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Feasibility of utilisation of *Poecilia reticulata* (Guppy) for *Anopheline* mosquito control in river-bed pools below the Kotmale dam, Sri Lanka

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Feasibility of utilization of *Poecilia reticulata* in *Anopheline* mosquito control in river-bed pools below the Kotmale dam, Sri Lanka was studied from September 2000 to August 2002. Two areas, Kotmale 1(experimental) and Kotmale 2 (control), in the river bed were selected. All the pools were marked and fortnightly larval surveys were done to determine the *Anopheline* larval density, using a 100 mL dipper applied at 6 dips per m^2. At the end of one year, *P. reticulata* was introduced to pools at Kotmale 1 at 5 fish per m^2 surface area. After intervention, the pools were inspected at 2-week intervals and *P. reticulata* were introduced into newly formed pools and into pools that had no fish in the experimental area. Larval collections were carried out over the next 12 months. Each pool was considered as an independent observation at each sampling.

Before intervention, 1401 (17.93%) pools In Kotmale 1 and 855 (17.99%) pools in Kotmale 2 had *Anopheline* larvae. After intervention, 463 (5.84%) pools in Kotmale 1 and 617 (15.25%) pools in Kotmale 2 had *Anopheline* larvae. There was a significant reduction in the proportion of pools having larvae ($t=23.81$; $p<0.001$), the number of larvae per 100 pools ($t=5.92$; $p<0.001$) and the number of larvae per 100 dips ($t=5.10$; $p<0.001$) after intervention as compared to before intervention in Kotmale 1. There was a significant difference in the proportion of pools having larvae ($t=15.09$; $p<0.001$), the number of larvae per 100 pools ($t=-2.95$; $p<0.001$) and the number of larvae per 100 dips ($t=-4.00$; $p<0.001$) between the experimental and control areas after intervention. The experimental area had a smaller proportion of pools containing larvae (5.84% vs 15.25%), and fewer number of larvae per 100 pools (11.29 vs 31.78) and 100 dips (3.49 vs 12.21). Although there was a significant reduction in the proportion of pools having larvae in the control area after intervention ($t=3.452$; $p<0.001$), the reduction in the experimental area was significantly greater. *P. reticulata* can be used as an *Anopheline* larval control measure in river-bed pools below major dams.

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