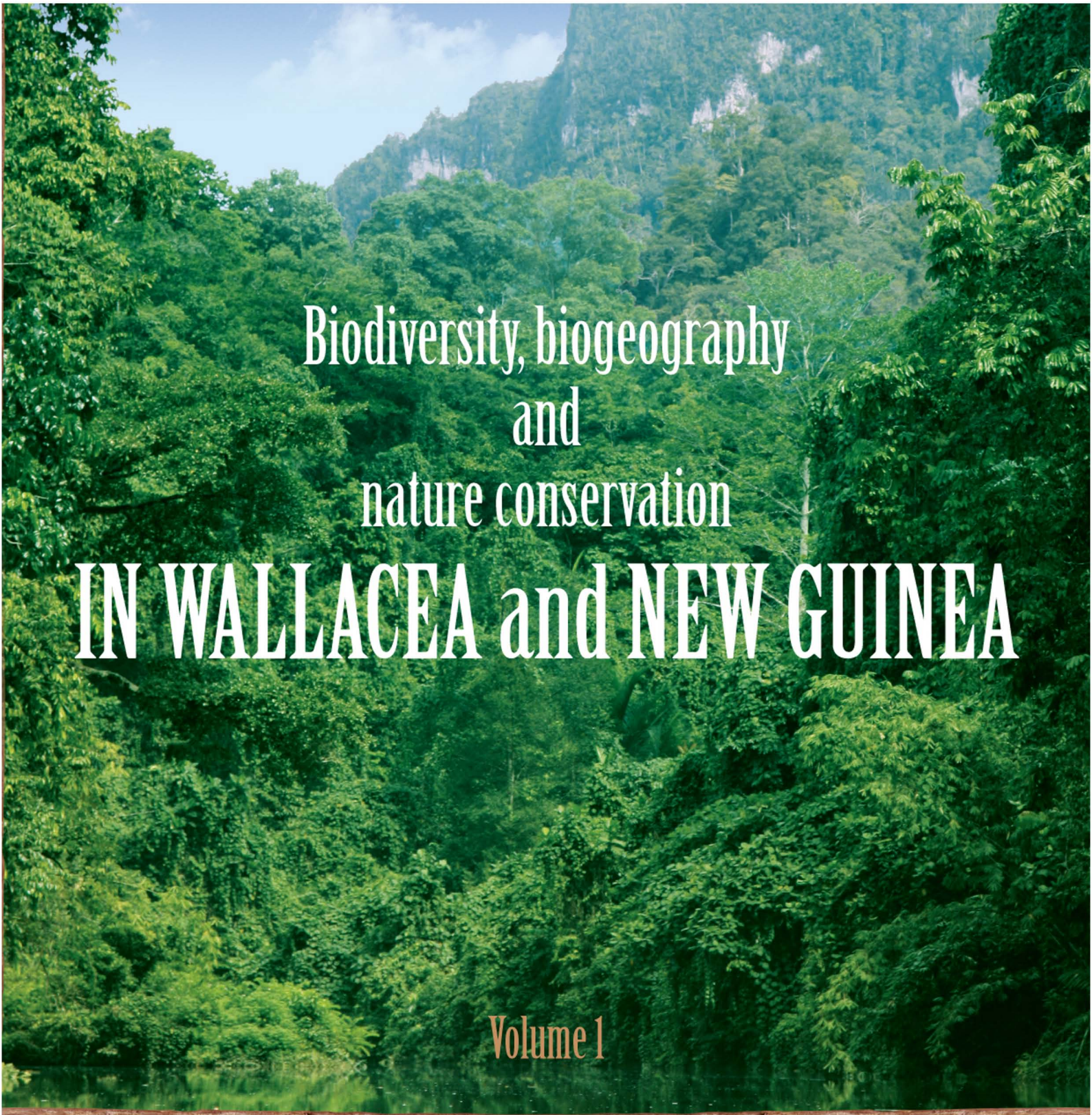

Biodiversity, biogeography and nature conservation IN WALLACEA and NEW GUINEA

Volume 1

executive editor
Dmitry Telnov

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Biodiversity, biogeography and nature conservation in WALLACEA and NEW GUINEA

Volume I

edited by Dmitry Telnov, *PhD.*

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.... origins of Philippine biodiversity is well developed (Heaney 1986; 1998; 1999; 2000; 2004; Heaney et al. 1990; 1998; 2005). The results of molecular biogeographic studies on mammals support the earlier predictions on colonization and *in situ* diversification (Steppan et al. 2003). In describing the biogeography of the region, terrestrial biogeographers have built upon the equilibrium theory of island biogeography (Macarthur et al. 1967).

Luzon's biogography has been described by Merill (1923) when he identified the following floral regions or subprovinces (Fig. 5). These are the 1) Eastern Luzon-Bicol peninsula region, 2) Luzon lowlands, 3) Central Cordillera, 4) Zambales mountains. Merill describes Mindanao by delineating the island into its floral subprovinces which include 1) Eastern Mindanao, 2) Bukidnon-Kitanglad Highlands, 3) Zamboanga Peninsula and 4) Sulu Archipelago.

A biogeography of Mindanao is key to understanding the origins of the eastern Philippine biota and its phylogenetic affinity and connection with Sulawesi, the Maluku islands and New Guinea. This biotic region extends to eastern Luzon. Dickerson (1927) observed that the eastern region of the Philippines has a general climate characteristic and physiography. It is worth noting that the national icon of Philippine biodiversity, the Philippine Eagle (*Pithecophaga jefferyi*) ranges from Mindanao to northeastern Luzon but is not recorded from Luzon's Bicol peninsula.

Dickerson et al. (1928) and Merill (1923) delineates the eastern Philippines (including northeastern Luzon, Bicol, Samar, and Leyte) and Mindanao floristic region as "Philippine" for it has a high percentage of endemics. The other floristic regions are the Bornean and Formosan (Himalayan) based on its affinities to continental Asia. However, Mindanao can be further classified into subregions due the presence numerous pockets of endemism in the central plateau and the Bukidnon highlands. This highland region contains some herbaceous plants of northern affinity.

Merill (1923) despite the lack of botanical records for the eastern Philippines recognizes this region as the distinct Eastern Philippine province. Among the hypotheses he proposed to account for this is the presence of a non distinct dry season and the mainly mountainous habitat of the eastern Philippine seaboard. The eastern side of Mindanao is also called as the "Eastern Mindanao Corridor". Aside from the eastern Philippine characteristic of Mindanao, the western section defined by the Zamboanga Peninsula has a striking botanical affinity to Borneo. This area roughly corresponds to the microcontinental fragment that accreted with the rest ....

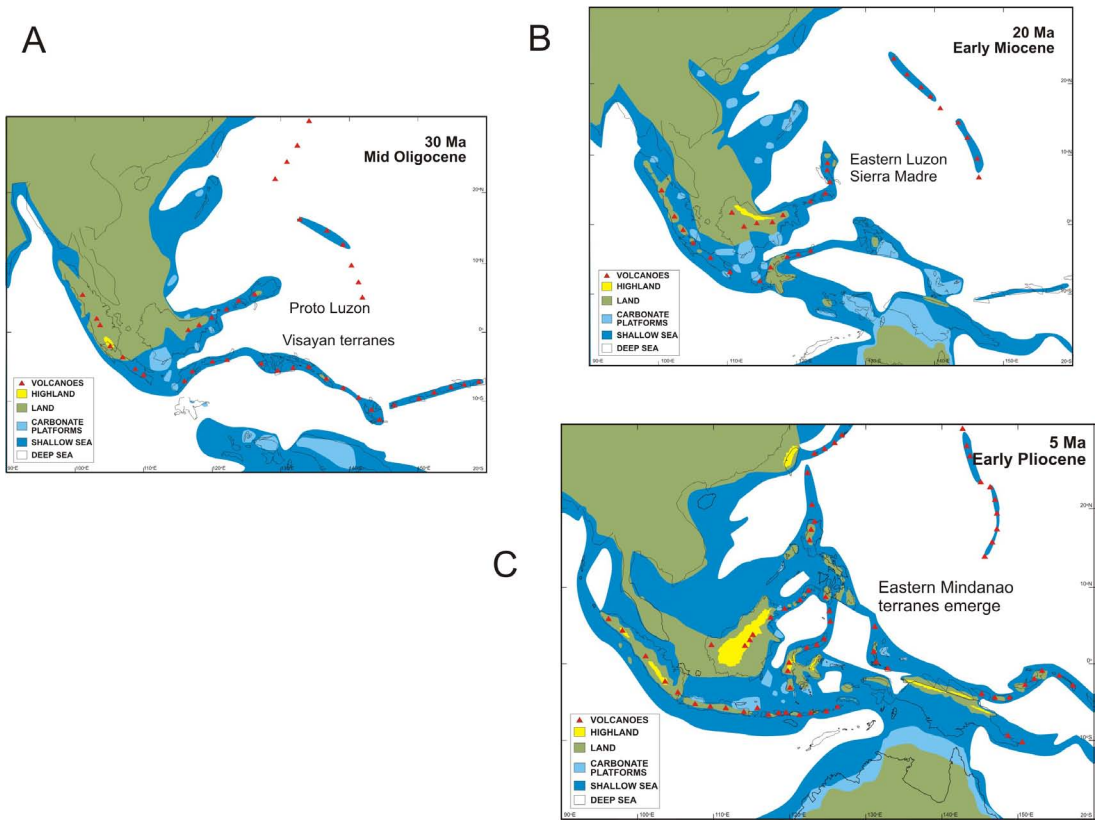

Figure 3. Tectonic evolution of the Philippines.
The oldest island is Luzon while the youngest terranes are found in Mindanao (adapted from Hall 1996).

Figure 1. *Castiarina sedlaceki* Barker, 1988 from Mt. Kaindi (2300 m), the second known specimen (photo: U.Nylander).

Figure 2. Hitherto undescribed *Metataenia* species from Pawamanga village, Watut (photo: U.Nylander).

Figure 3. *Calodema longitarsis* Nylander, 2008 is only known by holotype specimen from Kerowagi (photo: U.Nylander).

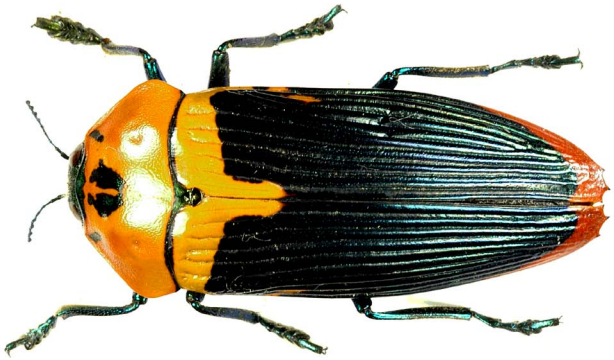

Figure 4. *Calodema mariettae* Nylander, 1993, holotype specimen from Aseki (photo: U.Nylander).

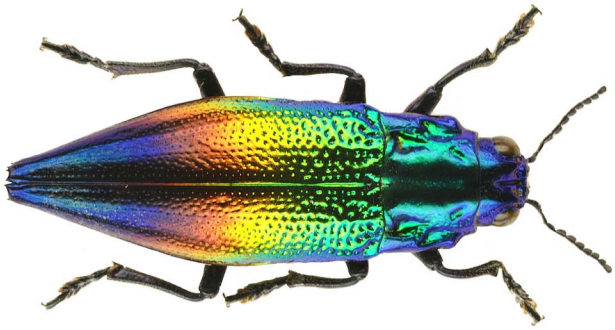

Figure 5. *Cyphogastara haidanae* Théry, 1923 from Gomemoa village, Garaina district, Morobe (photo: U.Nylander).

Figure 6. *Castiarina shelleybarkeri* Nylander, 2006 is only known by holotype specimen (photo: U.Nylander).

SAMPLE PLATE 2

Figures 1-6. *Ditropopsis fultoni* E.A.Smith, 1897, aberrant specimen from between Kokas and Goras, NE Onin peninsula (West New Guinea), with atrophied peripheral carina.

1: shell (lateral view with aperture); 2: shell (top view); 3: shell (bottom view); 4: operculum (internally); 5: operculum (externally); 6: operculum (laterally).