



## INTISARI

Penelitian ini dilakukan untuk mengevaluasi kadar kadmium, timah hitam, kalsium dan seng pada sarang burung walet putih yang berasal dari gedung dan sarang burung walet hitam yang berasal dari gua.

Duapuluh sampel sarang burung walet terdiri dari 10 sampel sarang burung walet putih asal dari gedung dan 10 sampel sarang burung walet hitam asal dari gua digunakan sebagai sampel dalam penelitian ini. Sampel sarang walet dibagi dua kelompok yang belum dicuci dan kelompok yang telah dicuci untuk kemudian dianalisis kadar kadmium, timah hitam, kalsium dan seng dengan metode *Atomic Absorption Spectrophotometry/ AAS*. Pemeriksaan kadar dari sampel tersebut dilakukan di Laboratorium Kimia Analitik jurusan FMIPA UGM. Data dianalisis dengan uji t-Test dengan tingkat keyakinan 95% atau  $\alpha = 0,05$ .

Hasil penelitian ini menunjukkan bahwa tidak ada perbedaan yang nyata ( $P > 0,05$ ) antara kadar kadmium, timah hitam, kalsium dan seng pada sampel sarang burung walet asal gedung dan gua. Dengan rata-rata kadar Cd, Pb, Ca dan Zn sebelum dicuci pada sarang walet putih sebesar  $0,746 \pm 0,130$  ppm;  $6,128 \pm 0,912$  ppm;  $26110 \pm 5478$  ppm dan  $13029 \pm 3179$  ppm. Pada sarang walet hitam rata-rata kadar sebesar  $0,714 \pm 0,183$  ppm;  $6,898 \pm 1,071$  ppm;  $23731 \pm 4173$  ppm dan  $9987 \pm 2163$  ppm. Rata-rata kadar kadmium, timah hitam, kalsium dan seng setelah dicuci terjadi penurunan yang nyata ( $P < 0,05$ ). Proses pencucian sarang walet dapat menurunkan kandungan kadmium dan timah hitam.

Dari hasil penelitian ini dapat disimpulkan bahwa sarang burung walet asal gedung dan gua telah terkontaminasi polutan kadmium dan timah hitam.





## ABSTRACT

The research was accomplished to evaluate levels of cadmium, lead, calcium and zinc on nests of white swallows that originated from buildings and black swallows from caves.

Twenty samples of swallow nests consisted from 10 samples of white swallow nests from buildings and 10 samples of black swallow nests from cave were applied as samples in the research. The samples of swallow nest were divided into two groups that had not been washed and a group that had been washed to be analyzed later of their cadmium, lead, calcium and zinc contents by means of *Atomic Absorption Spectrophotometry/ AAS*. The contents assay of the sample was carried out in Analytic Chemical laboratory of FMIPA UGM department. The data was analyzed by means of t-Test with a confidence level of 95% or  $\alpha = 0.05$ .

The research results indicated that there were no significant differences ( $P > 0.05$ ) among levels of cadmium, lead, calcium and zinc on samples of swallow nests from buildings and caves. With the pre-washing average contents of Cd, Pb, Ca and Zn on white swallow nests were  $0,746 \pm 0,130$  ppm;  $6,128 \pm 0,912$  ppm;  $26110 \pm 5478$  ppm and  $13029 \pm 3179$  ppm, respectively. On black swallows, the average contents were  $0,714 \pm 0,183$  ppm;  $6,898 \pm 1,071$  ppm;  $23731 \pm 4173$  ppm and  $9987 \pm 2163$  ppm, respectively. The average post-washing contents of cadmium, lead, calcium and zinc experienced a real decline ( $P < 0.05$ ). Washing processes of swallow nests could lessen levels of cadmium and lead.

It could be concluded based on research results that swallow nests from buildings and caves had been contaminated with pollutants of cadmium and lead.