The effect of cold and boiled water extract of (*Catharanthus vinca*) in some biological (Diptera:Muscidae) performance *Musca domestica*

Zaid Saleem Khudair[1], Hadi Meziel AL-Rubaei[2]
1-College of science for women\University of Babylon/ Iraq(zaid.abbas.gsci87@student.uobabylon.edu.iq).
2-College of science for women\ University of Babylon/ Iraq

Summary :-

A series of laboratory experiments were conducted in the Insect Environment Laboratory / College of Science for women / University of Babylon from September 2021 to December 2021, and the current study aimed to study the effect of cold and boiled water extracts of *C.vinca*plant on some biological of the life performance of the house fly. *Muscadomestica*, under laboratory conditions.
This study showed that the effect of these extracts on the mortality rate of eggs, different larval instart and pupal stage stas well as the cumulative and non-cumulative mortality rates of immature stages , weights and lengths of pupa which were produced from treatment . The results showed that the cold water extract was more effective tham boiled water extract on percentage of mortality the percentage of egg was (90) % in the concentration 2% compoal with (1.4)% at control treatment . The 1st , 2nd , 3rd larval instants were (95,100,100) at concentration 2% comporal with (4,6,9) at control treatment .

Key wards: Masicadomestica, Carissa macrocarpa, Catharanthusvinca
DOINumber:10.14704/nq.2022.20.8.NQ44643 **NeuroQuantology2022;20(8):6192-6195**

The Material and Methods :

Plant specimen collection and identification

Collect samples of twigs eye Albzon *Catharanthus vinca* plant Gardens College of Science for women / University of Babylon, and in the month of July 2021, which at the flowering stage cleaned and then released to dry degree laboratory heat, stirring between the duration and the other to prevent rot, and after dry twigs and then stripped from the dry leaves and then milled using electric mill both separately, and then storing dry leaves powder in plastic bags dry and clean until use. Then plant diagnosis in the College of Science for Girls / University of Babylon by Prof. Dr. Huda Jassim Al-Tamimi was appointed as Albzon Catharanthusvinca.

Introduction

Insect fly home *M.domestica* belonging to the Muscidae family, one of the most important families . (Patrica and Claudio, 2008).

Campbell (2006) showed that this insect frequents dirt, dead animal droppings and manure, and its larvae live in the larva and enter the house fly into homes through open doors and windows and cause human problems.

Cartharanthus roseus is a plant of the oleander family Apocynaceae; Which includes 150 genera and 1700 species spread in tropical and subtropical regions of the world (Aniszewski, 2007).

C. vinca was first classified by Linnaeus in 1735 AD, and he named it Vinca rosea.

destruction of the eggs of different larval and oddball and the relationship between a positive increase in the proportion of high concentrations and the destruction of eggs and larvae of various oddball insect. It showed the highest rate of loss of the different larval phases of the insect in the concentration of 2% as recorded in most of the proportion of the loss of 100% compared with the rate of loss of control treatment, which amounted to (17%) and (12) cold and boiling water respectively to plant the eye Albzon C.vinca.

Cause the effect of cold water extract may be due to increasing the proportion of the loss compared with the boiling water extract, because cold water affects the enzymes and thus effective toxic substance remains unchanged and cause these percentages of destruction. Conform to the findings of the study with the study carried out by (behind 2013) in terms of the effect of the different active ingredient as the aqueous extract of the plant was appointed Albzon C.vinca gave effect as the percentage rate reduction Bayoudh The results of the statistical analysis of the existence of significant differences between the treatments indicated may be due effect CAS to its entry into the eggs when dipped extracts and thus the death of eggs attributed the effect of water. as well as extracts on the larva as causing an imbalance in the physiological functions and overlap with some of the vital systems of the larva.

The effect of cold boiled water extract of the plant was appointed Albzon in the proportion of the loss of the different larval phases of an insect fly home may be due to the effect of these extracts in the efficiency of feed conversion of larvae or being anti-feed material and thus will cause Amntaa larvae feeding, which led to their death (Ouxtan 0.1972) and Dahr the first larval stage more effective to increase the proportion of the loss compared with the rest of the other oddball larval this is due to the lack of thickness Alkyotichael in the first larval stage, which led to the entry of toxic enzymes to the active devices in the larva and led to their death (Aldczla. 1982).

Insect collection and breeding method

Adult of *Musca domestica* collected from one of the areas in the province of Babylon, during the month of September of 2021 by standard insects networkthen transferred to cages breeding the insect where followed the method of Abdel-Fattah (1989) . Reared insect temperature (30 + -1) ° m and the proportion of 20-30% moisture collected eggs that were obtained and in feeding dishes by soft brush and was then transferred to a plastic tray container feeder industrial center record by way of Abdul (1989) .

Characterized the larval and adult oddball males and females based on pont (1973) and Abu Love (1979) has been diagnosed with the insect confirmed at the Natural History Museum of the University of Baghdad as *M.domestica*.

Preparation of aqueous extracts

Water extract cold boiled leaves for*Catharanthus vinca* according attended the method of Al-Mansour (1995) modified for Harborne (1973) after some modulations from us by increasing the period of recovery to 24 hours instead of half an hour to get the best extraction and Ofer amount of active ingredient , was extraction by taking 20 g of dry leaves powder two plants under study both separately and described in a glass bottle volumetric capacity (500 ml) and add them 200 ml of distilled water cold for half an hour, then let the mixture (extract) for 24 hours to get the best extraction and Ofer amount of activecomponds . substance after the provisions of close it to him to enter the impurities and exotic materials, then nominated extracted using two layers of gauze cloth and took the filtrate and neglected the deposit and put filtrate in the centrifuge at 3000 rev / min for ten minutes to take filtrate in pots and wide surface in the electric furnace temperature (40-45) ° m for the purpose of drying, then put them extraction time and stored in the refrigerator until use.

Results and discussion :

Table (1) and (2)shawed that the effect of the concentration of boiling water extract of the plant was appointed *C.vinca* on the

Table (1) Effect ofconcentrations for cold water extract of *C. vinca* on mortality rates of immature stages of *M.domestica*.

Extract Concentrations %	Egg mortality rate	Material rate of 1st larval instar	Material rate of 2nd larval instar	Material rate of 3rd larval instar	Pupo
0 (cotrol)	1.2	4	8	11	17
0.25	30	45	55	100	100
0.5	45	50	65	100	100
1	50	55	70	100	100
2	60	65	75	100	100

L.S.D. at level 0.05for eggs =2.6
L.S D at level 0.05for larval instar =3.4
L.S D at level 0.05 for pupo =1.6

Table (2) Effect of the concentrations forboiled water extract of *C.vinca* on martaluy rates*of M.domestica*.

Extract Concentrations %	Egg mortality rate	Material rate of 1st larval instar	Material rate of 2nd larval instar	Material rate of 3rd larval instar	Pupo
0	1.4	4	6	9	12
0.25	40	55	65	75	100
0.5	75	80	85	100	100
1	80	85	95	100	100
2	90	95	100	100	100

L.S.D. at level 0.05 for eggs= 4.2
L.S D at level 0.05 for larval instar=5.02
L.S D at level 0.05 for pupo=1.4

Refrences :

- Michael, W. D. and Larish, L. B. (2003). Housefly insect pests Livestock Management Insect pests. 10 10. University of Hawaii.
- Pont, A. C. (1973). Muscidae pp. 252-269. In Smith, K. G. V. 1973. Insect and other arthroped of medical importance. Trustces of British Museum (natural History) pp. 561.
- Harborne, J. B. (1973). Phytochemical method. Halsted press. John Wiley and Sons New Yourk . 278 pp.
- Van der Heijden, R. ; Jacobs, D. I. ; Snoeijer, W. ; Hallard, D. and Verpoorte, R. (2004). The *Catharanthus alkaloids*: Pharmcognosy and biotechnology. Curr. Med. Chem., 11:607-628.
- Joy, P. P. ; Thomas, J. ; Mathew, S. ; Skaria, B. P. (1998). Medicinal plants. Kerala
- Peter, B. (2013). The Biology and Lifacycles of common files on Livestock Operation-IPM coordinator. Perennia. 1-4pp.
- Patrica, L. S. and Claudio, S. F. (2008). Housefly *Musca domestica* L. Chilean. Journal of Agriculture Research. 68:192-197.
- Campbell. B. (2006). Housefly control Guide. University of Nebraska Lincol, Instituted of Agriculture and natural Resources. G 958. 2 p.
- Kalang, I. M. (2001). Plant eztraction and utilization of their product for safe agriculture production and for reduction environmental pollution. Plant production Dept. Faculty of Agriculture, Zagazig. University Egypt.

Agricultural University, Aromatic and Medicinal Plants Research Station, pp. 42-43.

- Al-Azzawi, Abdullah Falih. (1980). General and applied entomology. The first edition, Al-Zahra Press, Baghdad 428-431.
- Abdel Fattah, Nihad Mustafa. (1989). The effect of fixed and mutual temperature and relative humidity in the growth and survival and reproduction house fly Musca domestica. Master Thesis, Faculty of Science / Baghdad University. 85 pages.
- Mansour, Nasser Abdul Ali. (1995). Effect of different plant extracts from deer horn Ibicella lalutea in the disease of life of the white fly Bemisa tabaci doctoral thesis - Faculty of Science / University of Basra. 121 pages.
- Abu love, Jalil cream. (1979). Medical and veterinary insects in Iraq (theoretical part). Faculty of Agriculture / University of Baghdad. 450 pages.
- Saleh, Mustafa Suleiman. (1998). Medicinal and veterinary insects. Victory Press / Alexandria. Knowledge House for Publishing. 423 pages.
- Al-Zarkani, Naseer Jawad Kazem (2004). Comparative anatomical and phenotypic study of some species of the oleander family Apocynaceae in Iraq, Master's thesis, College of Science, University of Kufa.