



## BIBLIOGRAPHY

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1. Agrell, I. & Lindh, N.O. (1966). *Comp. Biochem. Physiol.*, 19, 691.
2. Agrell, I. (1952). *Acta Physiol. Scand.*, 28, 306.
3. Agrell, I.P.S. (1961). *Symp. Genet. Biol. Ital.*, 8 : 563.
4. Agrell, I.P.S. & Lundquist, A.M. (1973). Physiological and biochemical changes during insect development. In : "Physiology of Insecta." (Rockstein, M. ed.). Academic Press, New York and London. 1, pp. 159-248.
5. Ahmad, I., Saleemuddin, M. & Siddiqui, M. (1976). Alkaline protease in larvae of the army worm, *Spodoptera litura*. *Insect Biochem.*, 6, 501-505.
6. Akov, S. (1972). Alkaline protease in larvae of the army worm, *Spodoptera litura*. *Insect Biochem.*, 6, 501-505.
7. Akov, S.(1972). Excretion by proteolytic haematophagous insects and mite nutrition (Ed. by Rodriguez, J.G.). Biomedical Press Publishing Company Amsterdam, North Holland. pp. 531-540.
8. Applebaum, S.W. (1985). Biochemistry of Digestion. In : "Comprehensive Insect Physiology, Biochemistry and Pharmacology", (Ed. by Kerkut, A. & Gilber, L.I.) Pergamon press, New York. 4, pp 279-311.
9. Bade, M.L. (1975). *Federation Proc.*, 34, 705.
10. Baker, J.E. (1976). Properties of midgut proteases in larvae of *Attagenous megatoma* *Insect Biochem.*, 6, 1453-148.

11. Baker, J.E. (1977). Substrate specificity in the control of digestive enzymes in larvae of the black carpet beetle. *J. Insect Physiol.* 23, 749-753.
12. Bauman, P.A. (1969). *Z. Vergl. Physiol.*, 64, 212.
13. Berger, L.P. (1984). Study on the role of temperature and photoperiod in the development of the meadow, *M. separata*. *Entomologicheskoe obozrenie*, 63(3) : 425-432.
14. Bindra, O.S. & Rathore, Y.S. (1965). Chemical control of armyworm, *Pseudaletia separata* on *Sorghum valgare* at Jabalpur. *Indian J. Entomol.*, 27 : 223-224.
15. Bindra, O.S. & Singh, J. (1973). Bionomics of the armyworm, *M. separata* (Walker) (Lepidoptera : Noctuidae) at Ludiana, Punjab. *Indian J. Agric. Sci.*, 43(3) : 299-303.
16. Blackmore, D. Williams, S. & Lehane, M.J. (1995). Protein stimulation of trypsin secretion from the opaque zone midgut cells of *Stomoxys calcitrans*. 110 B (2), 301-307.
17. Bond, J.S. & Butler, P.E. (1987). Intracellular proteinases. A 56, 334-364.
18. Borror, D., Triplehorn, C.A. & Johnson, N. F. (1992). "An Introduction to the Study of Insecta". (ed.). Horcourt Brace College Publishers, New York. pp. vii & 1.
19. Briegel, H. (1975). Excretion by proteolytic enzymes by *Aedes aegypti* after blood meal. *J. Insect Physiol.*, 21, 1681-1984.
20. Bunde, D & Pepper, J. (1968). *J. Insect Physiol.*, 14, 1635.
21. Bursell, E. (1973). Development of mitochondrial and contractile components of the flight muscle in adult tsetse

- flies, *Glossina morsitans*. *J. Insect Physiol.*, **19** : 1079-1086.
22. Butani, D.K. (1955). Control of an outbreak of the armyworm (*Cirphis unipuncta*, Haw.) on sugarcane at Pusa, Bihar, India. *Indian J. Entomol.*, **17**(1) : 333-336.
23. Campos, F.A.P., Filho, J., Silva, C.P. & Ary, M.B. (1989). Resolution and partial characterization of proteinases and amylases from midguts of larvae of Archid beetle, *Callosbruchus maculatus* (F). *Comp. Biochem. Physiol.*, **9B**, 419-426
24. Candy, D.J. (1985). Intermediary metabolism. In : "Comprehensive Insect Physiology, Biochemistry and Pharmacology." (Kerkut, G.A. & Gilbert, L.I. ed.). Pergamon Press, New York. **10**, pp. 1-42.
25. Carlisle, J., Loughton, B. & Elizabeth, A. (1987). Feeding causes the appearance of a factor in the haemolymph that stimulates protein synthesis. *J. Insect Physiol.*, **33** (7), 493.
26. Chao, W.Y. (1980). A preliminary study on the sterilization of the armyworm, *M. separata* with gamma-rays. *Zoological Research*, **1**(2) : 269-273.
27. Chapman, R.F. (1969). In : "The Insects". (ed.). The English Universities Press Ltd., London. pp. 70-106, 403-422, 675-691.
28. Chaubey, S.N. & Bhatt, R.S. (1988). Changes in the levels of nucleic acid protein, total free amino and glycogen, and activity of acid phosphatase in the egg, during normal embryonic development of the rice moth, *Corcyra*

- cephalonica* Stainton (Lepidoptera : Pyralidae). *Insect Biochem.*, **18** : 443-447.
29. Chen, P. S. (1966). Amino acid and protein metabolism in insect development. In : "Advances in Insect Physiology". (Ed. by Beament, J.W.L., Treherne, J.E. & Wigglesworth, V.B.) Academic Press London and New York. 3, pp. 53-132.
30. Chen, P.S. (1971). "Biochemical Aspects of Insect Development". Karger, New York. pp. 230.
31. Chen, P.S. (1978). Protein synthesis in relation to cellular activation and deactivation. In : "Biochemistry of Insect". (Rockstein, M. ed.). Academic Press, New York and London. pp. 145-203.
32. Chen, T.S. (1979). The relation of population dynamics of the armyworm, *Lucania separata* Walker. to relative humidity and rainfall. *Acta Entomologia Sinica*, **22** : 404-412.
33. Chippendale, G.M. (1970), *J. Insect Physiol.*, 16, 1057.
34. Chippendale, G.M. (1971), *Insect biochem.*, 1, 122.
35. Christeller, J. T., Shaw, B.D., Gardiner, S.E. & Dymock. J. (1989). Partial purification and characterization of the major midgut proteases of grass grub larvae (*Costelytra zealandica*, Coleoptera :Scarabaeidae) *Insect Biochem.*, **19** (3), 221-231.
36. Clarke, J.M. & Maynard, Smith, J. (1966). Nature (London), 190, 1027.
37. Clearwater, J.R. & Sarafis, V. (1973). The secretory cycle of a gland involved in pheromone production in the noctuid moth, *Pseudaletia separata*. *J. Insect Physiol.*, **19** : 19-28.

38. Clearwater, J.R. (1972). Chemistry and function of a pheromone produced by the male of the southern armyworm, *Pseudaletia separata*. *J. Insect Physiol.*, **18** : 781-789.
39. Colombo, G. Benassi, C.A., Allegri, G. & Longo, E. (1962). Free amino acids in eggs of *Schistocerca gregaria* forsk. (Orthoptera) during development. *Comp. Biochem Physiol.*, **5**, 83-93.
40. Colombo, G., Benassi, C.A. & Allegri, G. (1961). Free amino acids in the eggs of *Schistocerca gregaria* Forsk (Orthoptera) during development. In : *Symposium of Germ cells and Development*. pp. 354-357.
41. Comstock. (1984). "An Introduction to Entomology". (ed.). Satis Book Enterprise, Agra. pp. 571-772.
42. Cusson, M., McNeil, J.N. & Tobe, S.S. (1990). *In vitro* biosynthesis of juvenile hormone by corpora allata of *Pseudaletia unipuncta* virgin females as a function of age, environmental conditions, calling behaviour and ovarian development. *J. Insect Physiol.*, **36**(2) : 139-146.
43. Dadd, R. H. (1956). Protolytic activity of the midgut in relation to feeding in the beetles, *Tenbrio molitor* L. *J. expt biol.*, **33**, 311-324.
44. Dadd, R.H. (1970). Digestion in insects. In : "Chemical Physiology" (ed. Florkin, M. & Scheer, B.T.) Academic Press New York, 5, pp. 117-145.
45. De. Bianchi, A.G. & Terra, W.R. (1976). Haemolymph protein patterns during the spinning stage and metamorphosis of *Rhynchosciara americana*. *J. Insect Physiol.*, **22**, 535.

- 46.** Delisle, J. & McNeil, J.N. (1987). Calling behaviour and pheromone titre of the true armyworm, *Pseudaletia unipuncta* (Haw.) (Lepidoptera : Noctuidae) under different temperature and photoperiodic conditions. *J. Insect Physiol.*, **33**(5) : 315-324.
- 47.** Deol, G.S., Sandhu, G.S. & Gill, K.S. (1985). Note on the estimation of the grain yield losses in wheat due to attack of armyworm, *M. separata* (Wlk.) *Indian J. Ent.*, **47**(2) : 247-248.
- 48.** Detinova, T.D. (1962). Age- grouping methods in Diptera of medical importance. World Health organization, Monographs series, No-55.
- 49.** Drake, K.J. & Harris, H.M. (1927). The control of armyworm and cutworm. *Agric. Exp. Stn. Iowa State Coll. Agric. and Mech. Arts. Circ.* No. **101** : 8 pp.
- 50.** Drake, K.J. & Harris, H.M. (1940). Controlling cutworm and armyworm. *Iowa State Coll. Agric. and Mech. Arts Extn. Bull.* No. **194** : pp. 8.
- 51.** Eguchi, M. & Iwamoto, A. (1976). Alkaline proteases in the midgut and digestive fluid of the silkworm, *Bombyx mori*. *Insect Biochem.*, **6**, 491-496.
- 52.** Elliot, R. & Gillott, C. (1979). An electrophoretic study of proteins of the ovary, fat body and haemolymph in the migratory grass hopper, *Metanoplus sanguinipes*. *J. Insect Physiol.*, **25**, 405.
- 53.** Engelmann, F. (1966). Control of intestinal proteolytic enzymes in a cockroach, *Naturwissenschaften*, **53**, 113-114.

54. Engelmann, F. (1969). Food stimulated synthesis of intestinal proteolytic enzymes in the cockroach, *Leucophaea moderae*. *J. Insect Physiol.*, 15, 217-235.
55. Fan, Z.X. Xing, W.J. & Change, W.Y. (1998). Purification and characterization of a cysteine proteinase from eggs of the cotton boll worm, *Helicoverpa armigera*. *Insect Biochem and molecular Biol.*, 28(4), 259-264.
56. Ferkovich, S.M., Greany P.D. & Dillard, D.C. (1983). Changes in haemolymph proteins of the fall army worm, *Spodoptera frugiperda* (J.E. Smith), associated with parasitism by the braconid parasitoid, *Cotesia marginiventris* (Cresson). *J. Insect Physiol.*, 29 (4), 933- 942.
57. Ferreira, C, Capella, A.N., Sitnik, R. & Terra, W.R. (1994). Properties of digestive enzymes and the permiability of the peritrophic membrane of *Spodoptera frugiperda* (Lepidoptera) larvae. *Comp. Biochem Physiol.*, 107 A (4), 631-640.
58. Fields, P.G. & McNeil, J.N. (1984). The overwintering potential of true armyworm, *M. separata* populations in Quebec. *Canadian Entomologist*, 116 (12) : 1647-1652.
59. Firling, C.E. (1977). Amino acid and protein changes in the haemolymph of developing fourth instar *Chironomus tentans* *J. Insect Physiol.*, 23, 17-2.
60. Friedel, T. & Gillott, C. (1976). Male accessory gland substance of *Melanogolus sanguinipes*. An oviposition stimulant under the control of the carpus allatum *J. Insect Physiol.*, 22, 489-495.

61. Fujita, S., Kobayashi, K. & horiuchi, S. (1989). Partial purification and characterization of cysteine proteinase from metamorphosing tadpole tails of *Rana catesbeiana*. *Comp. Biochem. Physiol.*, 94 B (4), 845-852.
62. Garcia, E. & Garcial, M.L.M. (1977). Control of protease secretion in the intestine of fifth instar larvae of *Rhodnius prolixus*. *J. Insect Physiol.*, 23, 247-251.
63. Geering & Sacher, K. (1972). Studies on digestive proteinase activity in the midgut of adult *Dysdercus fasciatus* (Hemiptera). *J. Insect Physiol.*, 18, 2071.
64. Geiger, H.R. (1961). *Revue Suisse Zool.*, 65, 583.
65. Ghosh, C.C. (1924). A note on occurrence of *Cirphis unipuncta* and role of armyworm. *Rep. Proc. V. ent. Meet. Pusa* : 90-91.
66. Giraddi, R.S. & Kulkarni, K.A. (1985). Biology of armyworm, *M. separata* (Walker) (Lepidoptera : Noctuidae) under laboratory conditions. *J. Eng. Systems*, 1 (1 & 2) : 29-37.
67. Giraddi, R.S. & Kulkarni, K.A. (1986). Sorghum varietal reaction of the armyworm, *M. Separata* (Walker) under field condition. *Mysore J. agric. Sci.*, 20(3) : 201-203.
68. Gooding, R. H. (1966). In-vitro properties of protein in the midgut of adult *Aedes ageypti* L. and fatigans (Wiedemann). *J. Insect Physiol.* 17, 115-119.
69. Gooding, R. H. (1974). Digestive processes of haematophagous insects, control of trypsin secretion in *Glossina morsitans*. *J. Insect Physiol.*, 20, 957- 964.

70. Gooding, R.H. & Huang, C.T. (1969). Trypsin and chymotrypsin from the beetle, *Pterostichus melanarius*. *J. Insect Physiol.*, 15, 339.
71. Gooding, R.H. (1972). Digestive processes of haemolymph phagous insects I. A literature review. *Quaest*, 5-60.
72. Gooding, R.H. (1975). Digestive enzymes and their control in haematophagous arthropods. *Acta Trop.* 32, 96-111.
73. Govindan, R., Awaknavar, J.S., Thippeswamy, C. & Devaiah, M.C. (1981). Incidence of jawar armyworm, *M. separata* on maize cobs. *J. of the Bombay natural history Society*, 78(2) : 412-413.
74. Graf, R. & Briegel, H. (1985). Isolation of trypsin isozymes from mosquito, *Aedes aegypti* L. *Insect Biochem.*, 15, 611 - 618.
75. Grist, D.P. & Lever, R.J.A.W. (1969). Pests of Rice. *Longmans*, London. pp. 520.
76. Hagenmaier, H.E. (1971). Purification and characterization of a trypsin like proteinase from the midgut of larva Hornet, *Vespa orientalis*. *J. Insect Physiol.*, 17, 1995.
77. Harrison, B.J. & Holliday, R. (1967). *Nature* (London) 213, 990.
78. Haulihan, D.F. & Neutan, J.R.L. (1978). Effects of protein Synthesis inhibitors on muscle growth in the puparium of *Calliphora vomitoria*. *J. Insect Physiol.*, 24, 757.
79. Hays, D.K., (1970) Electrophoretic patterns of proteins in haemolymph obtained from the adult medeira cockroach, *Leucophaqura madera* (I) during 24 hr period *comp. Biochem. Physiol.*, 34, 733.

80. Hayes, D. K., Mensing, E. & Schechter, M.S. (1970)
81. Heby, O. (1972). *Insect Biochem.*, 2, 13.
82. Henrikson, P.A. & Clever, U. (1972). Protease activity and cell death during metamorphosis in the salivary gland of *Chironomus tentans*. *J. Insect Physiol.*, 18, 1981 -2004.
83. Hirai, K. (1984). Migration of *Pseudaletia separata* : Consideration of factors affecting, time of taking off and flight period. *Applied Entomology and Zoology*, 19(4) : 422-429.
84. Holzer, H. & Heinrich, P.C. (1980). Control of Proteolysis. A. *Rev. Biochem.*, 49, 63-91.
85. Homma, K. (1997). Proteases participating in metamorphosis of fleshfly. *Tanpakushitsu kakusan koso.*, 14, 2263-2270.
86. Houlihan, D.F. (1976). Muscle growth and protein synthesis in the puparia of *Calliphora vomitoria* J. *Insect Physiol.*, 22, 165.
87. House, H.L. (1962). Insect nutrition. *A Rev. Biochem.*, 31 : 653-672.
88. House, H.L. (1965). Digestion. In: "*The Physiology of insect*" (Ed. by Rockstein, M.) Academic press, New York. 2, pp. 815-362.
89. Houseman, J. G. & Downe, A.E.R. (1982a). Characterization of on acidic proteinase from posterior midgut of *Rhodnius prolixus* stal (Hemiptera-Reduviidae), *Insect Biochem.*, 12, 651-655.

90. Houseman, J.G. & Downe, A.E.R. (1981a). Endoproteinase activity in the posterior Midgut of *Rhodnius prolixus* stal (Hemiptera -Reduviidae). *Insect Biochem.*, 11, 579-582.
91. Houseman, J.G. & Downe, A.E.R. (1982b). Identification and partial characterization of digestive proteinases from two species of budbug (Hemiptera - Cimindae). *Can. J Zoo.*, 160, 1837-1840.
92. Houseman, J.G. & Downe, A.E.R. (1983). The effects of three metabolic inhibitors on digestive proteinase production in *Rhodnius prolixus* stal (Hemiptera -Reduviidae). *Insect Biochem.*, 29(4), 317-321.
93. Housman, J.G. & Downe, A.E.R. (1980b). Endoproteinase activity in the posterior midgut of *Rhodnius prolixus* stal (Hemiptera - Reduviidae). *Insect Biochem.*, 10, 160-166.
94. Hudson, A. (1970). Factors affecting egg maturation and oviposition by auto genous in *Aedes atzopalpus*. Diptera-Culicidae. *Can. Ent.*, 102, 989.
95. Ibanez, P., Garcera, M., Alcacer, F., Conill, F. & Martinez. (1992). Characterization of vitellogenins in *Spilostethus pandurus* (Hemiptera) immunolectrophoretic studies and short term labelling experiments. *J. Insect Physiol.*, 38, (4), 267-275.
96. Ichimori, J. & Ohtomo, T. (1990). Secific protein related to adult diapause in the leaf beetle, *Gastrophysa atrocyanea*. *J. Insect Physiol.*, 36, 85.
97. Irie, K. & Yamashita, O. (1980). Changes in vitellin and other yolk proteins during embryonic development in silkworm, *Bombyx, mori.*, *J. Insect. Physiol.* 26, 811.

98. Ishaya J., Moore I. & Joseph D. (1971) Protease and amylase activity in larvae of the Egyptian cotton worm, *Spodoptera littoralis*. *J. Insect Physiol.*, 17, 945-953.
99. Jalaja, M. & Pranhu, V.K.K. (1976). Effect of the chemosterilants apholate on the ovaries of the red cotton bug, *Dysdercus cingulatus* Fabr. (Heteroptera, Pyrrhocoridae) *Entomon*, 1, 43-53.
100. Janda, V. & Krieg, P (1969). *Z. Vergl. Physiol.*, 64, 288..
101. Jindra, M. & Sehnal, F. (1989). Lrval growth, food consumption and utilization of dietary protein and energy in *Galleria mellonella*. *J. Insect Physiol.*, 35., 35, 719.
102. Joplin, K. H. & Denlinger, D. L. (1990). Developmental and tissue specific control of the heat shock induced 70 KD related proteins in the fleshfly, *Sarcophaga crassipalpis* J. *Insect Physiol.*, 36(4), 239-249.
103. Kageyama, T., Takahashi, S.Y. & Takahashi, K. (1981). Occurrence of thiol proteinase in the eggs of the silkworm, *Bombyx mori*. *J. Biochem.*, Tokyo. 90, 665-671.
104. Kalode, M.B., Prakash Rao, P.S. and Verma, A. (1972). Toxicity of some modern insecticides to paddy cutworm, *Pseudaletia separata* (Walker). *Indian J. Entomol.*, 34 : 84-85.
105. Kanda, K. (1987). Ovipositional site and egg mortality of armyworm, *M. separata* on orchard grass. *Japanese J. Appli. Ent. and Zoology*, 31(4) : 279-284.
106. Kanost, M.R., Kawaoga, J.K., Law. J.H., Ryan, R.O., Heusden, M.C. & Zerigler, r. (1990). Insect haemolymph proteins. In

- : "Adv. Insect Physiology". Academic Press. 22, pp 299-397.
- 107.** Kao, W.T. (1980). Studies on the phototactic behaviour of nocturnal moths; analysis of the causes of flight towards a lamp. *Acta Entomologica Sinica*, **23**(4) : 363-373.
- 108.** Katiyar, O.P. & Patel, R.K. (1969). Rice armyworm in Chattisgarh. *Pesticides*, **3**(10) : 39-40.
- 109.** Kaulenas (1979). *J. Insect Physiol.*, **31**, 195.
- 110.** Khamparia, D.K., Rathore, V.S., Jakhmola, S.S. & Patel, R.K. (1982). Economic threshold and economic injury level of *M. separata* on rice. *Indian J. of plant protection*, **9**(1) : 88-93.
- 111.** Khanna, S.S. (1972). "A Text book of Agricultural Entomology". (ed.). Adarsha Prakashan, Rawat para, Agra. pp. 110-112.
- 112.** Kilby, B.A. (1965). In : "Aspects of Insect Biochemistry." (Goodwin, T.W. ed.). Academic Press, New York and London. pp. 39-48.
- 113.** Kim, H.R. & Seo, F.W. (1981). *Korean J. Entomol.*, **11**, 33.
- 114.** Kitch, L.W. & Murdock, L.L. (1986). Partial characterization of a major proteinase from larvae of *Callosbruchus maculatus*. Arch. In. *Biochem. Physiol.*, **3**, 561-576.
- 115.** Krishnaiah, K. & Rai, L. (1981). Status paper on ear cutting caterpillar, *M. separata* Walker. pp. 1-18.
- 116.** Krishnaiah, K., Qayam, M.A., Rao, C.S., Reddy, P.S., Charvulu, A.M.R.R. & Kalode, M.B. (1980). Integrated pest management in rice in Warangal District, A.P. *Proc.*

*Seminar on Pest Management in Rice* held at T.N.A.U.  
Coimbatore, 30-31.

117. Kuk Meiri, S., Lichtenstein, N., Shulov, A. & Pener, P. (1966). cathepsin type proteolytic activity in the developing eggs of the migrator locust (*Locusta migratoria*: Migratorioides),, *Comp. Biochem. Physiol.*, 18, 783-795.
118. Kulkarni, K.A., Parameshwarappa, R. & Kajjari, N.B. (1977). Screening of high yielding sorghum varieties to armyworm, *M. separata* (Walker). *Mysore J. agric. Sci.*, 12 : 572-574.
119. Kulshrestha, J.P., Kalode, M.B. & Verma, A. (1970). Paddy cutworm (*Pseudaletia separata* Walker) and armyworm (*Cirphis comptata* Moore) as serious pest of high yielding variety of rice. *Oryza*, 7 : 143-145.
120. Kunkel, J. & Pan, M. (1976). Selectivity of yolk protein uptake : comparison of vitellogenins of two insects. *J. Insect Physiol.*, 22, 809.
121. Laufer, H. (1960). Blood proteins in insect development, Ann. N.Y. Acad. Sci., 89: 490-515.
122. Laufer, H. (1963). Ann. N.Y. Acad. Sci., 103, 1137.
123. Laurent, P. (1915). Armyworm plague in Philadelphia (Lep.) *Ent. News.*, 26 : 36.
124. Lehane, M.J.; Blackmore, D., Williams, S. & Moffatt, M.R. (1995). Mini Review. Regulation of digestive enzyme levels in insects. *Comp. Biochem Physiol.* 110 B (2), 285-289.
125. Lemos, F.J.A., Campos, F.A.P., Silva, C.P. & Filho, J. (1990). Proteinases and amyleases of larval midgut of Zabrotes

- subfasciatus reared on cowpea (*Vigna Ungniculata*) seeds.  
Entomol. expt. appl., 56, 219-227.
126. Lennie, R.W. & Birt, L.M. (1967). *Biochem. J.*, **102** : 338.
127. Leonardi, M. (1956). *Rend. Inst. Lomb. Sci. Lett., Ser.*, 90, 573.
128. Levenbook, L. & Krishna, J. (1971). Effect of aging on amino acid turnover and rate of protein synthesis in the blowfly, *Phormia regina*. *J. Insect Physiol.*, 17, 9-12.
129. Little, V.A. (1974). "General and Applied Entomology". (ed.). Oxford and IBH Publishing Co., New Delhi. pp. 240-317.
130. Liu, M.Y., Pan, H., Wu, D.M. & Meng, H.P. (1985). Attractiveness of synthetic sex attractants to the male moths of the armyworm, *M. separata*. *Chinese J. of Biological Control*, **1**(2) : 1-5.
131. Loughton, B.G., & West, A.S. (1965)., *J. Insect Physiol.*, 11, 919.
132. Lowry, O.H., Rosebrough, N.J., Farr, A.L. & Rondal, R.J. (1951). Protein measurement with the Folin phenol Reagent. *J. Biol. Chem.*, 193-263.
133. Ludwig, D. & Rothstein, F. (1952). *Physiol. Zool.*, 25, 263.
134. Ludwing, D. & Jones, C.R. (1964). *Ann. Entomol. Soc. Am.*, 57, 210.
135. Luo, Lizhi., Jiang, Xingfu., Li, Kebin & Hu, Yi. (1999). Influences of flight on reproductive and longavity of the oriental armyworm, *M. separata* (Walker). *Acta Entomologia Sinica*, **42**(2) .

- 6
136. Martin, M.M., Martin, J.S. & Kukor, J.J. (1981). The digestive enzymes of detritus feeding stonefly nymphs (Plecoptera; Pteronarcyidae). *Canadian J. Zool.*, 59, 1947-1951.
137. Mathur, Y.K. & Upadhyay, K.D. (1982). Field evaluation of some modern insecticides against armyworm, *M. separata* attacking paddy crop. *Indian J. of plant protection*, 9(1) : 74-77.
138. McFarland, J. & Hogan, T. (1966) *J. Insect Physiology*, 12, 1265.
139. Medina, M. & Vallejo, C. (1989). The contents of proteins, carbohydrates, lipids and DNA during embryogenesis of *Drosophila*. *Int. J. Dev. Biol.*, 33, 403-405.
140. Medina, M., Leon, P. & Vallejo, C. G. (1988). Drosophila Cathepsin B-Like Proteinase : suggested role in yolk degradation. *Arch. Biochem Biophys.*, 263, 355-363.
141. Meenakshisundaram, K. S. & Gujar, G.T. (1998). purification and characterization of gut alkaline protease from some lepidopteran larvae : *Entomon*. 23 (3), 157-166.
142. Metcalf, C.L. & Flint, W.P. (1962). "Destructive and Useful Insects". (ed.). McGraw-Hill book Co., New York. pp. 462-524.
143. Miyahara, Y. (1987). Simultaneous trap catches of the oriental armyworm and the diamond back moth during early flight season at Morioka. *Japanese J. Appl. Ent. and Zoology*, 31(2) : 138-143.
144. Moffatt, M.R., Blackmore, D. & Lehane, M.J. (1995). *Comp. Biochem. Physiol.* 110B (2), 291-300.

- 145.** Mordue, W., Goldsworthy, G.J., Brady, J. & Blaney, W.M. (1980). "Insect Physiology". (ed.). Blackwell Scientific Publication, London. pp. vii, 32-52.
- 146.** Mote, V.N. (1984). Occurrence of armyworm on rabi sorghum. *J. of Maharashtra Agricultural Universities*, **9**(2) : 230.
- 147.** Mudiwale, S.K., Men, U.B. & Borle, M.N. (1984). A record of new parasite on armyworm. *Indian J. of Entomology*, **46**(2) : 247-248.
- 148.** Muraleedharan, D. & Prabhu, V.K.K. (1978). Food intake and midgut protease activity in Red cotton bug, *Dysdercus cingulatus* Fabr. (Heteroptera - Pyrrhocoridae). *Entomon.*, **3**(1), 11-17.
- 149.** Murdock, L.L., Brookhart, G., Dunn, P.E., Foard, D.E., Kelly, S., Kitch, L., Shade, R.E., Shuckle, R.H. & Wolfson, J.L. (1987). Cysteine digestive proteinases in coleoptara. *Comp. Biochem. Physiol.*, **7B**, 783-787.
- 150.** Mycek, M.J. (1970). "Proteolytic Enzymes". (Ed. by Gertude, E. P. & Laszlo) London, 15, pp. 286.
- 151.** Nair, M.R.G.K.(1975). "Insect and mites of crops in India." (ed.). ICRI Publication. pp. 54.
- 152.** Nayar, K.K., Ananthakrishnan, T.N. & David, B.V. (1976). "General and Applied Entomology." (ed.). Tata McGraw-Hill Publishing Co. Ltd., New Delhi. pp. 224-273.
- 153.** Neelgund, Y.F. & Mathad, S.B. (1972b). Laboratory rearing and life-history of the armyworm, *Pseudaletia separata* (Walker) (Lepidoptera : Noctuidae). *J. Karn. Univ. Sci.*, **17** : 228-233.

- 154.** Neelgund, Y.F. & Mathad, S.B. (1974). Comparative studies of development of the armyworm, *Pseudaletia separata* (Walker) reared on napier grass and artificial diet. *J. Karn. Uni. Sci.*, **19** : 7-13.
- 155.** Nikam, P.K. & Gosawi, G.K. (1983). Studies on the host-age selection by *Echthromorph agrestoria notulatoria* (Fab). A parasitoid of *M. separata*. *Entomon*, **8**(4) : 393-394.
- 156.** Noda,H;Tanaka,S&Hama.H.(1984).Outbreak of armyworm, *Mythimna separate* after flooding of paddy fields. *Japanese.J.of applied Entomology and zoology*,**28**(2):94-95
- 157.** Novak, A.F., Blum, M.S., Taber, S. & Liuzzo, J.A. (1960). Separation and determination of seminal plasma and sperm amino acid of the honey bee, *Apis mellifera*. *Ann. ent. Soc. Am.*, **53** : 841-843.
- 158.** Nussenzeig, R.H., Oliveira, P.L. & Masuda, H. (1992). Identification of yolk plelet. Associated Hydrolyses in the oocytes of *Rhodnius prolixus.*, *Arch. Insect biochem Physiol.*, **21** (4), 253-262.
- 159.** Ogura, N. (1975). Hormonal control of larval colouration in the armyworm, *Leucania separata*. *J. Insect Physiol.*, **21** : 559-576.
- 160.** Oku, T. & Koyma, J. (1976). Long range migration as a possible factor causing the late summer outbreak of the oriental armyworm, *M. separata* in Tohoku district. *Jap. J. Appl. Entomol. and Zool.*, **20**(4) : 184-190.
- 161.** Oliverira. P., Gondim, K. & Guedes, D. (1986). Uptake of yolk proteins in *Rhodnius proalixus*. *J. Insect Physiol.*, **32** (10), 859.

- 162.** Pan, B.S., Lan, C. C. & hung, T.Y. (1991). Changes in composition and proteolytic enzyme activites of Artemia during early development Comp. Biochem, Physiol., 100 A (3), 725-730.
- 163.** Pant, R. & Lal, D.M. (1970). *Indian J. Biochem.*, 7, 57.
- 164.** Parker, R. (1971). Comparison of haemolymph proteins in two species of Leptinotarsa beetles. *J. Insect Physiol.*, 17, 55.
- 165.** Passonneau, J. V. & Williams, C.M. (1953). *J. Expt. Biol.*, 30, 545.
- 166.** Patel, N.G. (1971). *Insect Biochem.*, 1 : 391.
- 167.** Patel, R.K. (1980). Note on incidence and marching behaviour of rice ear-cutting caterpillar, *M. separata*. *Sci. and Culture*, 46(5) : 199-200.
- 168.** Patel, R.K., Khatri, A.K. & Chaudhari, B.S. (1981). Rice ear-cutting caterpillar, an injurious pest at panicle stage. *International Rice Research Newsletter*, 6(3) : 17.
- 169.** Patil,U.R;Savanurmath,C.J;Mathad,S.B.&Aralaguppi,P.I  
. (1988).Influence of various diets on growth,development and reproduction of the armyworm,*Mythimna (Pseudalatia)*  
*separata*(Walker)(Lepidoptera:Noctuidae).*J.Curr.Bio.Sci*;5 : 119-124
- 170.** Patil, U.R., Savanurmath, C.J., Mathad, S.B., Aralaguppi, P.I. & Ingulhalli, S.S. (1989b). Effect of Nuclear Polyhedrosis Virus on the growth, development and reproduction in surviving generation of the armyworm, *Mythimna*

- (Pseudaletia) separata* (Walker). *J. Appl. Ent.*, **108** : 527-532.
171. Pearincott, J.V. (1960). Changes in lipid content during growth and metamorphosis of the housefly, *Masca domestica* Linnaeus. *J. Cellular Comp. Physiol.*, **55** : 169-174.
172. Pernas, M., Sanchez - Monge, R., Gomez, L. & Salcedo, G. (1998). A Chestnut seed cystain differentially effective against cysteine proteinases from closely related pest. *Plant. Mol. Biol.*, **36** (6), 1235 - 1242.
173. Persaud, C.E. & Davey, K.G. (1971). The control of protease synthesis in the intestine of adults of *Rhodnius prolixus*. *J. Insect physiol.*, **17**, 1429-1440.
174. Phillips, D.R. & Loughton, G.B. (1982). Cuticle proteins in adult *Locusta migratoria* *J. Insect Physiol.*, **22**, 475.
175. Pophali, D.J., Deshmukh, P.D., Kausik, U.K., Srivastava, S.K., Patidar, G.L. & Gangrade, G.A. (1980). Assessment of yield losses caused by earcutting caterpillar, *M. separata* (Walker). *International Rice Research Newsletter*, **5** : 8-9.
176. Prabhu, V.K.K. & Nayar, K.K. (1971). Protein and free amino acid concentration in the blood and total ovarian proteins in *Dysdercus cingulatus* Fabr. (Heteroplera) during reproduction. *Comp. Biochem. and Physiol.*, **11**, 961-971.
177. Pradhan, S. (1964). In : "Entomology in India". Entomological Society of India. New Delhi. pp. 244-297.
178. Prakash, S., Peswani, K.M., Singh, D.S., Srivastava, V.S. & Rattan Lal (1969). An unusual breakup of armyworm, *M. separata* (Wlk.) at Delhi in 1969 and evaluation of

- pesticides against larvae infesting wheat. *Indian J. Ent.*, **31**(3) : 265-272.
179. Premkumar, D.R.D., Esther, P. Jane & Mathavan, S. (1991). Biochemical changes during embryonic development in the aquatic hemipteran bug, *Lacroiterphes griseus*. *Insect Biochem.*, **21** : 381-388.
180. Price, G.M. (1973). *Biol. Rev.*, **48** : 333-375.
181. Price, G.M. (1974). Acid Protease activity in blowfly, *Calliphora erythracephata*. *J. Insect. Biochem.*, **6**, 41-48.
182. Pritchett, D.W., Young, S.Y. & Geren, C.R. (1981). Proteolytic activity in the digestive fluid of larvae of *Trichoplusia ni*. *Insect Biochem.*, **11**, 525-526.
183. Puttarudraiah, M. & Usman, S. (1957). Flood cause armyworm outbreaks. *Mysore Agri. J.*, **32**(3) : 124-131.
184. Rees, H.H. (1977). Distinctive features of metabolism and homeostasis. In : "Insect Biochemistry". (ed.). Chapman and Hall Ltd., London. pp. 9-33.
185. Ribolla, P.E. & De bianchi, A.G. (1995). Processing of procathepsin from *Musca domestica* eggs. *Insect Biochem., Mol. Biol.*, **25**(9), 1011-1017.
186. Rice, S.E., Grigarick, A.A. & Way, M.O. (1982). Effects of leaf and panicle feeding by armyworm larva on rice grain yield. *J. of Economic Entomology*, **75**(4) : 593-595.
187. Richards, O.W. & Davies, R.G. (1977). In : "Imms' General Textbook of Entomology" (ed.). Chapman and Hall, London. **1**. pp. 234-262, 323-394.

- 188.** Rick, W. (1965). Chymotrypsin. In : "Methods in Enzymology". (Ed. by Colowick & Kaplan). 2, pp 800.
- 189.** Rizwi, S.M.A. & Singh, H.M. (1980). Natural enemies of paddy cutworm, *M. separata* (Wal). *Oryza*, 17(3) : 244-245.
- 190.** Robert, M. (1985). In : "Entomology". (ed.). International Books and Periodical Supply Service, New Delhi. pp. 278-338.
- 191.** Roberts, R. & Smith, H. (1971). *Annual Entomological society America.*, 64, 693.
- 192.** Rockstein, M. & Miquel, J. (1973). Aging in insects. In : "The Physiology of Insecta". (Rockstein, M. ed.). Academic Press, New York and London. 1, pp. 371-478.
- 193.** Roonwal, M.L. (1936). Phil Trans, roy. Soc. London, Ser. b. 226, 391.
- 194.** Rosenfield, A. & Vanderberg, J. P. (1998). Identification of electrophoretically separated proteases from midgut and haemolymph of adult, *Anopheles stephensi* mosquitoes. *J. Parasitol.*, 84(2), 361-365.
- 195.** Ruh, M. & Willis, J. (1974). Synthesis of blood and cuticular proteins in late pharate adults of the Cecropia silkworm. *J. Insect Physiol.*, 20, 1277.
- 196.** Russo-Caia, S. (1960). *Ric. Sci.*, 30, Suppl., No. 12.
- 197.** Sacktor, B. (1970). In : "Advances in Insect Physiology". (Beament, J.W.L., Treherne, J.E. & Wigglesworth, V.B. ed.). Academic Press, New York and London. 7, pp. 267-347.

- 198.** Saini, S.S. (1983). A brief note on outbreak of armyworm, *M. separata* (Wlk.) on wheat and oat in Punjab. *Pl. Prot. Bull.*, **33**(1) : 35.
- 199.** Sander, K., Gutzeit, H.O. & Jackle, H. (1985). Insect embryogenesis. In : "Comprehensive Insect Physiology, Biochemistry and Pharmacology". (Kerkut, G.A. & Gilber, L.I. ed.). Pergamon Press, New York. **1**, pp. 319-385.
- 200.** Sarup, P., Peswani, K.M., Singh, D.S., Shrivatsava, V.S. & Rattan Lal. (1969). An unusual outbreak of armyworm, *Pseudaletia separata* (Walker) at Delhi in 1968 and evaluation of pesticides against the larvae infesting wheat. *Indian J. Entomol.*, **31**(3) : 266-272.
- 201.** Sathpathy, J.M. (1978). Cutworm problem in rice. *Nat. Symp. for increasing rice yields in Kharif* at CRRI Cattach.
- 202.** Schmidt, G.H. & Schwakl, W. (1975). Changes in haemolymph proteins during the metamorphosis of both series and castes of polygnous, *Formica rufa*. *Comp Biochem physiol.*, **52 B**, 365-380.
- 203.** Schmutterer, H., Saxena, R.C. & Heyde, J. Vonder. (1983). Morphogenetic effect of some partially purified fractions and methanolic extracts of neem seeds on *M. separata*. *Zeitschrift fiir Angewandte Entomologie*, **95**(3) : 230-237.
- 204.** Scudder, G.G.E. (1971). The post-embryonic development of the indirect flight-muscles in *Cenocorixa bifida* (Hung.) (Hem., Corixidae). *Canad. J. Zool.*, **49** : 1387-1398.
- 205.** Sehnal, F. (1985). Growth and life cycle. In : "Comprehensive Insect Physiology, Biochemistry and Pharmacology".

- (Kerkut, G.A. and Gilbert, L.I. ed.). Pergamon Press, New York. 2, pp. 1-86.
206. Shambaugh, G.F. (1954). Protease stimulation by food in adult, *Aedes aegypti*, Linn. Ohio J. Sci., 54, 151-160.
207. Sharma, H.C. & Davies, J.G. (1983). The oriental armyworm, *M. separata* (Walk.) Distribution, Biology and Control : A literature review. Miscellaneous Report No. 53. *Centre for Overseas pest Research*, London. W8 55J, pp. 24.
208. Sinha U., Sinha A. & Shina, S. (1991). Changes in concentration of proteins carbohydrates in the developing healthy and pebrine infected embryos of tropical tasar silkworm, *Antheraea mylittad*. Indian J. Sericulture, 30, (2), 155-156.
209. Shukla, G.S. & Upadhyay, V.B. (1989). In : "Economic Zoology". Rastogi Publication, Meerut. pp. 322-384.
210. Singh, D. & Deol, G.S. (1988). Efficacy of different insecticides for the control of armyworm, *M. separata* (Walker) under field and laboratory conditions. J. Pesticide, 19-21.
211. Singh, D. & Manchanda, S.K.(1981). Severe incidence of armyworm on rye in Kashmir Valley. Sci. and Culture, 47(3) : 97-98.
212. Singh, D. & Rai, L. (1977). Bionomics of rice cutworm *M. separata* (Walker). Entomon, 2 : 141-144.
213. Singh, N.I. (1983). Armyworm outbreak on rice in northeast India. Trop. Pest Management, 31(3) : 167-185.

- 214.** Singh, R. (1987). Effect of temperature sustenance and mating in rice armyworm reproduction. *Int. Rice Res. Newsletter*, **12**(5) : 26-27.
- 215.** Skinner, D.M. (1960). *anat. Rec.*, 138, 383.
- 216.** Sliva, C.P. & Filho, J. (1991). Comparison between the levels of aspartic and cysteine proteinases of the larval midguts of *Callosobruchus maculatus* (F) and *Zabrotes subgasciatus* (BOH) *Coleoptera bruchidiae*. *Comp. Biochem. Physiol.*, 993, (3), 529-533.
- 217.** Stamm, D. (1962). *Rev. Espan. Fisiol.*, 18, 53.
- 218.** Takahashi, S.Y., Zhao, X., Kageyama, T. & Yamamoto, Y. (1992). Acid cysteine proteinase from the eggs of silkworm, *Bombyx mori* : tissue distribution, developmental changes and the sites of synthesis of the enzyme. *Insect Biochem. Mol. Biology*, 22, 369-377.
- 219.** Tembhare, (1977), *Modern Entomology* : 394
- 220.** Terra, W.R. (1988). Physiology and Biochemistry of insect digestion an evolutionary perspective. *Brazil J. Med. Biol. Res.*, 21, 675-734.
- 221.** Thangaraj, T., Manikandan, P., Rabeeth, M. & Aruchami, M. (1995). Protease mediated prophenoloxidase activation in the haemolymph of American cockroach *Periplaneta americana*. *Comp. Biochem Physiol.*, 111 B (4), 607-613
- 222.** Thayer, D. W. & Terzian, L.A. (1970). Free amino acids and related compounds in the tissues of ageing female *Aedes aegypti* mosquitoes. *J. Insect Physiol.*, 16, 1-15.

- 223.** Tojo, S., Morio, M., Agui, N. & Hiruma, K. (1985). Hormonal regulation of phase polymorphism and storage protein fluctuation in the common cutworm, *Spodoptera litura*. *J. Insect physiol.*, 31, 283.
- 224.** Tripathi, A.K., Bhattacharya, A.K. & Verma, S.K. (1982a). A note on feeding behaviour of *M. separata* (Walker) on some dicotyledonous plants. *Indian J. Ent.*, 44(3) : 285-286.
- 225.** Tripathi, A.K., Bhattacharya, A.K. & Verma, S.K. (1982b). Developmental behaviour of *M. separata* (Walker) on some monocotyledonous plants. *Indian J. Ent.*, 44(4) : 365-367.
- 226.** Tysell, B. & Butterwarth, F. (1978). Different rate of protein granules formation in the larval fat body of *D. melanogaster*. *J. Insect Physiol.*, 24, 201.
- 227.** Van der Crone-Gloor, U. (1959) *J. Insect Physiol.* 3, 50
- 228.** Verma, A. & Nath, G. (1991). Changes in haemolymph protein picture during late larval and pharate pupal stages of *Spodoptera litura* Fab. *Indian J. Entomology*, 53 (4), 597-602.
- 229.** Verma, A.N. & Khurana, A.D. (1973). Incidence of armyworm, *Pseudaletia separata* (Walker) in different dwarf wheat varieties. *Haryana Agri. Uni. J. Res.*, 1(4) : 20-23.
- 230.** Wegener, G., klaner, S. & Sauer, H. (1971). "Wilhelm Roux", *Arch Entwicklungsmech. Organismen*, 167, 118.

- 231.** Wei, X.P. (1982). Observation on the life cycle of *M. separata* and its natural enemies in Western Guangxi Zhuang Autonomous Region. *Kunchoug Zhishi*, 19(3) : 15-17.
- 232.** Whitmore, E. & Gibert, L.T. (1974). Haemolymph proteins and lipoproteins in Lepidoptera. A. comparative electrophoretic study. *Comp. Biochem. Physiol.*, 47B, 63-78.
- 233.** Whitten, J. (1968). Metamorphic changes in insects. In: "Metamorphosis". (Etkin, W. & Gilbert, L.I. ed.). Appleton-Century Crofts, New York. pp. 43-105.
- 234.** Wieman, K.F.S. & Nielsen, S.S. (1987). Isolation and partial characterization of a major gut proteinase of Chantoscelides obtectus say (Coleoptera - Brruchidae) *Comp. Biochem. Physiol.*, 9B, 419-426.
- 235.** Wigglesworth, V.B. (1972). "The Principles of Insect Physiology". (ed.). Chapman and Hall, London. pp. 593-662.
- 236.** Wilkes, S.H. & Prescott, J.M. (1976). Ameromonas Natural Protease. In : "Methods in Enzymology". (Ed. by Colowick & Kaplon) 45, pp 405-415.
- 237.** Williams, C.M. (1951). Fed. Proe., Fed. Amer. Soc. Exp. Biol., 10,546.
- 238.** Williams, K.L. & Birt, L.M. (1972). A study of the quantitative significance of protein synthesis during the metamorposis of the sheep blowfly, *Lucilia*. *Insect biochem.*, 2, 305-320.
- 239.** Wu, J.T. (1982). Distribution, seasonal occurrence and natural enemies of armyworm attacking rice in China. *International Rice Research Newsletter*, 7(2) : 9-10.

240. Wyatt, G.R., Loughheed, I.C. & Wyatt, S.S. (1956). The chemistry of insect haemolymph. Organic components of the haemolymph of the silkworm, *Bombyx mori* and two other species *J. gen. Physiol.*, 39 : 853-868.
241. Yamashita, Y. & Indrasith, L. (1988). Metabolic fates of yolk proteins during embryogenesis in arthropods. *Devl. growth diff.*, 30, 337-346.
242. Yang, Y.J. & Davies, D.M. (1968). Amylase activity in black flies and mosquitoes (Diptera). *J. Med. Ento.*, 5, 9-13.
243. Yang, Y.S. & Davies, D.M. (1971), Trypsin and chymotrypsin during methamorphosis in *Aedes aegypti* and properties of the chymotrypsin. *J. Insect Physiol.*, 17, 117-131.
244. Yano, T., Takahashi, N., Kurata, S. & Natori, S. (1995). Regulation of the expression of cathepsin B in *Sarcophaga peregrina* (Flesh fly) at the translational level during methamorphosis. *Eur. J. Biochem.*, 234(1), 39-43.
245. Zhi-qing *et al* (2008). Effects of Terpinen-4-ol Four Metabolic Enzymes and Polyphenol Oxidase (PPO) in *Mythimna separata* walker. *Scientia Agricultura Sinica*, 7(6):726-730

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