

Supplemental Information.

Behavior of recent orphans without siblings or who lacked sibling support

Ava. Ava was orphaned in 2013 at age 5 when her mother Carmen died. Her adult sister, Cate, resided in the Ngogo territory, but in a separate neighborhood from Ava, and we never observed them to interact. Several months after Carmen's death, R.R. found Ava, the elderly adult male, Mweya, and young adult males Evans and Hicks feeding in a *Chrysophyllum* tree. Evans and Hicks came down from the tree, followed by Mweya, who began to travel. Suddenly, Ava began to scream repeatedly and loudly and Mweya stopped, still standing. Still screaming, Ava came down the tree and Mweya waited as she ran to him, embraced his torso from behind and mouthed his back. She let go of him and stopped screaming, and he began to walk with her following. Later, R.R. observed Ava to regularly follow two adult females, Sutherland and her daughter, Fiona, and their offspring. On occasion, Ava cried when separated from Sutherland and Fiona. Ava groomed and played frequently with Naidu and Francoise, the juvenile offspring of Sutherland and Fiona, respectively, and with Sutherland's adolescent sons, Orff and Barron. Orff and Barron had close bonds with Ava that were comparable to their bonds with their juvenile sister and niece.

Peewee. Peewee lost his mother, Brunhilde, and his infant brother in 2014 when he was eight years old, and had no other surviving maternal siblings in the Ngogo community. Shortly after Brunhilde disappeared, Peewee lay on his side on the ground very close to adult male, Jackson, whose back Peewee faced. Jackson had his eyes closed, and appeared to be sleeping. Peewee, too, closed his eyes but would then open them again, look at Jackson's back and move in a wiggling fashion closer to it. When Peewee got so close that he and Jackson were almost

touching, he reached out and grasped a tuft of Jackson's back fur. Jackson reached backward with his hand and grasped Peewee's hand in his own and held it tightly for a while. Interestingly, compared to other adult males, Jackson plays and grooms with immature chimpanzees infrequently (R.R., unpublished data), so this incident was particularly unusual. Peewee developed a close bond with another adolescent male, Barron. Peewee groomed Barron as often as most males his age groomed their mothers. No other male in Peewee's age group (9 - 10 y old) groomed so frequently with an unrelated peer.

Rich Bergl (post-Rosa's emigration). Rich Bergl's sister Rosa, is presumed to have emigrated in 2016, and since then, he appears to follow adult male Hutcherson, who waits for him while the group travels. Hutcherson also grooms him. Rich Bergl also received considerable grooming from adult female Thornton, and adult males Brownface and Buckner, and shared close bonds with Yo Yo and Joya, two immature orphaned siblings.

Valentina. Six-year-old Valentina, was orphaned when her mother, Quinton, died during the January 2017 outbreak. Valentina regularly followed, groomed, and received grooming from a young adult female, Leigh, and from Leigh's infant daughter, Lombard. The three were regularly seen traveling together and joining and leaving parties together. Valentina also occasionally follows adult females Beecher and Carson. She receives additional grooming from adult male Buckner.