in Sri Lanka.

A-14: Sporogonic development of *Plasmodium vivax* in common anopheline species in Sri Lanka

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Fourteen anopheline species found in malarious areas of Sri Lanka were tested for sporogonic development of *Plasmodium vivax* under laboratory conditions at 22°C min. and 27°C max. temperatures. Laboratory reared F1 generation females fed directly on 127 and 136 infective gametocyte carriers from malaria endemic and epidemic (in non-malarious area/areas) were examined for salivary gland infection on the 14th day after feeding allowing them to complete sporogonic development at the storage temperature.

All 14 species completed sporogonic development with significant differences among species. Sporozoite rates of 10 (n > 20) of 11 species tested in endemic areas varied in descending order as follows: *An. pallidus* 55.9% (n = 372) > *An. annularis* 53.6% (n = 56) > *An. subpictus* 46.9% (n = 98) > *An. jamesii* 43.1% (n = 65) > *An. tessellates* 39.0% (n = 100) > *An. culicifacies* 36.6% (n = 101) > *An. varuna* 29.3% (n = 41) > *An. vagus* 23.8% (n = 21) > *An. barbirostris* 14.3% (n = 42) > *An. nigerrimus* 9.1% (n = 318). The respective descending order of sporozoite rates of 10 (n > 20) of 14 species tested from epidemic area were *An. pallidus* 61.3% (n = 80) > *An. annularis* 57.5% (n = 153) > *An. maculatus* 56.7% (n = 141) > *An. karwari* 55.1% (n = 356) > *An. jamesii* 49.2% (n = 474) > *An. tessellates* 37.0% (n = 127) > *An. vagus* 20.3% (n = 74) > *An. culicifacies* 13.9% (n = 122) > *An. barbiirostris* 8.3% (n = 60) > *An. nigerrimus* 4.4% (n = 383).

The rank correlation ($P < 0.01$) between the endemic and epidemic areas indicate that the sporozoite rates among the anophelines tested is species specific. Most of the species showed higher sporozoite rates than *An. culicifacies* suggesting that under suitable field conditions they could play a role in malaria transmission. These investigations indicate the importance of the need to utilize appropriate vector control measures for satisfactory prevention and control of malaria in Sri Lanka.