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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
BANGKOK, THAILAND**

HOST PLANTS (EXCEPT RICE) OF THE RICE LEAFFOLDER *CNAPHALOCROCIS MEDINALIS* GEUNEE REPORTED IN LITERATURES (1907-1983)

R. C. Joshi¹, T. Wada² and E.A. Heinrichs³

PREFACE

The complex of rice leaffolder species, *Cnaphalocrocis medinalis* Guenée and *Marasmia patnalis* Bradley, hitherto considered as pests of minor importance, was observed by authors to cause severe damage to rice at the International Rice Research Institute, Philippines during 1983-84. It is significant to note that the damage symptoms for all leaffolder species are similar. In the past, the majority of the host plants reported for *C. medinalis* are based on field observation only (Table 1). Without rearing studies and subsequent taxonomic confirmation, it is possible that some of these records are due to the other less well-known leaffolders, *Marasmia ruralis* (Walker), *Marasmia patnalis* and *Susumia exigua* (Walker).

The purpose of this list is to help rice entomologists in their research on alternate hosts and studies on the carryover of different leaffolder species from the offseason to the rice cropping season.

The list of *C. medinalis* host plants is based on a review of selected literature from 1907 to 1983. Details on the host plants include their botanical name, common English name, family, location, and recorded observation(s) based on field or laboratory.

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Table 1. Host plants (except rice) of the rice leafhopper, *Cnaphalocrocis medinalis* Guenée

Botanical Name	Host Plant Common English Name	Family	Location	Observation (s)	
				Laboratory	Field
1) Lefroy (1907)					
<i>Dicanthium annulatum</i>		Gramineae	India, Tamil Nadu		*
<i>Panicum</i> spp.	Panic-grass	Gramineae	India		*
2) Gater (1925)					
<i>Triticum vulgare</i> Vill.	Wheat	Gramineae	Malaya		*
3) Sakai et al. (1942)					
<i>Agrostis exarata</i> Trinius		Gramineae	Japan, Kagoshima	*	
<i>Agrostis matsumurae</i> Hack.		Gramineae	Japan, Kagoshima	*	
<i>Arthraxon hispidus</i> Makino		Gramineae	Japan, Kagoshima	*	
<i>Avena fatua</i> L.	Wild-oat	Gramineae	Japan, Kagoshima		*
<i>Bambusa nans</i> Roxb.					
var. <i>normalis</i> Makino		Gramineae	Japan, Kagoshima	*	
<i>Chloris</i> spp.	Finger grass	Gramineae	Japan, Kagoshima	*	
<i>Coix lacryma-jobi</i> L.	Job's tears	Gramineae	Japan, Kagoshima	*	*
<i>Cynodon dactylon</i> (L.)	Bermuda-grass	Gramineae	Japan, Kagoshima	*	
<i>Cyperus compressus</i> L.		Cyperaceae	Japan, Kagoshima	*	
<i>Cyperus microiria</i> Steudel		Cyperaceae	Japan, Kagoshima	*	
<i>Cyperus rotundus</i> L.	Coco-grass	Cyperaceae	Japan, Kagoshima	*	
<i>Digitaria ciliaris</i> (Retz.)	Fingergrass	Gramineae	Japan, Kagoshima	*	*
<i>Echinochloa utilis</i> Ohwi et Yabuno	Japanese millet	Gramineae	Japan, Kagoshima	*	
<i>Eleusine indica</i> (L.)	Goosegrass	Gramineae	Japan, Kagoshima	*	*
<i>Eragrostis multicaulis</i> Steud.		Gramineae	Japan, Kagoshima	*	
<i>Imperata cylindrica</i> (L.)	Cogon-grass	Gramineae	Japan, Kagoshima	*	*
<i>Ischaemum aristatum</i> L.		Gramineae	Japan, Kagoshima	*	

Table 1. Cont...

Botanical Name	Host Plant Common English Name	Family	Location	Observation (s)	
				Laboratory	Field
<i>Miscanthus floridulus</i> (Labill.)		Gramineae	Japan, Kagoshima	*	
<i>Miscanthus japonicus</i> Anderss.		Gramineae	Japan, Kagoshima	*	
<i>Panicum repens</i> L.		Gramineae	Japan, Kagoshima	*	*
<i>Paspalum thunbergii</i>		Gramineae	Japan, Kagoshima	*	*
<i>Phragmites communis</i> Trinius	Reed, Bog-reed	Gramineae	Japan, Kagoshima	*	
<i>Pogonatherum crinitum</i> (Thunb.)		Gramineae	Japan, Kagoshima	*	
<i>Saccharum officinarum</i> L.	Sugarcane	Gramineae	Japan, Kagoshima	*	*
<i>Setaria italica</i> (L.)	Italian millet	Gramineae	Japan, Kagoshima		*
<i>Setaria viridis</i> (L.) forma <i>misera</i>		Gramineae	Japan, Kagoshima	*	*
<i>Setaria viridis</i> (L.) var. <i>minor</i>	Pussgrass	Gramineae	Japan, Kagoshima		*
<i>Sporobolus indicus</i> R.	Smutgrass	Gramineae	Japan, Kagoshima		*
<i>Zea mays</i>	Corn	Gramineae	Japan, Kagoshima	*	
<i>Zoysia matrella</i> Merr. var. <i>tenuifolia</i> Dur. et Schiuz.		Gramineae	Japan, Kagoshima	*	
<i>Zoysia tenuifolia</i> Willd	Mascarene grass	Gramineae	Japan, Kagoshima	*	
4) Box (1953)					
<i>Saccharum officinarum</i> L.	Sugarcane	Gramineae	Mexico		*
<i>Triticum vulgare</i> Vill.	Wheat	Gramineae	Mexico		*

Table 1. Cont...

Botanical Name	Host Plant Common English Name	Family	Location	Observation (s)	
				Laboratory	Field
5) Lim (1962)					
<i>Digitaria</i> spp.	Crab grass	Gramineae	Philippines	*	
<i>Eleusine indica</i> (L.) Gaertn.	Goosegrass	Gramineae	Philippines	*	
<i>Imperata cylindrica</i> Beauv.	Cogon grass	Gramineae	Philippines		*
<i>Panicum</i> spp.	Panic grass	Gramineae	Philippines	*	
<i>Paspalum</i> spp.	Field paspalum	Gramineae	Philippines		*
<i>Saccharum officinarum</i> L.	Sugarcane	Gramineae	Philippines		*
<i>Saccharum spontaneum</i> L.		Gramineae	Philippines	*	*
<i>Setaria</i> spp.	Bristly foxtail	Gramineae	Philippines	*	
<i>Zea mays</i> L.	Corn	Gramineae	Philippines		*
6) Cendana & Calora (1964)					
<i>Saccharum officinarum</i> L.	Sugarcane	Gramineae	Philippines		*
<i>Sorghum vulgare</i> Pers.	Sorghum, Jowar	Gramineae	Philippines		*
<i>Triticum vulgare</i> Vill.	Wheat	Gramineae	Philippinea		*
<i>Zea mays</i> L.	Corn	Gramineae	Philippines		*
7) Kalra (1964)					
<i>Saccharum officinarum</i> L.	Sugarcane	Gramineae	India, Lucknow		*
8) Hasegawa et al. (1967)					
<i>Digitaria ciliaris</i> (Retz.)	Fingergrass	Gramineae	Japan		*
<i>Echinochloa crus-galli</i> Vasing		Gramineae	Japan		*

Table 1. Cont...

Botanical Name	Host Plant Common English Name	Family	Location	Observation (s)	
				Laboratory	Field
<i>Leersia sayanuka</i> Ohwi et Yabuno	Rice cutgrass	Gramineae	Japan		*
<i>Pennisetum alopecuroides</i> (L.) Sprengel		Gramineae	Japan		*
<i>Phalaris arundinacea</i> L.	Canary-reed	Gramineae	Japan		*
<i>Zizania latifolia</i> (Griseb.)	Manchurian	Gramineae	Japan		*
9) Murata et al. (1967)					
<i>Digitaria ciliaris</i> (Retz.)	Fingergrass	Gramineae	Japan, Fukuoka		*
<i>Echinochloa crus-galli</i> (L.) var. <i>crus-galli</i>	Barnyard grass	Gramineae	Japan, Fukuoka		*
<i>Echinochloa</i> spp.		Gramineae	Japan, Fukuoka		*
<i>Imperata cylindrica</i>	Cogon grass	Gramineae	Japan, Fukuoka		*
<i>Paspalum distichum</i> L.	Knotgrass	Gramineae	Japan, Fukuoka		*
10) Hattori (1986)					
<i>Avena fatua</i> L.	Wild-oat	Gramineae	Japan		
<i>Avena sativa</i> L.	Oat	Gramineae	Japan		
<i>Coix lacryma-jobi</i> L.	Job's tears	Gramineae	Japan		
<i>Digitaria ciliaris</i> (Retz.)	Fingergrass	Gramineae	Japan		
<i>Echinochloa oryzicola</i> Vasing		Gramineae	Japan		
<i>Echinochloa utilis</i> Ohwi et Yabuno	Japanese millet	Gramineae	Japan		

Table 1. Cont...

Botanical Name	Host Plant Common English Name	Family	Location	Observation (s)	
				Laboratory	Field
<i>Eleusine indica</i> (L.)	Goosegrass	Gramineae	Japan		
<i>Hordeum vulgare</i> L.	Barley	Gramineae	Japan		
<i>Imperata cylindrica</i> (L.) Gaertn.	Cogon grass	Gramineae	Japan	*	
<i>Isachne dispar</i> Trin.	Ragi, Finger millet	Gremineae	India, Bangalore	*	
<i>Leersia sayanuka</i> Ohwi et Yabuno		Gramineae	Indai, Bangalore		
<i>Penisetum alopecuroides</i> (L.) Sprengel	Rice cutgrass	Gramineae	Japan		
<i>Phalaris arundinacea</i> L.					
<i>Saccharum officinarum</i> L.	Canary-read	Gramineae	Japan		
<i>Setaria italica</i> (L.)	Sugarcane	Gramineae	Japan		
<i>Setaria viridis</i> (L.) var. minor	Italian millet	Gramineae	Japan		
<i>Triticum aestivum</i> L.	Pussgrass	Gramineae	Japan		
<i>Zizania latifolia</i> (Griseb.)	Wheat	Gramineae	Japan		
	Manchurian	Gramineae	Japan		
11) Gargav & Katiyar (1971)					
<i>Dicanthium annulatum</i>		Gramineae	India, Raipur		*
<i>Panicum</i> spp.	Panic grass	Gramineae	India, Raipur		*
<i>Pennisetum pedicellatum</i>		Gramineae	India, Bangalore		*
12) Vishakanteiah & Lingappa (1971)					
<i>Triticum vulgare</i> Vill.	Wheat	Gramineae	India, Bangalore		*

Table 1. Cont...

Botanical Name	Host Plant Common English Name	Family	Location	Observation (s)	
				Laboratory	Field
13) Lingappa (1972)					
<i>Echinochloa colona</i> var. <i>frumentacea</i> Blatt.		Gramineae	India, Bangalore		*
<i>Echinochloa crusgalli</i> (L.) Beauv.	Barnyard grass	Gramineae	India, Bangalore		*
<i>Eleusine coracana</i>					
<i>Leersia hexandra</i> Swartz.	Cutgrass, Whitegrass	Gramineae	India, Banalore	*	
<i>Pennisetum typhoides</i> Pers.	Bajra, Pearl-millet	Gramineae	India, Bangalore	*	
<i>Saccharum officinarum</i> L.	Sugarcane	Gramineae	India, Bangalore	*	
<i>Sorghum vulgare</i> Pers. (– <i>Sorghum bicolor</i> L.)	Jowar, Sorghum	Gramineae	India, Bangalore	*	
<i>Triticum vulgare</i> Vill.	Wheat	Gramineae	India, Bangalore	*	
<i>Zea mays</i> L.	Corn	Gramineae	India, Bangalore	*	
14) Tejkumar & Azam (1972)					
<i>Panicum repens</i>	Torpedo grass, Panic Panic rampant	Gramineae	India, Andhra Pradesh		*
15) Yadava et al. (1972)					
<i>Brachiaria mutica</i> (Forsk.) Stapf.	Para grass, Water grass	Gramineae	India, Orissa	*	
<i>Echinochloa colonum</i> (L.) Link	Jungle grass	Gramineae	India, Tamil Nadu	*	
<i>Echinochloa crusgalli</i> (L.) Beauv.	Barnyard grass	Gramineae	India, Cuttack	*	
<i>Echinochloa crusgalli</i>					
<i>Panicum decompositum</i>					

Table 1. Cont...

Botanical Name	Host Plant Common English Name	Family	Location	Observation (s)	
				Laboratory	Field
(Proliferum) Lam. <i>Paspalum scrobiculatum</i>	Kodo millet	Gramineae Gramineae	India, Cuttack India, Orissa	*	
16) Velusamy & Subramanian (1973)					
<i>Oryza alta</i> (hybrid <i>O. perennis</i> x <i>O. eichingeri</i>)		Gramineae	India, Coimbatore	*	
<i>Oryza eichingeri</i>		Gramineae	India, Coimbatore	*	
<i>Oryza latifolia</i>		Gramineae	India, Coimbatore	*	
<i>Oryza malampuzhaesi</i>		Gramineae	India, Coimbatore	*	
<i>Oryza perennis</i>		Gramineae	India, Coimbatore	*	
<i>Oryza subulata</i>		Gramineae	India, Coimbatore	*	
17) Vishakantaiah & Jayaramaiah (1974)					
<i>Eleusine coracana</i> Gaertn.	Ragi, Finger millet	Gramineae	India, Bangalore		*
18) Patel (1975)					
<i>Pennisetum pedicellatum</i> Trin.		Gramineae	India, Orissa		*
19) Raja & Natarajan (1976)					
<i>Paspalum scrobiculatum</i>	Kodo millet	Gramineae	India, Tamil Nadu		*
20) Veluswamy & Subramanian (1976)					
<i>Echinochloa colona</i> (L.) Link	Jungle grass	Gramineae	India, Tamil Nadu		*
21) Chen & Wang (1978)					
<i>Alopecurus aequalis</i>	Orange or short-awn foxtail	Gramineae	Taiwan		*

Table 1. Cont...

Botanical Name	Host Plant Common English Name	Family	Location	Observation (s)	
				Laboratory	Field
<i>Cynodon dactylon</i>	Bermuda-grass	Gramineae	Taiwan		*
<i>Digitaria sericea</i>		Gramineae	Taiwan		*
<i>Echinochloa crus-galli</i>	Barnyard grass	Gramineae	Taiwan		*
<i>Eleusine indica</i>	Goosegrass	Gramineae	Taiwan		*
<i>Eragrostis niwahohori</i>	Lovegrass	Gramineae	Taiwan		*
<i>Leersia hexandra</i>	Southern cutgrass	Gramineae	Taiwan		*
<i>Leptochloa chinensis</i> (L.)		Gramineae	Taiwan		*
<i>Paspalum conjugatum</i>	Sour paspalum	Gramineae	Taiwan		*
<i>Paspalum dilatatum</i>	Dallisgrass	Gramineae	Taiwan		*
22) Natarajan et al. (1978)					
<i>Leersia hexandra</i> Swartz.	Cutgrass, Whitegrass	Gramineae	India, Orissa		*
23) Sato & Kishino (1978)					
<i>Digitaria ciliaris</i> (Retz.)	Fingergrass	Gramineae	Japan, Akita	*	
24) Chang et al. (1980)					
<i>Paspalum</i> sp.	Knotgrass	Gramineae	China		*
<i>Saccharum officinarum</i> L.	Sugarcane	Gramineae	china		*
<i>Setaria italica</i> (L.)	Italian millet	Gramineae	China		*
<i>Sorghum nervosum</i> Bess.		Gramineae	China		*
<i>Triticum aestivum</i> L.	Wheat	Gramineae	China		*
<i>Zea mays</i> L.	Corn	Gramineae	China		*
25) Miyahara et al. (1981)					
<i>Paspalum</i> sp.	Knotgrass	Gramineae	Japan, Fukuoka		*

Table 1. Cont...

Botanical Name	Host Plant Common English Name	Family	Location	Observation (s)	
				Laboratory	Field
26) Miyahara (1981)					
<i>Sorghum moench</i>	Sorghum	Gramineae	Japan, Fukuoka	*	
<i>Zea mays</i>	Corn	Gramineae	Japan, Fukuoka	*	
27) Iirao (1982)					
<i>Digitaria adscendes</i> Henn.	Fingergrass	Gramineae	Japan, Fukuoka		*
<i>Eleusine indica</i> Gaertn.	Goosegrass	Gramineae	Japan, Fukuoka		*
<i>Hordeum vulgare</i> L.	Barley	Gramineae	Japan, Fukuoka		*
<i>Paspalum distichum</i> L.	Knotgrass	Gramineae	Japan, Fukuoka		*
<i>Setaria viridis</i> P. Beauv.	Pussgrass	Gramineae	Japan, Fukuoka		*
<i>Triticum aestivum</i> L.	Wheat	Gramineae	Japan, Fukuoka		*
28) Tamaki & Miyara (1983)					
<i>Echinochloa crus-galli</i>	Japanese millet	Gramineae	Japan, Okinawa		*
<i>Imperata cylindrica</i>	Cogon-grass	Gramineae	Japan, Okinawa		*
<i>Leersia hexandra</i> Seartz.	Southern cut-grass	Gramineae	Japan, Okinawa	*	
<i>Panicum repens</i> L.		Gramineae	Japan, Okinawa		*
<i>Paspalum urvillei</i> Steud.	Vasey-grass	Gramineae	Japan, Okinawa	*	*

REFERENCES

- Box, H.F. (1953). List of sugar-cane insects. A synonymic catalogue of the sugar-cane insects and mites of the world, and their insect parasites and predators, arranged systematically. 101 p. London.
- Cendana, S.M. and Calora, F.N. (1964). Insect pests of rice in Philippines. In: *The Major Insects Pests of the Rice Plant*, p. 592-595. Johns Hopkins Press, Baltimore, Maryland, U.S.A.
- Chen, C.C. and Wang, E.S. (1978). Life history of and varietal resistance in rice plant to rice leaf folder. *Bull. Taichung Dist. Agric. Improv. Stn. New Ser.* 2: 58-59. (Chinese with English summary)
- Chang, S.S., Lo, Z.C., Keng, C.G., Li, G.Z., Chen, X.L., and Wo, X.W. (1980). Studies on the migration of the rice leaf roller, *Cnaphalocrocis medinalis* Guenée. *Acta Entomol. Sin.* 23: 130-139. (Chinese)
- Gargav, V.P. and Katiyar, O.P. (1971). Host plants of *Cnaphalocrocis medinalis* Guenée and its incidence on paddy at Raipur, Madhya Pradesh. *Oryza* 8(1): 109-110.
- Gater, B.A.R. (1925). Notes on miscellaneous insects in 1924. *Malayan Agric. J.* 12(11): 374-376.
- Hasegawa, J., Murata, T., and Kawase, E. (1967). Outbreak of the rice leaf roller in 1967. *Shokubutsu-boeki (Plant Prot.)* 21: 505-508. (Japanese)
- Hattori, I. (1968). Discrimination between *Cnaphalocrocis medinalis* and *Susumia exigua*. *Shokubutsu-boeki (Plant Prot.)* 22: 167-170. (Japanese)
- Hirao, J. (1982). Ecology and chemical control of the rice leaf roller. *Japan Pestic. Inf.* 41: 14-17.
- Kalra, A.N. (1964). *Annu. Rep. Ind. Inst. Sugar Res.*, Lucknow: 130.
- Lefroy, H.M. (1907). The important insects injurious to Indian agriculture. *Mem. Dept. Agric. India* 1(2): 209.
- Lim, L.L. (1962). Biology of the rice leaf folder, *Cnaphalocrocis medinalis*. Unpublished B.S. Thesis in Entomology, University of the Philippines, College of Agriculture, Philippines.
- Lingappa, S. (1972). Bionomics of the rice leaf folders, *Cnaphalocrocis medinalis* Guenée. (Lepidoptera: Pyralidae). *Mysore J. Agric. Sci.* 6: 123-134.
- Miyahara, Y., Wada, T., and Kobayashi, M. (1981). Appearance of *Cnaphalocrocis medinalis* Guenée in early planted rice fields in Chikugo. *Jap. J. Appl. Entomol. Zool.* 25: 26-32. (Japanese with English summary)
- Miyahara, Y. (1981). Mating of *Cnaphalocrocis medinalis* Guenée (Lepidoptera: Pyralidae), with special reference to the effect of low temperature. *Jap. J. Appl. Entomol. Zool.* 25: 119-121. (Japanese)

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