pre-eradication period (1959) MEP made an extensive survey of anopheline fauna in Bangladesh and found 25 species.

Aslam Khan (1971) made a checklist of mosquitoes of Pakistan which included the then East Pakistan (now Bangladesh). The list contained 29 anopheline and 60 culicine mosquitoes of Bangladesh. But in the present checklist, Aslam Khan's paper has not been referred to for the following eight species, *Anopheles* (*Anopheles*) *bengalensis*, *An.* (*An.*) *gigas*, *Aedes* (*Aedimorphus*) *pipersalatus*, *Ae.* (*Finlaya*) *dissimilis*, *Culex* (*Culex*) *mimulus*, *Cx.* (*Lutzia*) *fuscus*, *Cx.* (*Lut.*) *halifaxii* and *Mimomyia* (*Mimomyia*) *chamberlaini*, because the references concerning those species had reported them from areas which were not within Bangladesh. In the checklist of Aslam Khan (1971) there seems to be an omission of the letter "E" (meaning East Pakistan) for the species, *Culex* (*Culex*) *theileri* though in the reference he cited the literature in which the relevant area of Bangladesh was mentioned.

Other reported species are scattered throughout the literature. Moreover, early species nomenclature has undergone changes and synonymy. But until now only one checklist is available for the country (Aslam Khan 1971). It is therefore important that an updated and relatively complete list of species be prepared for the country.

From 1973 to 1985, the author collected adult mosquitoes from indoor and outdoor places, tea-gardens, forest, hilly and coastal areas, by aspirator, space spraying, inlet and outlet window trap, sweeping net and light trap from different parts of the country. Larvae were also collected from all types of breeding places. These collections were done in northwestern, northeastern, southeastern and the central part of the country as shown on the map (Fig. 1). These areas varied from deep forested hilly regions to plain and undulated areas. Additional species will be reported if the southern coastal region and southwestern part of the country are surveyed. All identifications were based on adult male or female mosquitoes.

Altogether 113 species (34 anopheline and 79 culicine) are listed here. The list below contains 83 species and one variety (27 anopheline and 57 culicine) collected by the author from the different parts of Bangladesh as mentioned earlier and marked (+) sign. New records are indicated by an asterisk (\*), 27 species and two varieties (7 anopheline and 22 culicine) not collected by the author, but reported by other workers from some areas of Bangladesh are included with reference citations. Numbers after the name of mosquitoes represent some of the references concerning these particular species. The records of collection by Malaria Eradication Programme are referred to as MEP at the end of the reference list. The classification scheme follows that of Knight and Stone (1977 and 1978) and species and genera within sub-families are arranged alphabetically.

*Anopheles (Anopheles)*

- aitkenii* James, 1903. 15 +  
*barbirostris* Van der Wulp, 1884. 2, 3, 5, 8, 13, 14, 15, 35, 36, 37, 39, 42, 48, 49, 50, 51, 52, 58, MEP +  
*barbumbrosus* Strickland and Chowdhury, 1927. 56  
*bengalensis* Puri, 1930. MEP +  
*gigas* Giles, 1901. MEP  
*gigas* var. *baileyi* Edwards, 1929. 35, 49, 52  
*gigas* var. *simlensis* (James, 1911). 13, 37, 52  
*nigerrimus* Giles, 1900. 2, 3, 5, 8, 13, 15, 35, 36, 37, 42, 47, 49, 52 +  
*peditaeniatus* (Leicester, 1908). 4 +  
*umbrosus* (Theobald, 1903). 13, 35, 36, 49, 52

*Anopheles (Cellia)*

- aconitus* Doenitz, 1902. 2, 5, 13, 15, 35, 37, 39, 41, 43, 48, 49, 50, 51, 52, 58, MEP +  
*annularis* Van der Wulp, 1884. 2, 3, 4, 5, 8, 13, 15, 35, 36, 37, 39, 48, 49, 50, 51, 52, 58, MEP +  
*culicifacies* Giles, 1901. 2, 5, 13, 15, 35, 36, 37, 39, 41, 42, 43, 49, 50, 52, MEP +  
*dirus* Peyton and Harrison, 1979. 13, 15, 40, 43, 52, 54, 56, 58 +  
*fluviatilis* James, 1902. 13, 35, 36, 37, 43, 52, MEP +  
*jamesii* Theobald, 1901. 2, 5, 13, 35, 36, 37, 39, 49, 50, 52, 58, MEP +  
*jeyporiensis* James, 1902. 13, 15, 35, 36, 41, 43, 49, 52, 58, MEP +  
*karwari* James, 1902. 13, 35, 37, 49, 52, 58, MEP +  
*kochi* Doenitz, 1901. 13, 35, 36, 37, 42, 43, 46, 49, 50, 52, 56, 58, MEP +  
*maculatus* Theobald, 1901. 13, 35, 37, 52, 58, MEP +  
*maculatus* var. *willmorei* (James, 1903). 13, 35, 37, +  
*majidi* Young and Majid, 1928. MEP +  
*minimus* Theobald, 1901. 13, 35, 37, 41, 43, 48, 49, 52, 58, MEP +

- pallidus* Theobald, 1901. 13, 35, 37, 39, 48, 49, 50, 51, 52, MEP +
- philippinensis* Ludlow, 1902. 13, 35, 36, 37, 38, 39, 43, 48, 49, 50, 51, 52, 58, MEP +
- ramsayi* Covell, 1927. 2, 5, 13, 35, 37, 39, 48, 49, 50, 52, MEP +
- splendidus* Koidzumi, 1920. 13, 35, 36, 37, 52, MEP +
- stephensi* Liston, 1901. 13, 52, MEP
- subpictus* Grassi, 1899. 2, 3, 4, 5, 8, 13, 15, 35, 36, 37, 39, 43, 48, 49, 50, 52, 58, MEP +
- sundaicus* (Rodenwaldt, 1925). 13, 35, 37, 39, 42, 48, 49, 50, 52, MEP +
- tessellatus* Theobald, 1901. 2, 5, 13, 35, 36, 37, 39, 49, 50, 51, 58, MEP +
- theobaldi* Giles, 1901. 13, 35, 36, 52, MEP
- vagus* Doenitz, 1902. 2, 3, 4, 5, 8, 13, 15, 35, 37, 39, 43, 47, 48, 49, 50, 51, 52, 58, MEP +
- varuna* Iyengar, 1924. 13, 35, 36, 37, 39, 41, 43, 52, MEP +

*Aedeomyia* (*Aedeomyia*)

- catasticta* Knab, 1909. 13

*Aedes* (*Aedimorphus*)

- caecus* (Theobald, 1901). 13, 15, 34, 46, 55 +
- pallidostriatus* (Theobald, 1907). 13, 15, 46, 55 +
- pipersalatus* (Giles, 1902). 29
- punctifemoris* (Ludlow, 1921). 12, 13, 15, 46, 55 +
- \* *vexans* (Meigen, 1830). +

*Aedes* (*Christophersiomyia*)

- thomsoni* (Theobald, 1905). 1, 13, 15, 45

*Aedes* (*Diceromyia*)

- iyengari* Edwards, 1923. 13, 47
- reginae* Edwards, 1922. 13, 47

*Aedes (Edwardsaedes)*

*imprimens* (Walker, 1860). 29

*Aedes (Finlaya)*

*albolateralis* (Theobald, 1908). 13, 34, 46

*assamensis* (Theobald, 1908). 13, 15, 18, 34, 46 +

\**chrysolineatus* (Theobald, 1907). +

*dissimilis* (Leicester, 1908). 20 +

*formosensis* Yamada, 1921. 44

*khazani* Edwards, 1922. 13, 19, 34, 47 +

*lophoventralis* (Theobald, 1910). 2, 5, 13, 19, 34 +

*niveus* (Ludlow, 1903). 13, 19 +

*pseudotaeniatus* (Giles, 1901). 13, 47

*Aedes (Mucidus)*

*scatophagoides* (Theobald, 1901). 13, 15 +

*Aedes (Neomelaniconion)*

*lineatopennis* (Ludlow, 1905). 2, 5, 13, 15 +

*Aedes (Stegomyia)*

*aegypti* (Linnaeus, 1762). 2, 3, 4, 5, 6, 13, 34, 44, 47 +

*albopictus* (Skuse, 1894). 2, 3, 4, 5, 13, 15, 16, 44, 47 +

*annandalei* (Theobald, 1910). 13, 34, 47 +

*vittatus* (Bigot, 1861). 13, 47

*w-albus* (Theobald, 1905). 13 +

*Aedes (Verrallina)*

*andamanensis* Edwards, 1922, 13, 30, 34, 46

*Armigeres (Armigeres)*

*kuchingensis* Edwards, 1915. 2, 4, 5 +

*subalbatus* (Coquillett, 1898). 2, 3, 4, 13, 15, 16, 27, 46, 49 +

*Armigeres (Leicesteria)*

\**annulitarsis* (Leicester, 1908). +

\**dentatus* Barraud, 1927. +

\**digitatus* (Edwards, 1914). +

*flavus* (Leicester, 1908). 13, 27, 34, 46 +

\**inchoatus* Barraud, 1927. +

*magnus* (Theobald, 1908). 13, 15, 27, 34 +

\**omissus* (Edwards, 1914). +

*Heizmannia (Heizmannia)*

*covelli* Barraud, 1929. 13, 47

*Culex (Culex)*

*afridii* Qutubuddin, 1956. 13, 46, 53, 59

*bitaeniorhynchus* Giles, 1901. 2, 4, 5, 13, 16, 22, 59 +

*epidesmus* (Theobald, 1910). 13, 15, 59 +

*fuscocephala* Theobald, 1907. 2, 4, 5, 11, 13, 15, 17, 23, 47, 59 +

*gelidus* Theobald; 1901. 2, 3, 4, 5, 13, 15, 16, 17, 22, 59 +

\**hutchinsoni* Barraud, 1924. +

*mimulus* Edwards, 1915. 22, 59 +

*pipiens quinquefasciatus* Say, 1823. 2, 3, 4, 5, 7, 13, 15, 16, 34, 46, 47, 59 +

*pseudovishnui* Colless, 1957. 13, 15, 59 +

*sinensis* Theobald, 1903. 13, 15, 59 +

*sitiens* Wiedemann, 1828. 13

*theileri* Theobald, 1903. 13, 15

*tritaeniorhynchus* Giles, 1901. 2, 3, 4, 5, 13, 15, 16, 22, 59 +

*vagans* Wiedemann, 1828. 13, 15, 59

*vishnui* Theobald, 1901. 4, 13, 15, 22, 47, 56, 59 +

*whitei* Barraud, 1923. 2, 5, 59

*whitmorei* (Giles, 1904). 2, 5, 13, 15, 59 +

*Culex* (*Culiciomyia*)

*nigropunctatus* Edwards, 1926. 13, 34 +

*pallidothorax* Theobald, 1905. 13, 25, 47 +

*pullus* Theobald, 1905. 25

*Culex* (*Eumelanomyia*)

*brevipalpis* (Giles, 1902). 13, 24, 47 +

\**malayi* (Leicester, 1908). +

*Culex* (*Lophoceraomyia*)

\**minutissimus* (Theobald, 1907). +

*Culex* (*Lutzia*)

*fuscans* Wiedemann, 1820. 2, 4, 5, 21 +

*halifaxii* Theobald, 1903. 56 +

*Ficalbia*

*minima* (Theobald, 1901). 2, 5, 13, 14, 31, 34, 46 +

*Mimomyia* (*Mimomyia*)

*chamberlaini* Ludlow, 1904. 3, 9, 31 +

*hybrida* (Leicester, 1908). 13, 14, 34

*Coquillettidia (Coquillettidia)**crassipes* (Van der Wulp, 1881). 13, 28, 34, 46 +*ochracea* (Theobald, 1903). 13, 28, 34 +*Mansonia (Mansonioides)**annulifera* (Theobald, 1901). 2, 4, 5, 13, 15, 28 +*dives* (Schiner, 1868). 13, 28, 34 +*indiana* Edwards, 1930. 13, 15 +*uniformis* (Theobald, 1901). 2, 4, 5, 13, 15, 16, 28 +*Orthopodomyia**anopheloides* (Giles, 1903). 13, 47, 60*Malaya**genurostris* Leicester, 1908. 13, 26, 34 +*jacobsoni* (Edwards, 1930). 13, 34*Tripteroides (Rachionotomyia)**aranoides* (Theobald, 1901). 13, 15 +*Uranotaenia (Pseudoficalbia)**\*novobscura* Barraud, 1934. +*Uranotaenia (Uranotaenia)**\*campestris* Leicester, 1908. +*Toxorhynchites (Toxorhynchites)**bengalensis* Rosenberg and Evenhuis, 1985. 57*splendens* (Wiedemann, 1819). 2, 10, 13, 32, 47 +

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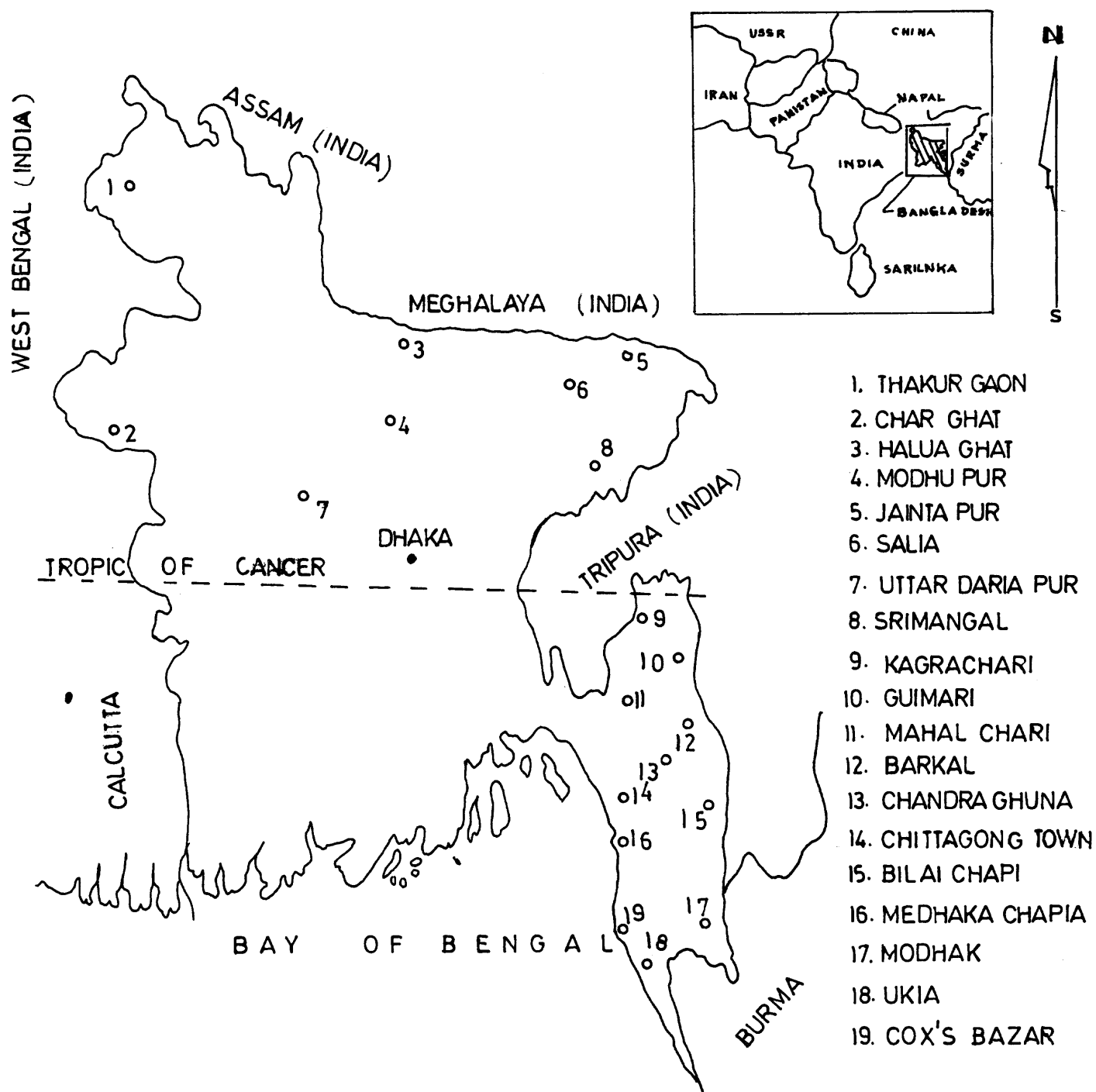


FIG. 1 MAP OF BANGLADESH SHOWING AREAS OF ENTOMOLOGICAL ACTIVITIES FROM 1973 - 1985.

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