

AKUMULASI MERKURI PADA BURUNG BLEKOK SAWAH (*Ardeola Speciosa*  
Horsfield, 1821) DAN MANGSANYA DI DANAU TALIWANG, SUMBAWA  
BARAT, NUSA TENGGARA BARAT

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Inti Sari

Danau Taliwang di Sumbawa Barat, Nusa Tenggara Barat diduga tercemar oleh logam merkuri (Hg) yang berasal dari aktivitas penambangan emas tradisional yang berlokasi di sekitar danau. Merkuri dalam sedimen danau mengalami metilasi oleh bakteri pereduksi asam sulfat yang selanjutnya masuk dalam rantai makanan. Riset ini merupakan studi akumulasi merkuri pada burung blekok sawah (*Ardeola speciosa*) dan mangsanya di Danau Taliwang. Penelitian dilaksanakan pada bulan Januari hingga Maret 2018. Burung blekok sawah ditangkap dikawasan danau secara *random sampling*, diambil jaringan darah, bulu dan feses. Mangsa burung blekok sawah berupa ikan nila (*Oreochromis niloticus*) dan anggang-anggang (*Gerris sp*) juga ditangkap, serta mencuplik air dan sedimen masing-masing di daerah inlet (stasiun1) dan outlet (stasiun2). Penentuan kadar merkuri pada sampel digunakan alat LA-254 *mercury analyzer*. Hasil penelitian menunjukkan bahwa konsentrasi merkuri tertinggi terdapat di bulu, diikuti oleh feses dan darah, dengan konsentrasi  $948,09 \pm 224,29$ ,  $143 \pm 79,72$ ,  $178,5 \pm 79,64 \mu\text{g kg}^{-1}$ . Pada mangsa, konsentrasi tertinggi terdapat pada hati ikan nila, diikuti oleh anggang-anggang dengan konsentrasi  $99,5 \pm 33,7$ ,  $79,8 \pm 38,8 \mu\text{g kg}^{-1}$ . Sedangkan di lingkungan, konsentrasi tertinggi merkuri terdapat dalam sedimen, diikuti oleh air, dengan konsentrasi  $291 \pm 180 \mu\text{g kg}^{-1}$ ,  $0,96 \pm 0,39 \mu\text{g L}^{-1}$ . Nilai biomagnifikasi pada burung blekok sawah tergolong rendah, yaitu 4,25 (blekok sawah-ikan nila) dan 5,25 (blekok sawah-anggang-anggang). Uji korelasi menunjukkan bahwa darah dan feses dapat digunakan sebagai alat monitoring pencemaran merkuri.

Kata kunci: Danau Lebo, Tambang emas tradisioanl, limbah merkuri, burung blekok sawah (*Ardeola speciosa*), bioindikator.

MERCURY ACCUMULATION IN JAPAN POND HERON (*Ardeola Speciosa*  
Horsfield, 1821) AND ITS PREY IN LAKE TALIWANG, WEST SUMBAWA,  
WEST NUSA TENGGARA

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Abstract

Lake Taliwang in West Sumbawa, West Nusa Tenggara allegedly contaminated by mercury (Hg) derived from traditional gold mining activities located around the lake. Mercury in sediment undergoes methylation by sulfuric acid reduction bacteria which subsequently enters the food chain. This research were study the accumulation of mercury in Japan pond heron (*Ardeola speciosa*) and its prey on Lake Taliwang. The study was conducted from January to March 2018. Japan pond heron were caught in lake by random sampling, then taken blood, hair and feces. Prey, such as nile tilapia (*Oreochromis niloticus*) and water striders (*Gerris sp*) were also captured, also water and sediment were collect in each inlet area (site 1) and outlet (site 2). Determination of mercury levels in sample were used the LA-254 mercury analyzer. Results showed that the highest concentrations of mercury were in feather, followed by feces and blood, with concentrations of  $948.09 \pm 224.29$ ,  $143 \pm 79.72$ ,  $178.5 \pm 79.64 \mu\text{g kg}^{-1}$ . In prey, the highest concentrations were found in liver of nile tilapia, followed by water striders, with concentration of  $99.5 \pm 33.7$ ,  $79.8 \pm 38.8 \mu\text{g kg}^{-1}$ . While in the environment, the highest concentrations of mercury were in sediment, followed by water, with concentration of  $291 \pm 180 \mu\text{g kg}^{-1}$ ,  $0.96 \pm 0.39 \mu\text{g L}^{-1}$ . The biomagnification value was relatively low, that is 4.25 (Japan Pond Heron-nile tilapia) and and 5.25 (Japan pond heron-Water strider). The correlation test showed that blood and feces could be used as a mercury pollution monitoring tool.

Key words: Lake Taliwang, Mercury waste, Japan pond heron (*Ardeola speciosa*), bioindicator, traditional mining.