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by Mohamad Agus Salim

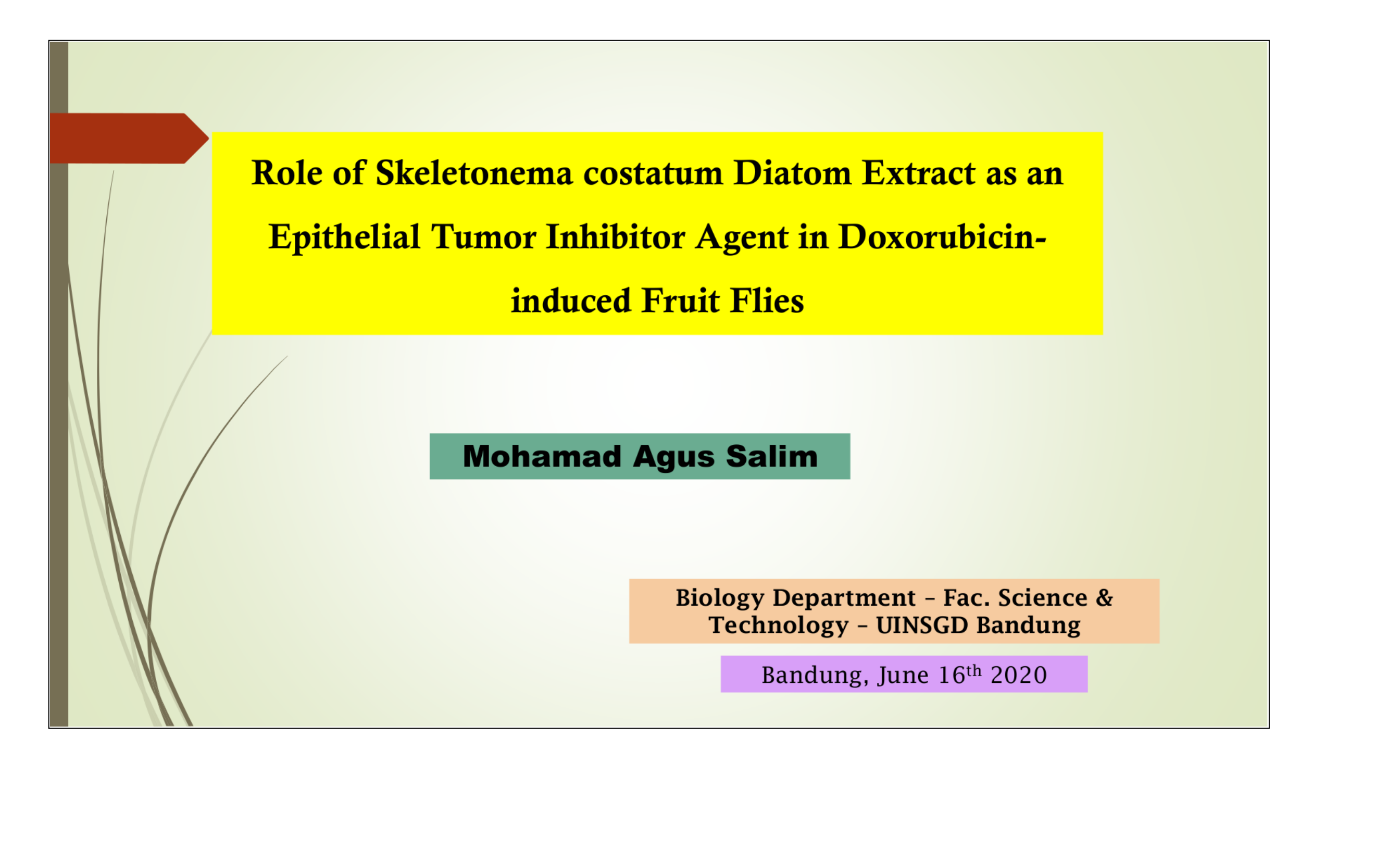
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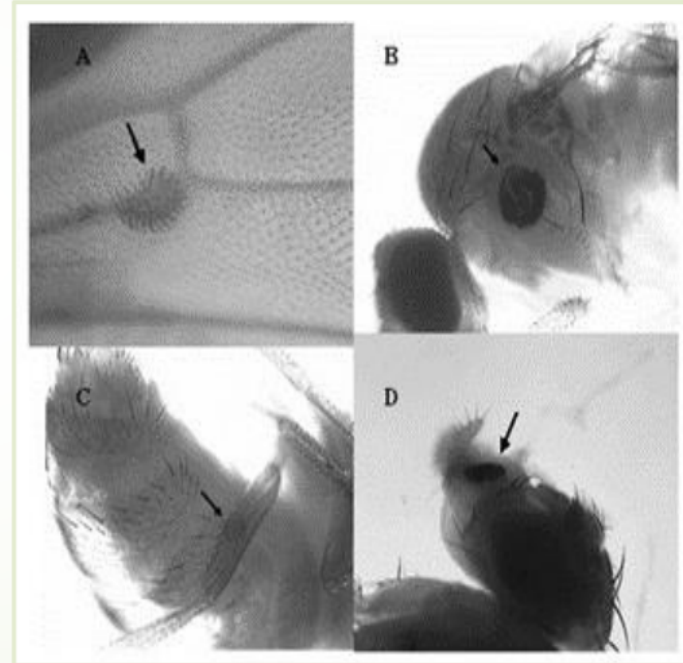
**Role of *Skeletonema costatum* Diatom Extract as an
Epithelial Tumor Inhibitor Agent in Doxorubicin-
induced Fruit Flies**

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Technology - UINSGD Bandung**

Bandung, June 16th 2020

Epitelial tumor = skin Tumor

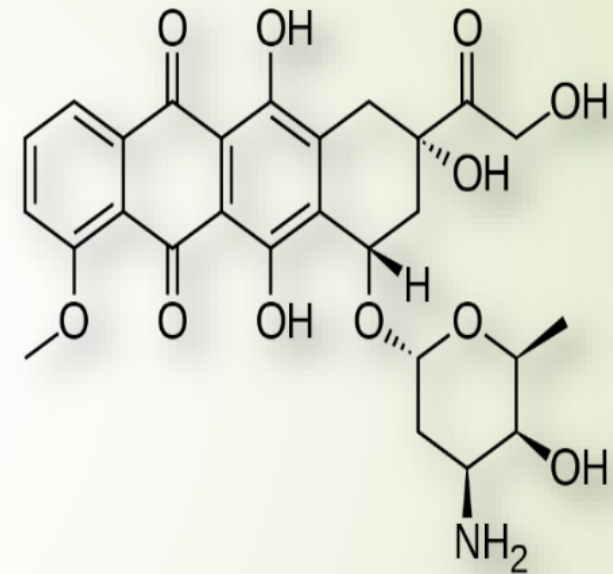




Skeletonema costatum



Doxorubicin



Doxorubicin has cytotoxic side effects that affect DNA directly.

Treatment

Ekstrak
S. costatum (mg/ml)

DXR (mM)

0

0

Negative control

Positive control

0

0,4

0,2

0

0,6

0

1,0

0

0,2

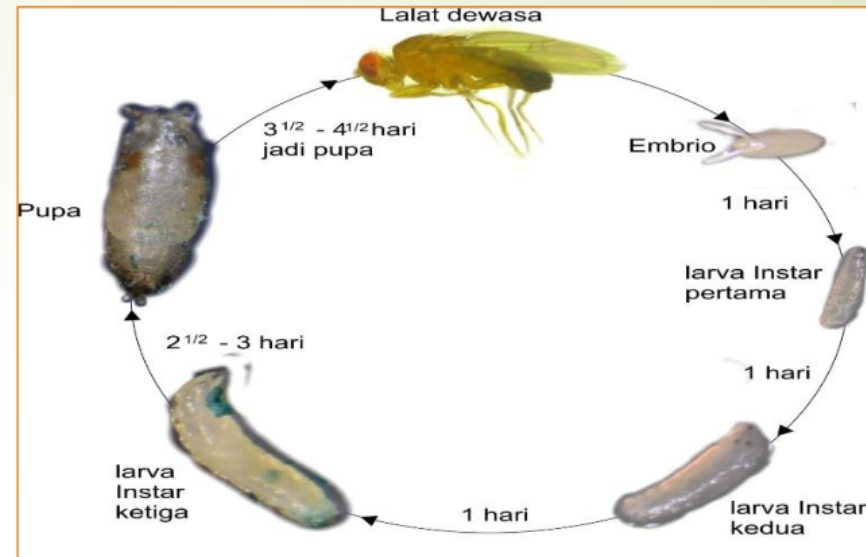
0,4

0,6

0,4

1,0

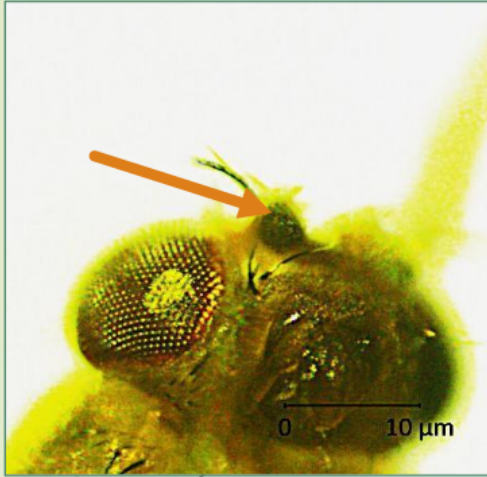
0,4



observation:
Number, frequency and position of
epithelial tumors

Treatment		Number of fruit fly	Number of nodule					Total	Frequency
S. costatum extract (mg/mL)	DXR (mM)		Eye	Head	Wing	Body	Leg		
0	0	60	0	0	4	3	1	8	0,13
0	0,4	60	2	5	28	15	8	58	0,97*
0,2	0	60	0	4	3	0	0	7	0,11
0,6	0	60	0	0	2	1	1	4	0,07
1,0	0	60	0	0	3	1	1	5	0,08
0,2	0,4	60	1	1	5	5	2	14	0,23**
0,6	0,4	60	0	0	6	5	1	12	0,20**
1,0	0,4	60	0	1	7	4	0	12	0,20**

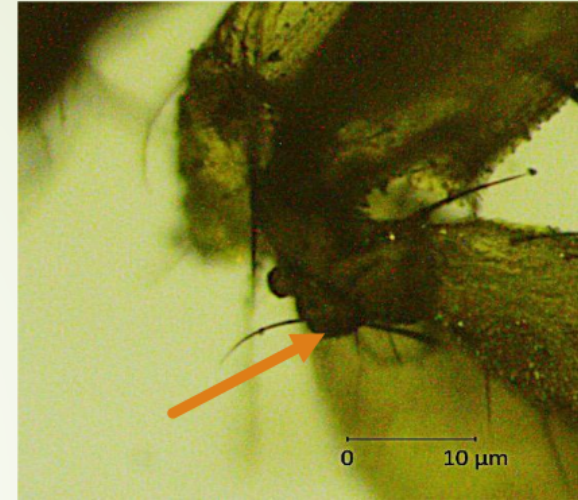
Data analysis used the Mann-Whitney test. Significance level $\alpha = 0.05$. *Significantly different from the negative control (5% ethanol, $P < 0.05$). ** significantly different from the positive control (0.4 mM, $P < 0.05$).



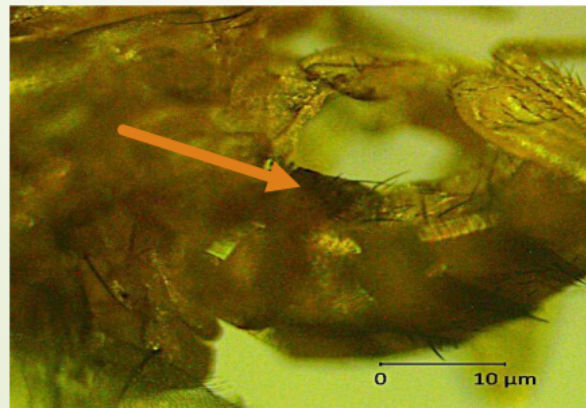
head



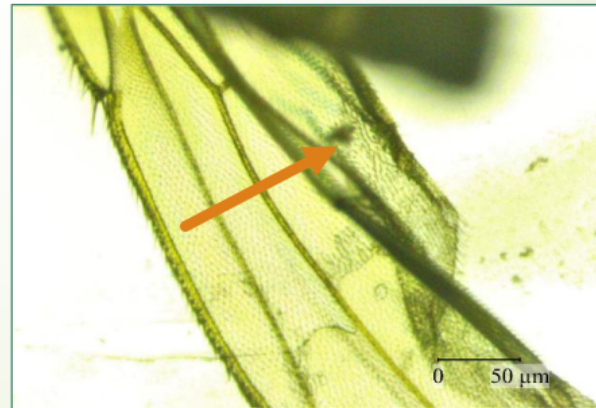
Torax



leg



abdomen



wing



Conclusion

The conclusion of this study, skin tumors in *Drosophila melanogaster* can be reduced by *Skeletonema costatum* diatom extracts. For further research, the content of these bioactive diatom compounds which function to inhibit the development of skin tumors is analyzed.



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2

W.F. Costa, A.B. Oliveira, J.C. Nepomuceno. "Lapachol as an epithelial tumor inhibitor agent in Drosophila melanogaster heterozygote for tumor suppressor gene wts", Genetics and Molecular Research, 2011

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