

## ***Bending with the Winds of Change***

***By David Butler***

Orchid growers in the Sydney region will remember the days when hot northwesters were replaced in the late afternoon by roaring southerly busters. As these winds became less frequent orchid growers found other ways of helping their cool-growing orchids recover from the heat of the day. These days, the changing climate will again test each grower's resilience, as explained in the carefully researched article "**Is Sydney getting too warm for our *Sarcochilus* orchids?**" by Yin and Sau-wan Chan (The Orchidophile April 2019). Anecdotal evidence certainly seems to support their findings and that temperature rise, making life increasingly uncomfortable for our *Sarcs*, is here to stay. I suppose this is a rallying call to *Sarcochilus* growers in the Sydney area to keep feeling positive and enjoying the hobby. In my case, ever-increasing summer temperatures coaxed me into action, the steps taken being to adjust my cultural methods, including installation of an overhead misting system, additional to the existing sprinklers, and changing the colour of the overhead shade cloth from green to stone. This has done wonders, so far, in coping with climate change, and the *Sarcochilus* plants continue to grow and flower normally. The following comments may be of help to fellow growers:

### **Natural Climates**

In the wild, orchids have adapted to a wide range of environments, extending from the Arctic Circle where winter brings a blanket of snow, to those on the equator which either withstand the heat or retreat to cooler mountain heights. Their most southerly outpost, windswept Macquarie Island in the Southern Ocean, is surprisingly home to a *Corybas* orchid. By comparison, *Sarcochilus* orchids have an easy life in the mountains of the Great Dividing Range down the east coast of Australia, and many Sydney enthusiasts find it possible to replicate this environment by growing them in a simply constructed shade house.

### **Growing *Sarcochilus* in the Sydney Region**

Knowledge of cultural requirements, and preferably an understanding of how *Sarcochilus* grow naturally, is part of their allure and the challenge to grow them successfully. Within the Sydney Region climatic conditions can be quite diverse, and orchid growers in the hotter dryer parts may find *Sarcochilus* culture a bit too hard to be enjoyable. However, those who have grown them successfully in the past should have little trouble in the future, if my experience is a guide.



*Sarcs - part of the 2018 spring flowering.*



*At times like this our heat would be welcome. Bob & Gail Schwarz grow Aussie Sarcs and Dens in Nova Scotia.*

### **Basic observations**

My understanding of *Sarcochilus* cultural requirements is based largely on habitat observation and experience as a grower at both Hornsby and now on the Central Coast. In the Sydney region summer heat is usually accompanied by high humidity, uncomfortable to us, but essential for the survival of *Sarcochilus*. This combination of heat and humidity used to allow *Sarcs* to survive through summer, provided shading is increased. This balance has been upset, in recent years, by the dramatic rise in summer and autumn temperatures. Below are aspects which play a role in the grower's ability to cope with this increasingly hot weather.

### **Choice of Plants**

Within reason, the more light received by *Sarcs*, the better they flower, especially *Sarcochilus hartmannii* which, in its mountain habitat can receive full sun. It is also quite a hardy plant, making it and its hybrids easier to grow and a little less exacting in their cultural requirements, and a good place for newer growers to start in the face of climate change. As confidence develops other *Sarc* species and hybrids, in all their forms and colours, can be introduced without the grower losing heart.

### The Shade House Environment

Sydney growers usually house their *Sarcochilus* plants in a shade cloth enclosed structure, with or without a clear weatherproof roof. Wind and sun protection is afforded, either by solid walling or extra shade cloth, on the south and west walls. Benches made of galvanised weldmesh enhance air circulation and are installed at a convenient height, with a second bench below them if feasible. Most plants will be placed on the normal benching while others prefer to be elevated by being hung overhead or around the walls. Young seedlings and the more shade-loving *Sarcs* may prefer the cool humidity of the lower bench, provided air circulation is adequate.

### Shading

Used to growing in the mountains, *Sarcochilus* plants when brought down to lower elevations suffer from heat stress. Add in rising temperatures, and we have a problem which growers usually overcome by increasing the shade. ***Mid-summer shade can be quite heavy at times which will help counteract the heat but can also greatly cut down the light and reduce flowering.*** Maintaining the minimum shade necessary throughout the year and perhaps the use of different coloured shade cloths, lets the plants enjoy as much light as is reasonable. Experimenting with different coloured shade cloth, say stone rather than green, is often worth a try. I grow under a clear solid roof for protection from the elements but otherwise the shade house is a simple pipe-framed structure covered in shade cloth. Permanent shading is provided by 70% green shade cloth on the side walls with an extra layer of 70% on south and west for wind protection. A permanent layer of 50% green lies on top of the roof sheeting plus a layer of 70% stone shade cloth which forms the ceiling all year. Temporary shading, from mid-September to the end of summer, consists of a further layer of 50% green above, but clears the roof. Note: Changing the ceiling shade cloth from green to stone two years ago was so effective in letting light through that it is now a permanent fixture. Heat retained under a solid roof can be a problem needing some thought. My shade house is built on a slope which minimises heat being retained under the solid roof.



*The shade house in summer.*



*Seedlings deflasked in January 2019 start out on a lower bench (*D. tetragonum* in foreground).*

### Watering in Hot Weather

While a solid roof protects flowers and gives control over wet weather it is important to be mindful of watering needs, and to ensure the potting mix never becomes too dry as *Sarcochilus* plants have little capacity to store water. I strive to keep the potting mix slightly moist, without remaining very wet for long periods, or too wet on very hot days when the roots may cook. Should the plants need watering when a hot day is forecast I prefer to water thoroughly late the previous afternoon. The plants and potting mix then have a chance to drain while remaining well hydrated. Afternoon watering is particularly effective before hot nights, the plants being cooled overnight by evaporation.

### Misting and Fogging

***Epiphytic orchids receive moisture from overnight mists and dews but those grown under a solid roof miss out.*** To compensate, the plants and surrounds appreciate a manual fogging each morning, unless the weather is cold and overcast, using a Fogg-It nozzle (the green model gives a fine mist) on the end of the hose. I used to repeat the fogging at intervals throughout hot days, but now have an automatic overhead misting system, thanks to a convincing talk given by Jody Cutajar, who stressed the advantages of regularly misting the orchids, in short bursts, throughout the day. Misting systems, of which there are many variations, consist of a series of overhead outlets under pressure, controlled by a specifically designed timer. Mine is a Holman Misting System from Bunnings, the timer being set to operate throughout the day at intervals of 20 secs 'on' and 20 mins 'off', varied to suit the seasons and inclement weather. Although the timer controls appear complicated they are quick and easy to reset.



## Bending the Winds of Change (Cont..)



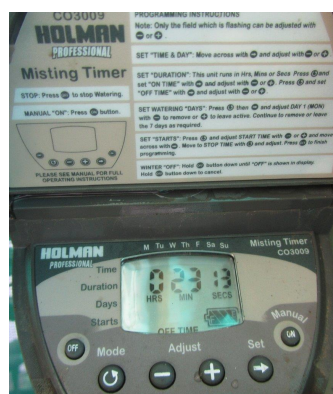
*DIY Misting system (timer not included).*



*Misting and sprinkler controls on post inside shade-house door.*

### Plant Growth

*Sarcochilus* growth is most active in the cooler months but can, in ideal conditions, be evident all year. The grower may notice *Sarc* foliage desiccate during hot, dry December days, but quickly respond to January's humidity. To the *Sarc* enthusiast, growing the plants well can be nearly as rewarding as seeing them flower. After all, the plants are with us all year while the flowers are but fleeting.



*Misting timer control panel.*



*Misting and sprinkler piping beneath stone shade cloth.*



*Misting timer on the right, sprinkler timer on the left.*



*Misting in operation.*

### Finally

Over time we sort out the best culture for growing orchids in our conditions and are prepared to ride out the ups and downs of the weather, so it is hard to accept that climate change is a reality and the new weather patterns are here to stay. It seems adjust we must, and as noted above, I have found a bit of stone-coloured shade cloth, a misting system, and a few cultural adjustments continue to keep my *Sarcs* flowering well, and happy, despite hotter days. So maybe, by explaining my changes, I have helped with ideas allowing you too, to 'set and forget' in summer, and be inside enjoying the air conditioning.