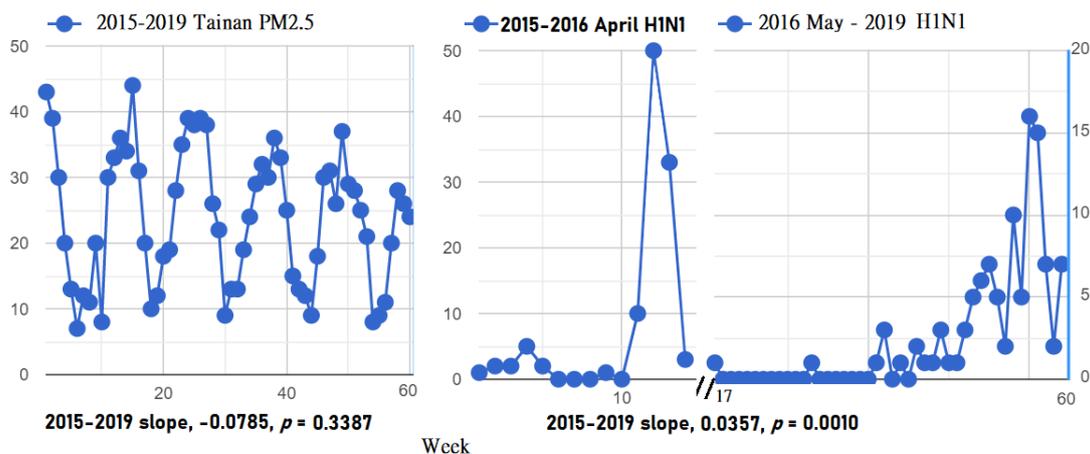
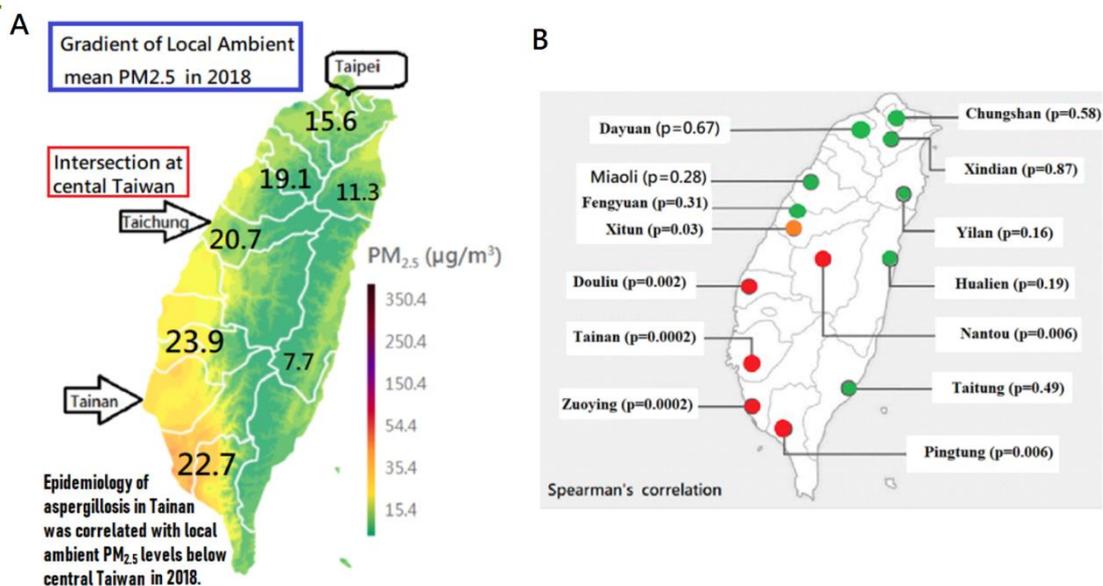


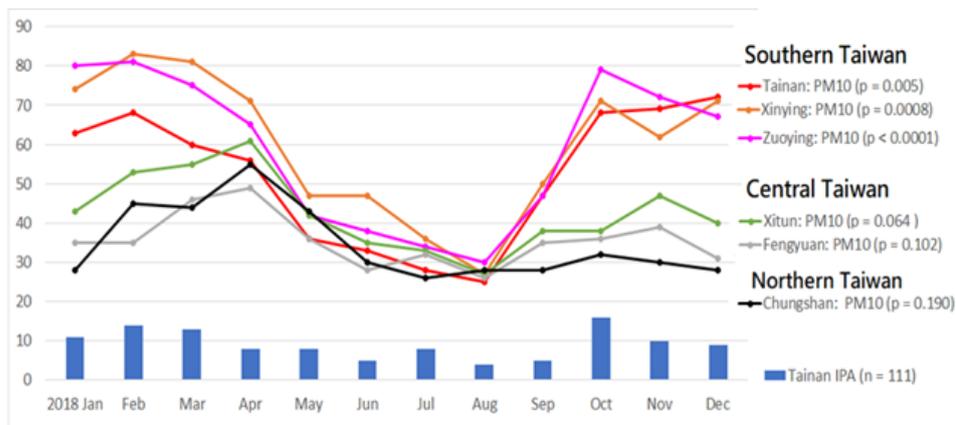
Supplement figures



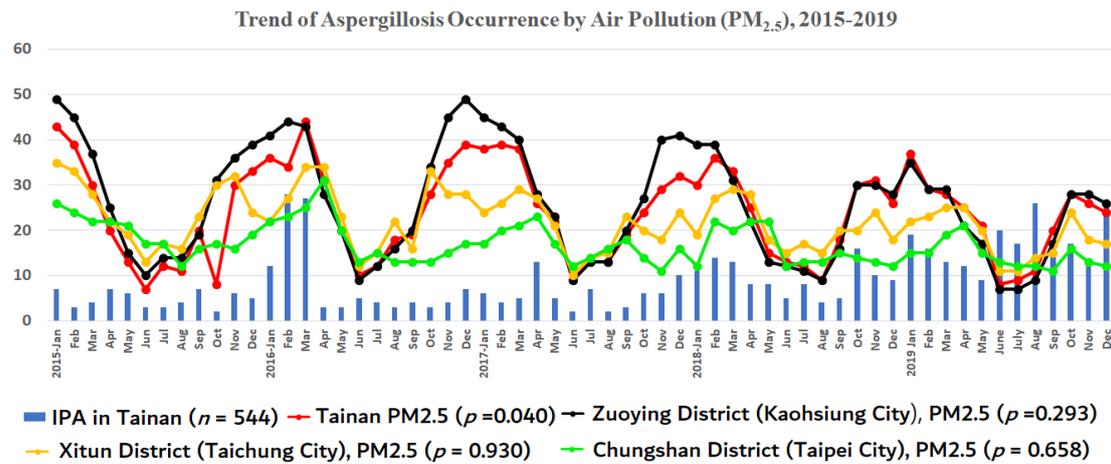
Supplementary Figure 1: The secular trend (2015-2019) of PM_{2.5} (monthly average) in Tainan City (left) decreased but was statistically insignificant ($p = 0.3387$). In contrast, the trend of monthly cases of influenza A (H1N1) in the Chi Mei medical systems (right) significantly increased (slope, 0.0357; $p = 0.001$).



Supplementary Figure 2: A: Gradient of annually local ambient mean PM_{2.5} levels in 2018, increasing from northern to southern Taiwan. Epidemiology of aspergillosis in Tainan City was correlated with local ambient mean PM_{2.5} levels higher than 20 µg/m³ in areas south to central Taiwan. **B:** Tainan IPA in 2018 is significantly correlated with the local PM_{2.5} pollution (Tainan and Zuoying) in southern Taiwan, but not correlated with PM_{2.5} pollution in distant areas, like northern and eastern Taiwan, with an interface at central Taiwan between Xitun and Fengyuan districts.



Supplementary Figure 3: In 2018, Tainan IPA (cases/month) in Tainan City is significantly correlated with PM₁₀ (μg/m³) at cities in southern Taiwan using Spearman’s correlation calculation, including Tainan west-central area ($p = 0.005$), Xinying ($p = 0.0008$), and Zuoying ($p < 0.0001$), but not related to distant areas in central Taiwan, such as Xitun ($p = 0.064$) and Fenyuan ($p = 0.102$) and in northern Taiwan, such as Taipei Chongshan district ($p = 0.190$). The vertical axis represents monthly case number for Tainan IPA and also for monthly average concentrations of PM₁₀ of various areas.



Supplementary Figure 4: From 2015 to 2019, Tainan IPA monthly cases (blue bar) are positive correlated to local PM_{2.5} (μg/m³) curve in Tainan (red), but there is no statistically significant correlation of Tainan IPA with PM_{2.5} in distant areas, including Zuoying district of Kaohsiung City (black), Xitun district of Taichung City (yellow) and Chungshan District of Taipei City (green). The p values represent Spearman’s correlation calculation between Tainan IPA and PM_{2.5} of each area in various city.