

## Supplementary Materials

**Table S1.** Specimens with COI sequences analyzed and their GenBank accession numbers

Scientific name	Catalog no.	Collection date	Locality	Coordinates	Specimen number	GenBank accession no.
<i>Ptenothrix taiwanensis</i> sp. nov.	R	7 May, 2022	New Taipei City, Xindian Dist., Changfu Temple	24.91491, 121.53243	3	R1: PP600785 R2: PP600795 R3: PP600797
	O	27 February, 2022	Nantou County, Ren'ai Township, Huisun Forest Recreation Area	24.091399, 121.032213	1	PP600793
	AW	20 November, 2021	Taipei City, Shilin Dist., Juansi waterfall	-	1	PP600779
	ABA	18 May, 2022	Taoyuan City, Fuxing Township	24.81154, 121.36181	1	PP600778
	ABG	18 May, 2022	Hsinchu County, Syakaro National Trail	-	2	ABG3: PP600792 ABG4: PP600786
	ABJ	28 May, 2022	Keelung City, Anle Dist., Lover's Lake Park	25.164782, 121.712243	2	ABJ1: PP600784 ABJ2: PP600798
	ABU	14 January, 2021	New Taipei City, Shuangxi District, Tamsui-Kavalan Trails	-	2	ABU1: PP600780 ABU2: PP600776
	ABY	12 June, 2022	Taipei City, Wehshan Dist., Xianjiyan	24.991533, 121.545344	2	ABY1: PP600794 ABY2: PP600788

ACM	30 June, 2022	New Taipei City, Shuangxi District, Sandiaoling Waterfall Trail	25.059616, 121.819656	2	ACM1: PP600791 ACM2: PP600783
ADX	17 September, 2022	New Taipei City, Sanzhi Dist., Datun Nature Park	25.18756, 121.522621	1	ADX1: PP600787
AEA	18 September, 2022	New Taipei City, Xindian District, Hemeishan Hiking Trail	24.95702, 121.53499	2	AEA1: PP600773 AEA2: PP600775
AEB	2 October, 2022	Yilan County, Yuanshan Township	24.729243, 121.690965	1	AEB1: PP600781
AEH	1 October, 2022	Yilan County, Datong Township	24.619015, 121.679917	2	AEH1: PP600777 AEH2: PP600796
AEI	23 September, 2022	Keelung City, Anle Dist., Lover's Lake Park	25.159123, 121.704894	2	AEI1: PP600789 AEI2: PP600782
107	14 September – 2 October, 2021	Yilan County, Yuanshan Township, Fushan Botanical Garden	24.7634, 121.5849	1	PP600774
<i>Ptenothrix matsuensis</i> sp.nov.	AAA 30 April, 2022	Lienchiang County, Nangan Township, Siwei Rd.	26.173417 119.917225	1	PP600803
	AFV 25 May, 2023	Lienchiang County, Nangan Township, Siwei Rd.	26.173417, 119.917225	2	AFV1: PP600800 AFV2: PP600801
	AFY 25 May, 2023	Lienchiang County, Nangan Township, Motianling (Skyscraper Ridge) Trail	26.161192, 119.953177	2	AFY1: PP600802 AFY2: PP600799
	AX 20 November, 2021	Taipei City, Shilin Dist., Juansi waterfall	-	1	PP600811

<i>Ptenothrix corynophora</i>	AAQ	30 October, 2021	New Taipei City, Sanzhi District, Datunxi Historical Trail	25.20463, 121.52661	3	AAQ1: PP600813 AAQ2: PP600814 AAQ3: PP600824
	AAW	5 May, 2022	Taipei City, National Taiwan University	25.01442, 121.53989	1	PP600819
	AAX	21 November, 2021	New Taipei City, Shuangxi District, Sandiaoling Waterfall Trail	25.060567, 121.818749	1	PP600815
	ABF	7 May, 2022	Nantou County, Ren'ai Township, Yuangfeng	24.1214, 121.2435	1	PP600820
	ADA	27 July, 2022	Miaoli County, Tai'an Township, Daxue Mountain	24.249203, 120.988528	1	ADA2: PP600822
	ADC	26 July, 2022	Miaoli County, Tai'an Township, Daxue Mountain	24.249203, 120.988528	3	ADC1: PP600812 ADC2: PP600818 ADC3: PP600816
	ADG	7 May–10 July, 2022	Nantou County, Ren'ai Township, Yuangfeng	24.116808, 121.24028	3	ADG1: PP600823 ADG2: PP600817 ADG3: PP600821
	ADP	5–7 August, 2022	Pingtung County, Chunri township, Tahanshan	22.413879, 120.729789	1	ADP1: PP600810
<i>Ptenothrix monochroma</i>	AAJ	12–19 December, 2021	New Taipei City, Wulai District, Xinxian trail	24.840707, 121.540743	1	PP600825
	ABW	12 June, 2022	Taipei City, Wehshan Dist., Xianjiyan	24.991533, 121.545344	1	ABW1: PP600826

	ADF	27 July, 2022	Miaoli County, Tai'an Township, Daxue Mountain	24.260552, 121.001792	2	ADF1: PP600827 ADF2: PP600828
<i>Papirioides jacobsoni</i>	AP	11 March, 2022	Tainan City, Dongshan District	23.27399367 ,	1	PP600833
	AAZ	31 October, 2021	New Taipei City, Wulai District, Honghe Valley Trail	120.5134757 24.882141, 121.536299	1	PP600835
	ACN	30 June, 2022	New Taipei City, Shuangxi District, Sandiaoling Waterfall Trail	25.059616, 121.819656	1	PP600831
	ABZ	19 December, 2021	New Taipei City, Wulai District, Xinxian Trail	24.840739, 121.540912	2	ABZ1: PQ036843 ABZ2: PQ036842
<i>Papirioides caishijiensis</i>	AC	26 December, 2021	Taipei City, Neihu District, Bihu trail	25.088557, 121.593628	1	PP600836