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NOTE

New Records of *Anopheles belenrae* Rueda (Diptera: Culicidae) in North Korea

Anopheles belenrae Rueda is one of about 30 species of the Hyrcanus Group. This group contains about three-quarters of the species that comprise the Myzorhynchus Series of genus *Anopheles* Meigen subgenus *Anopheles* in the Oriental and Palearctic Regions (Rueda et al. 2006). We report new records of *An. belenrae* from two provinces in North Korea (Democratic People's Republic of Korea). Adult specimens of this species were collected from Hwanghaebuk Province: Undok Dong (38°11′N, 126°40′E), Kaesong City, 10 August 2004, Coll. # NK027,1 female; Songnam Dong (38°7′N, 126°38′E), Kaesong City, 9 August 2004, Coll. # NK028, 1 female; and Pyongyannam Province: Jansan Ri, Pyongsong City (38°53′N, 125°3′E), 15 July 2004, Coll. # NK025, 033, 2 females. Two species of the Hyrcanus Group, *An. sinensis* and *An. pullus*, also were found in the two provinces. Adults of *An. sinensis* were collected in Hwanghaebuk Province: Undok Dong, Kaesong City, 10 August 2004, Coll. # NK014-016, 3 females; Songnam Dong, Kaesong City, 9 August 2004, Coll. # NK017-021, NK029-031, 8 females; and Pyongyannam Province: Jansan Ri, Pyongsong City, 15 July 2004, Coll. # NK023-033, 036, 3 females. Adults of *An. pullus* were collected from Hwanghaebuk Province: Undok Dong, Kaesong City, 10 August 2004, Coll. # NK001, 002, 2 females; and Pyongyannam Province: Jansan Ri, Pyongsong City, 15–17 July 2004, Coll. # NK 003, 004-012, 12 females; 27–28 July 2004, Coll. # K022-023, 3 females. Adults of these three species were collected using aspirators from inside human dwellings or animal barns and outdoors, particularly in rice growing areas. Specimens were identified morphologically (Rueda 2005, Tanaka et al. 1979) and verified by comparing our rDNA internal transcribed spacer 2 (ITS2) sequences to Wilkerson et al. (2003) and GenBank sequences (e.g., ITS2 Acc. No. AY375466, *An. belenrae*; AY375464, *An. sinensis*; AY375471, *An. pullus*).

Anopheles belenrae was first described from specimens collected in 2001 from Gyeongi Province, South Korea, specifically Tongilchon (37°51′N, 126°47′E). It also occurs in Ogam-ri, Paju (37°49′N, 126°43′E), Gangwha, Incheon (37°45′N, 126°29′E), and Ogeum-ri, Thanhyunmyeon, Paju-si (37°49′N, 126°43′E) (Rueda 2005, Rueda et al. 2006). In 2006, Dr. Terry Klein and members of the 8th Medical Command, US Army, South Korea (in litt.) collected additional specimens of this species from the provinces of Gyeongi, Chungcheongbuk and Gangwon. Adults were usually caught resting in cattle sheds of dairy farms, between 2000 and 2,230 h. The larvae were collected from various habitats including rice and parsely fields, ditches, marshes, marsh depressions, seepage-spring, ponds, stream margins, stream pools, rock pools, and storage tank pits (T. Klein, personal communication). In mainland China, *An. belenrae* occurs in the provinces of Liaoning and Shandong (Rueda et al. 2007). As in South Korea and North Korea, the status of this species as a malaria vector in China is unknown. Furthermore, the larval habitats of this species in North Korea and China are unknown, but they may be similar to those found in South Korea.

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