



THE GEOLOGICAL SOCIETY OF HONG KONG Special Report, June 2014

The GSHK Professional Branch had just organised a field excursion to Taiwan Penghu. Penghu is such a unique place with extraordinary geological features. Thanks to Miss Carina Khan, she has kindly written the new piece of 'impressions' report for us.

Paul Cheung

Taiwan Penghu Impressions:

23-27 May 2014

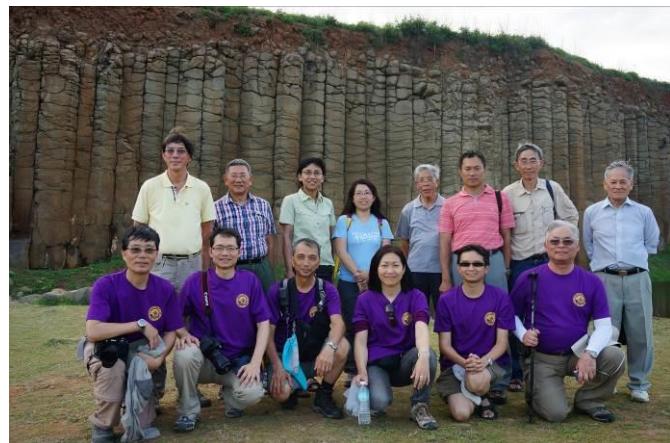
by Carina Khan

When I first heard there would be a GSHK trip to Penghu - this time organised by the Professional Branch - AND we would be accompanied by two local geologists, I immediately jumped to the idea. Although I had already been to Penghu with the GSHK once six years ago, I was so impressed and had such a memorable time that, without hesitation, I wanted to go again! As always, I like going on field trips with the GSHK - not only is the choice of itinerary special, it is the members - some professional geologists, some not (like me), whose enthusiasm always make these trips so much fun and enjoyable.

There was actually an aside to this field trip. Another group member, Teresa and I decided to extend our expedition while in Taiwan, so the two of us made a side trip and visited Alishan (阿里山) for three days before joining the rest of the group for Penghu. As our Alishan excursion was officially outside of the GSHK trip proper, I have left it out of this article. As a teaser though, that experience was equally memorable which I can certainly elaborate more if anyone is interested.

So back to Penghu. Overall, to my surprise actually, the overlaps with last time were minimal. Penghu may be small in terms of land area, but it is an

archipelago of some 90 islands, thus offering a diverse choice of sites to visit. In fact, choosing which islands to focus on was not an easy task. As it turned out, even for an island which we had been to last time - Tongpanyu (桶盤嶼) for instance, there were new findings, which made the experience an entirely refreshing one for those who went before (the other member who had been last time was Felix) and certainly an eye opener for those who visited for the first time.



Day 1: 23 May

Hong Kong 香港 - Kaohsiung 高雄 - Magong 馬公

Living up to any GSHK trip, excitement started right from Day 1. While Teresa and I made it on time to the Kaohsiung Airport from Alishan, the rest of our group who departed from Hong Kong in the morning, followed by a site visit to the post Typhoon Morakot reconstruction work at the Pingtung County (屏東縣)[1], really had us on our toes as they still had not made it to the airport when it was well past our agreed check-in time. The two of us tried to assure the airline staff at the check-in counter that the rest of the group would turn up any time. The begging worked and the staff were indeed kind enough to make an exception and waited for us right up to

4:40pm when the scheduled departure time was 5:00pm! Had we missed that flight, we would have had to wait till the following day (or later) for our next connection to Magong! We made it. It was with excitement as each of us boarded the TransAsia flight as we finally embarked on our trip to Penghu.

[1] The visit was to Wutai Valley Bridge (霧台谷川大橋) and the Reconstruction Area of the Linali tribe (禮納里部落) as a result of the massively destructive Morakot Typhoon (莫拉克颱風) which occurred in 2009. Our visit was reported by the Central News Agency of Taiwan (中央通訊社).

Day 2: 24 May

Magong South Rim 馬公南環線 : Qingwan 青灣 - Fenggui Cave 風櫃洞 - Shanshui Beach 山水沙灘 - Penghu Marine Geoparks Centre 澎湖海洋地質公園中心 - Penghu Aquarium 澎湖水族館 - Fireworks Festival 花火節

Our first morning at Penghu started with a sumptuous breakfast, local style - Chinese pancake and doughnut with either hot soya milk or black rice drink. It is hard to explain to anyone who has not tried it to fully appreciate how such a simple staple can be so delicious, and it is not even a local Penghu specialty per se! We have to thank Fion for the suggestion and our local guide, affectionately known as Da Bing (黃秉群), to bring the take-out to our group at the hotel. Stomachs satisfied, we were ready to start our exploration of Magong island. Qingwan (青灣), on the south coast, gave us a first taste of the many basalt column structures that are so plentiful on these islands. Further on as we approached the tip of the peninsular, we reached Fenggui Cave (風櫃洞), a narrow sea-carved gutter with a sea arch at the end. It was a perfect setting to listen to the splendid sounds of sea waves. We then moved onto Shanshui beach (山水沙灘), more a tourist spot for those looking for the sun and sea. Although none of us rushed to take a dip - despite Mr

Lai told us he had his swimming trunks ready - some of us did have some fun getting our feet wet, albeit for a short while.

We spent a considerable amount of time next at the Penghu Marine Geoparks Centre. Apart from taking in the rather resourceful information that the centre displayed, we had a long discussion on how horizontal basalt columnar joints were formed when lava first cooled. Our guide was especially impressed with us, our passion - how we could spend more than two hours at the centre when most of his other guests would not even spend more than 20 minutes there. He repeatedly pointed out throughout our trip in fact, that not only did he learn new information on his hometown from us, it was because of us that he had the opportunity to visit many sites for the first time!



We then proceeded onto the Penghu Aquarium at Baisha (白沙) where we spent the remainder of our afternoon, before coming back to the main island for dinner at Zhongzheng Road (中正路). The evening highlight was the once-a-year fireworks display (火花節) which took place just outside of the Guanyin Temple (觀音亭) overlooking the Shiying Bridge (西瀛虹橋). It was a perfect ending for our first full day on the islands.

Day 3: 25 May

Aqua Farm 海洋牧場 - Baisha 白沙: Zhongtun Wind Farm 中屯風力發電園 - Xiyu 西嶼: Xiaomen Geological Museum 小門地質博物館 - Whale Cave 鯨魚洞 - Daguoye Basalt 大菓葉玄武岩

Today's highlight was to meet up with our local geologists, Dr Chu Hao Tsu (朱倣祖博士) and Mr Yan I-Chin (顏一勤). This trip was really made possible by the generous help of Dr Chu of the National Taiwan University, a good friend of KS Lam and Paul Cheung. Mr Yan, a former student of Dr Chu, is a local geologist based in Penghu, who currently is doing mapping work for the governmental Geological Survey. We are grateful to the both of them as they gave us valuable insights for the remainder of our trip.

Our morning was therefore rather relaxed, first visiting an aqua farm, followed by historic sites in Magong city, including the well known Mazu Temple (媽祖廟) and the Four-Eyed Well (四眼井). After meeting up with Dr Chu and Mr Yan, we set off to Baisha and first stopped by the Zhongtun wind farm, before moving on to Xiyu (西嶼) and visited the Xiaomen Geological Museum and the Whale Cave (鯨魚洞). Essentially, the main islands of Magong, Baisha and Xiyu, where over 90% of Penghu's population reside, are connected by two landbridges. The next two townships, namely Wangan (望安) and Qimei (七美), both of which we would be visiting the following day, are further away and are only accessible by sea or by air.

The day ended with a perfect stop at Daguoye (大菓葉), a near flawless, straight basalt columnar joints formation on the east coast of Xiyu. Our best group photo was indeed taken here.



Day 4: 26 May

The South Seas : Wangan 望安 (Dongyuping Islet 東嶼坪嶼) - Qimei 七美 (Twin-Hearts Stone Weir 雙心石滬) - Tongpan Island 桶盤嶼/ Lotus Pedestal 蓮花座

I must say today was the highlight of the trip for me as it was finally our full day out at sea to explore the different islands of the archipelago. Certainly no trip to Penghu is complete without an exploration trip on the boat. Sure enough, this excursion to the southern seas had more than lived up to my expectations.

We headed out south and first passed by Hujing Islet (虎井嶼) on our right. Soon after, the main island of Wangan (望安) appeared on the horizon. Coincidentally, our local geologist Mr Yan actually grew up on this very island, to the leeward side on the west, to be exact. Although it is not so far in terms of sea distance, it is nonetheless a rather remote place and he told us if he had to travel from his hometown at Wangan to Magong, where he currently lives now, it still takes about an hour by boat! I just savoured the thought of knowing someone from a remote village on Wangan in Penghu and pondered the thought of how different our lifestyles must have been when we were growing

up... We made a landing on Dongyuping (東嶼坪嶼), an islet of the Wangan group of islands. Here we observed layers of deposits where we could clearly see seashells and other marine fossils including sea urchins like sand dollars.

Our sea journey continued on to Qimei (七美) or the Seven Beauties, in the southernmost part of the Penghu group of islands. It was rather exciting for me to visit Qimei as we didn't actually make it this far last time. There were more basalt column formations on the island of different shapes, sizes and orientation, twisting and turning, resulting in some names as far-fetched as one's imagination would allow - the Great Stone Lion and Crouching Dragon (大獅龍埕), Little Taiwan (an abrasion platform shaped like Taiwan) and the like. But perhaps the most famous picture that people associate Penghu with, besides its many beautiful basalt formations, is the romantically shaped Twin-Hearts Stone Weir of Qimei (雙心石滬). Stone weirs were used by the early settlers of the islands as a way to trap fish in retreating tides. Not only were they rare as you don't find so many of them anywhere in the world, it showed the innovativeness of the early fishermen of the islands.



The best was actually left till last, as we made our last stop at Tongpanyu (桶盤嶼), or more specifically to the Lotus Pedestal Crater (蓮花座) on the south-western coast of Tongpanyu. We were



grateful to our senior member Mr Lai again, who insisted that if we had to make one landing, it had to be the Lotus Pedestal which he wanted to check out. The Pedestal is in fact an ancient volcanic crater. As it rests more or less at sea level, we could only walk on it at low tide. That was no issue as Kin checked the tide tables. Tongpanyu itself is already rather well known and photographed with its striking basalt columnar joints imposing an impressive sight all around the island. However, the icing on the cake was in fact the ancient volcanic crater. Even we missed exploring it the last time we came 6 years ago. When we approached the centre of what is now a sea eroded platform, walking on rocks which emerged as a result of the low tide, between the pools of seawater, exposed were some spectacular and unexpected findings (to me anyway). What we saw was an amazingly rich ecosystem of marine life right in front of our eyes - corals, fishes, crabs, starfish, you name it. I never imagined I could see in such close distance, eye to eye, this display of marine life which otherwise only snorkelling would reveal. I was astounded.

Day 5: 27 May

The North Seas: Tiezhan Island 鐵砧嶼 - Yuanbei Island - 員貝嶼 - Kaohsiung 高雄 - Hong Kong 香港

We continued our venture out to the seas on our last day at Penghu, this time to the north. As we only had half a day before we were to head to the airport, we had to make do with making our observations staying on the boat with no landings. The key highlights were the countless birds that we saw across the sky as we approached Tiezhanyu (鐵砧嶼), creating quite a scene for bird lovers and photographers alike. Another interesting feature of this island was a large sea cave where boats could literally steer right into it. Further north, we approached Yuanbeiyu (員貝嶼). Here, the Pleated Skirt Rock (員貝嶼百褶裙), as it is curiously known, is very much a page taken out of a text book, illustrating how different basalt column patterns can form, depending on cooling conditions and the topography surrounding the lava at the time of cooling. In this case it was a fan-shaped formation, a classic illustration no less.



Time flew by without us noticing and the time had come when we finally had to say goodbye to Penghu. We expressed our heartfelt thanks to both Dr Chu and Mr Yan for their generosity in making our trip possible and so much more educational and

delightful. As our trip was finally drawing to an end when we reluctantly headed to the Magong airport, we all had on our faces glorious smiles - not only did we have fun, the unforgettable experience and knowledge gained would be cherished in our hearts for many years to come. If you were to ask me if I would come again for a third time, my answer is still a resounding yes. That is how much I have been enchanted by this fascinating group of islands on planet earth called Penghu.

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