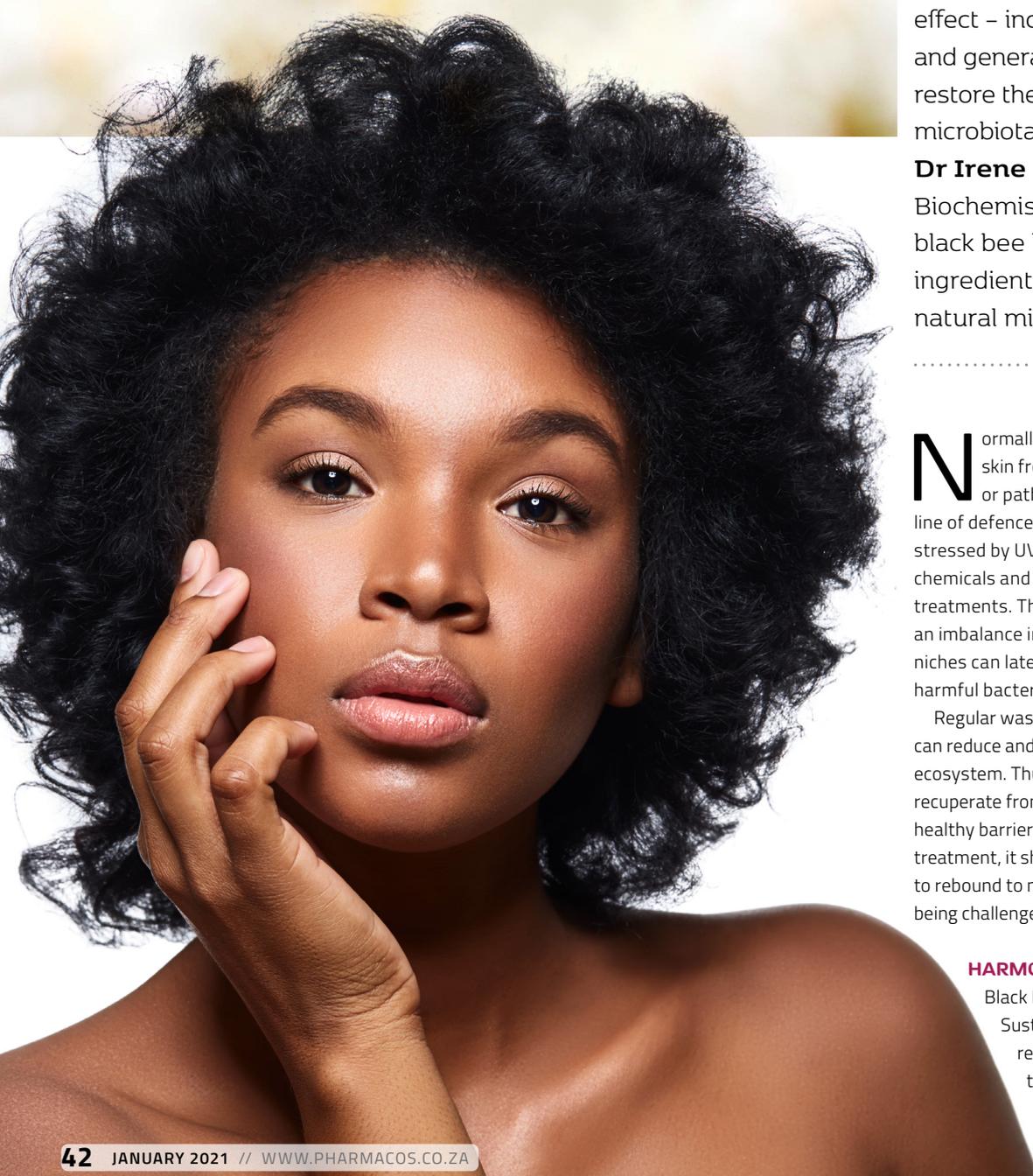
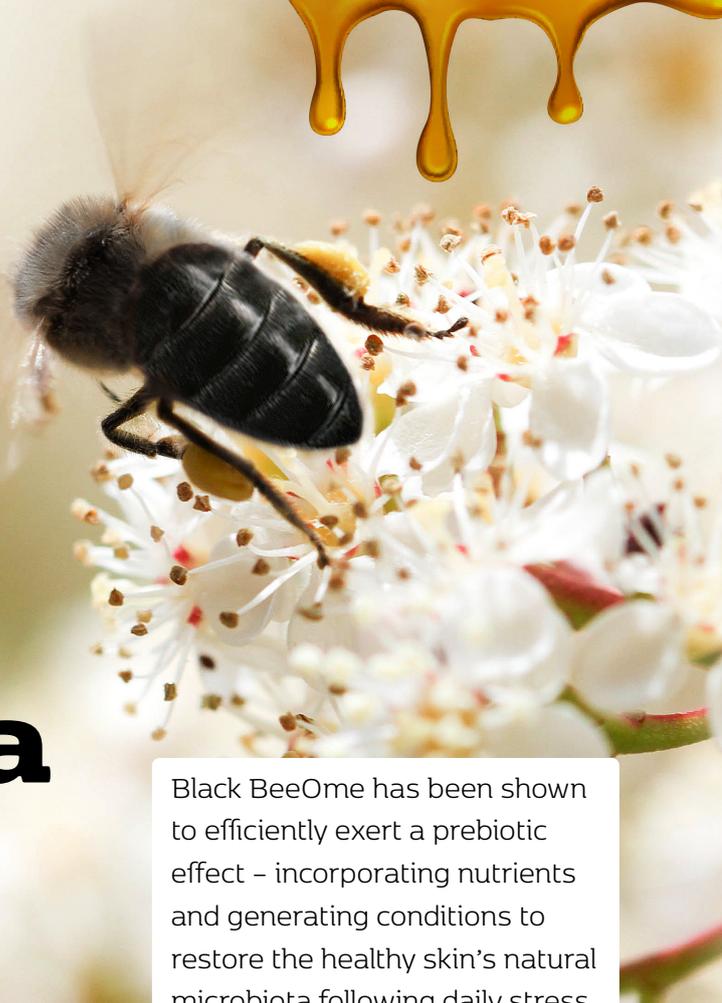


# A holistic approach to restoring skin's microbiota



Black BeeOme has been shown to efficiently exert a prebiotic effect – incorporating nutrients and generating conditions to restore the healthy skin's natural microbiota following daily stress.

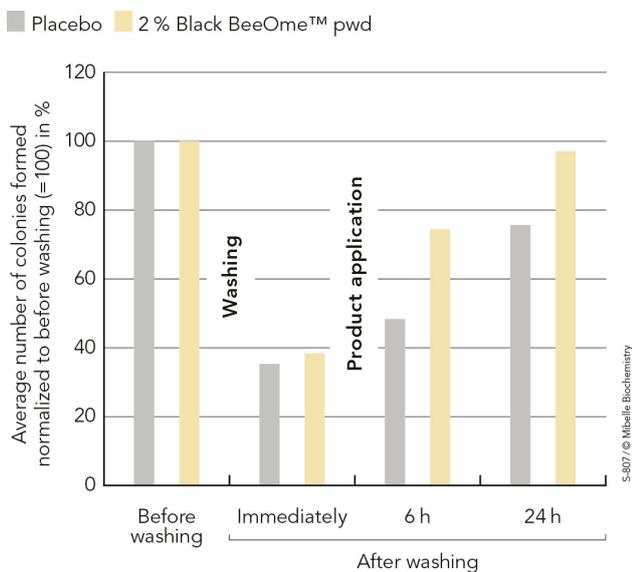
**Dr Irene Montaña** of Mibelle Biochemistry explores how this black bee honey ferment active ingredient rebalances the skin's natural microflora.

Normally, the microbiotic film protects skin from other damaging bacteria or pathogens. As it is the first line of defence, this film is continuously stressed by UV light, pollution, domestic chemicals and even by cosmetic products or treatments. This dynamic activity generates an imbalance in the skin microflora and their niches can later be colonised by transient, harmful bacteria.

Regular washing of the skin, for example, can reduce and unbalance the skin's ecosystem. Thus, the skin microbiota must recuperate from these daily threats. While a healthy barrier should not require extensive treatment, it should support an innate ability to rebound to normal homeostasis after being challenged.

#### HARMONISE SKIN MICROFLORA

Black BeeOme, a runner-up in the Sustainable Beauty Award 2020, results from the fermentation of the honey of the rare wild dark



**Figure 1:** Support of the skin flora recovery after washing

bee *Apis mellifera mellifera* using the bacteria *Zymomonas mobilis*. The prebiotic action of Black BeeOme helps to harmonise skin microflora after stress and ensures a healthy and pure skin.

For more than 1 000 years, *Zymomonas mobilis* was used by the Aztecs to make the Mexican 'drink of the gods' pulque. This traditional beverage is made by fermenting the sap of the agave with *Zymomonas mobilis* (amongst other ingredients). The bacteria ferments only sucrose, glucose and fructose, leaving the complex sugars in a complete state. The black bee honey is fermented with *Zymomonas mobilis* to remove the basic sugars (glucose, fructose and sucrose), thereby eliminating a carbon source for undesirable bacterial growth on the skin. The ferment likewise contains factors that may help to control the growth of bacteria, yeast and fungi on the skin.

**Did you know?**

Mibelle Biochemistry uses honey that is produced in isolated Swiss mountain valleys to produce Black BeeOme. Compared with the modern high-performance honeybee, the black bee is mostly gentle, lives in small colonies, is very resilient (significant winter hardiness) and possibly immune to varroa, the mite that attacks bees and is one of the reasons attributed to worldwide bee population decline.

**COMPREHENSIVE TEST DATA**

*In vitro* and clinical studies have shown that Black BeeOme promotes a faster skin flora recovery after washing as well as skin barrier recovery (see Figure 1). In addition, the skin integrity recovery effect of Black BeeOme was evaluated in a double-blind placebo-controlled clinical study. After 14 days of treatment with 1% Black BeeOme pvd, an improvement of TEWL compared to the placebo was observed on the inner forearms, despite the daily washing stress. In comparison to initial conditions, the improvement in TEWL was significant.

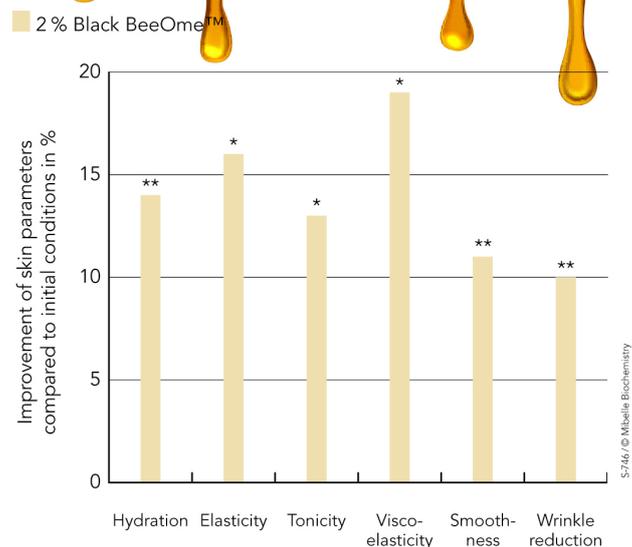
The results revealed that the use of the active ingredient protected and reinforced the recovery of the skin barrier. The faster recovery of the skin ecosystem had a positive influence on the skin barrier regeneration as seen by the reduction of TEWL, compared

with the placebo. Furthermore, a reduction of 6.8% in sebum production and a 9% increase in skin evenness were achieved compared with the placebo and initial conditions.

**EFFECTIVE IN APPLICATION**

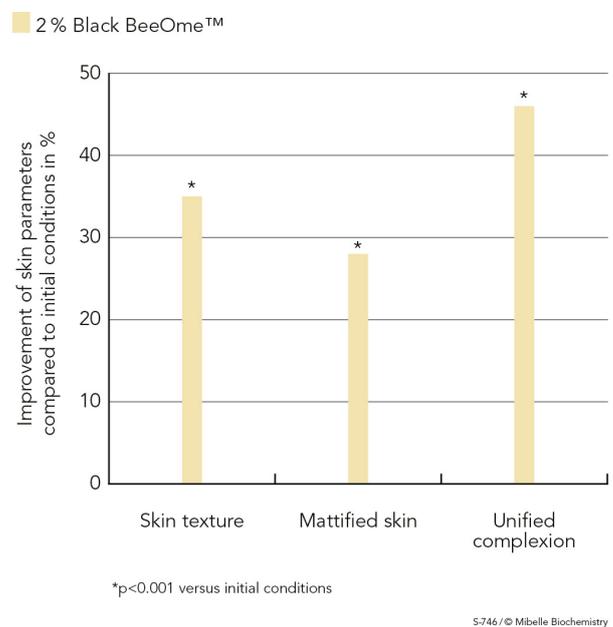
When applied to a sheet mask, Black BeeOme showed a clear improvement of impure skin of volunteers living in urban, polluted areas after only 15 minutes of a single application (Figure 2). After three days of applying the mask containing 2% Black BeeOme, a significant improvement was observed in the clinical grading, including a:

- 35% improvement in skin texture
- 28% improvement in mattified skin aspect
- 46% improvement in unified complexion (see Figure 3).



**Figure 2:** Overall skin improvement after 15 minutes of a single mask application

\*p<0.05 versus initial conditions  
\*\*p<0.001 versus initial conditions



**Figure 3:** Improvement in skin complexion after three days

\*p<0.001 versus initial conditions

The parameters that characterise impure and oily skin associated with urban and polluted living areas were reduced after three days by using the sheet mask – a 12% reduction in inflammatory lesions and a 9% reduction in retentional lesions. Skin redness was reduced by 2% after 15 minutes and by 5% after three days.

These results show that Black BeeOme used in a sheet mask at 2% contributed to ameliorating skin impurities and skin redness of the volunteers living in urban areas. Black BeeOme is available in South Africa from Carst & Walker, the approved distributor of Mibelle Biochemistry. ■

**Carst & Walker – www.carst.co.za**  
**Mibelle Biochemistry**  
– www.mibellebiochemistry.com