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Development of a simple and convenient feeding device for *Aedes aegypti* mosquitoes with *Brugia pahangi* microfilaria in the peritoneal cavity of Mongolian jirds

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Abstract: It has become difficult in recent years to conduct the direct feeding of mosquitoes on animals because of ethical considerations related to animal experiments. Thus, the artificial feeding of mosquitoes on blood meals is an important method for the study of the oral infection of mosquitoes to agents. Since Rutledge *et al.* (1968) reported an artificial membrane-feeding technique, several artificial membrane-feeding devices have been developed to increase the feeding rates of mosquitoes on blood meals. The objective of the present study is to develop a simple and convenient device for the artificial feeding of mosquitoes. We designed a device using Kimwipe®, a coverglass, and a 50 ml Erlenmeyer flask. The efficacy was assessed by the infection of mosquitoes with *Brugia pahangi* microfilaria in the peritoneal cavity of Mongolian jirds.

to *Brugia pahangi* microfilariae (MF) derived from the peritoneal cavity. Immediately after the feeding of mosquitoes on MF by the new device, the infection rate of mosquitoes was 50 - 81%. On day 14 post-feeding, 51 - 94% of mosquitoes harbored third-stage infective larvae. The components needed to conduct artificial feeding of mosquitoes are generally available in laboratories. An elaborate modification of materials is necessary in making the feeding device simple and convenient. This artificial feeding device promises to be applicable for the infection of mosquitoes not only with *B. pahangi* MF but also with malaria and viruses.

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