

Life history and hosts of *Sogatodes pusanus* (Distant)(Hemiptera: Delphacidae)

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In rice fields, *S. pusanus* is often confused with whitebacked planthopper *Sogatella furcifera* (Horváth). *S. pusanus* is not a rice pest but an *Echinochloa*-feeding planthopper. A colony of 100 adults can hopperburn a plant with 10 tillers in 5-7 days. The planthoppers differ in color of body, apical cells of the fore wings, and shape of parameres.

The two species can be identified by the following key:

yellow medially and dark brown laterally; apical cells of fore wing crescently dark brown; male parameres straight with two divergent processes apically *Sogatodes pusanus* (Distant)
Pronotum uniformly whitish-yellow except dark brown or pale yellow area underneath eyes; mesonotum whitish-yellow medially with dark brown outer sides of lateral carinae; fore wings with black pterostigma; male parameres broad basally and apically bifurcated without large spine*Sogatella furcifera*(Horvath)

We studied the development of *S. pusanus* on 15 common rice field plant species in three families—Poaceae (9), Cyperaceae (5), and Sphenocleaceae (1). Individual host plants were caged in 10-× 72-cm mylar cylinders (10 cm diam, 72 cm high) with side and top vents. Five pairs of newly emerged adults were released per cage for oviposition. Host suitability was determined by measuring biological parameters: survival, growth index, fecundity, and life cycle duration. *S. pusanus* completed development on only two plant species, *Echinochloacolona* and *E. crus-galli* (see table). On *E. colona*, development from egg to adult took 19.7 ± 0.6 days with an incubation period of 7.5 ± 0.5 days; stadium I, 3.0 ± 0.7 days; stadium II, 3.3 ± 0.4 days; stadium III, 2.6 ± 0.8 days; and stadium IV, 3.3 ± 0.5 days. Survival was 88%.

On *E. crus-galli* ssp. *hispidula* development took 20.1 ± 1.6 days with a similar incubation period: stadium I, 3.3 ± 0.6 days; stadium II, 3.3 ± 0.5 days; stadium III, 2.6 ± 0.4 days; and stadium IV, 3.3 ± 0.5 days. Survival was 84%. Adult longevity in both host plants was 5.6 ± 1.6 days. All the host plants tested, including rice (TN1), served as ovipositional hosts.

Hosts of <i>Sogatodes pusanus</i>. IRRI greenhouse, Feb 1988. ^a/				
Plant species	Eggs laid (no./5 females)	Egg hatchability (%) ^b /	Nymphal survival (%) ^c /	Growth index ^d /
Poaceae				
<i>Echinochloa colona</i> (L.) Link	245.7 ± 86.6 a	80.1 ± 9.9 a	87.5 ± 4.9 a	5.7 ± 0.8 a
<i>E. crus-galli</i> (L.) Beauv.ssp. <i>hispidula</i> (Retz.) Honda	138.2 ± 61.9 b	76.2 ± 9.1 b	83.7 ± 3.6 a	5.1 ± 0.6 a
<i>Paspalum conjugatum</i> Berg.	44.7 ± 36.4 c	0	0	0
<i>Leptochloa chinensis</i> (L.) Nees	26.2 ± 17.7 d	0	0	0
<i>Oryza sativa</i> L.	25.5 ± 23.3 d	0	0	0
<i>Panicum repens</i> L.	23.5 ± 9.7 d	0	0	0
<i>Chloris barbata</i> Sw.	23.0 ± 2.1 d	0	0	0
<i>Brachiaria mutica</i> (Forsk.) Stapf	11.7 ± 7.9 d	0	0	0
<i>Eleusine indica</i> (L.) Gaertn.	11.2 ± 9.2 d	0	0	0
Cyperaceae				
<i>Cyperus brevifolius</i> (Rottb.) Hassk.	9.0 ± 3.6 d	0	0	0
<i>Fimbristylis miliacea</i> (L.) Vahl	7.4 ± 3.0 d	0	0	0
<i>Cyperus iria</i> L.	4.0 ± 1.6 d	0	0	0
<i>C. kyllingia</i> Endl.	3.2 ± 2.7 d	0	0	0
<i>C. rotundus</i> L.	2.8 ± 1.5 d	0	0	0
Sphenocleaceae				
<i>Sphenoclea zeylanica</i> Gaertn.	16.3 ± 13.6 d	0	0	0
^a / Means (X ± SD) followed by a common letter are not significantly different at the 5% level by DMRT.				
^b /Egg hatchability (%) = eggs hatched (no.) × 100 eggs laid (no.)				
^c / Nymphal survival (%) = nymphs becoming adults (no.) × 100 eggs hatched (no.)				
^d / Growth index = % nymphs becoming adults mean development period (days)				