

FULL PAPER

María Havrylenko - Susumu Takamatsu

Notes on Erysiphales (Ascomycetes) from Patagonia (Argentina)

Received:

Accepted:

M. Havrylenko

Departamento de Botánica, Centro Regional Universitario Bariloche, Universidad Nacional del Comahue, Quintral 1250, (8400) San Carlos de Bariloche, Río Negro, Argentina

S. Takamatsu (Corresponding author)

Faculty of Bioresources, Mie University, 1515 Kamihama, Tsu 514-8507, Japan

Tel. +81-59-2319497; Fax +81-59-2319540

e-mail: takamatu@bio.mie-u.ac.jp

Abstract Fifteen Erysiphaceous taxa found on twenty host plant species in Patagonia are documented. The new species *Oidium maculatae* (type host: *Viola maculata*) is described. *Berberis linearifolia*, *Buddleja globosa*, *Prosopis alpataco* and *Viola maculata*, are new host

plants for Erysiphales. Three new combinations on fungi and host plant species were founded:

Erysiphe howeana-*Fuchsia magellanica*; *E. patagoniaca*-*Nothofagus pumilio* and *N.*

antarctica. The genus *Sawadaea* and the species *S. bicornis* on *Acer negundo* and *A. pseudo-platanus*, are new records for South America. New host plants recorded for Argentina:

Consolida ajacis, *Galega officinalis* and *Plantago lanceolata*. New host plants recorded for

Patagonia: *Gallium aparine*, *Melilotus albus*, *Petunia hybrida*, *Potentilla anserina*, and

Spiraea x bumalda. *Oidium longipes* is a new record for Argentina and *Golovinomyces*

riedlianus is a new record for Patagonia.

Key words Distribution • Erysiphaceae • New species • *Oidium maculatae* • Powdery mildew

Introduction

This contribution is a part of the taxonomic and floristic studies on Erysiphales from Patagonia (Argentina) started in 1993 (Havrylenko 1993). Information on fifteen taxa founded on twenty host plant species in Patagonia is documented. The new species *Oidium maculatae* (type host: *Viola maculata*) is described and illustrated. Four new native host plant species for Erysiphales are recorded: *Berberis linearifolia*, *Buddleja globosa*, *Prosopis alpataco* and *Viola maculata*. Three new combinations of fungi and host plant species were discovered: *Erysiphe howeana* on *Fuchsia magellanica*, *E. patagoniaca* on *Nothofagus pumilio* and on *N. antarctica*. The record of the genus *Sawadaea* and the species *S. bicornis* on the related host plants *Acer negundo* and *A. pseudoplatanus* extends the distribution area of the species to South America. Three new host plants were recorded for Argentina: *Consolida ajacis*, *Galega officinalis* and *Plantago lanceolata*. Five new host plants were recorded for Patagonia: *Gallium aparine*, *Melilotus albus*, *Petunia x hybrida*, *Potentilla anserina*, and *Spiraea x bumalda*. *Oidium longipes* is a new record for Argentina and *Golovinomyces riedlianus* is a new record for Patagonia. Host range and distribution data in Argentina of the studied species of Erysiphales are provided.

Materials and methods

The observations on morphological characters of taxonomic value for anamorphs follow Shin and Zheng (1998) and Shin (2000). Size and shape of dried material were restored in heated acid lactic as described in Shin and La (1993). To delimit *Podosphaera* species, the thin-walled apical portion of the ascus (oculus) was measured, according to Braun et al. (2001). The taxonomy and nomenclature of Erysiphales follows Braun (1999), Braun and Takamatsu (2000), Braun et al. (2001, 2002), Cook et al. (1997). The taxonomy and geographical distribution of host plants follows Bacigalupo (1999), Burkart (1984), Correa (1984), Grondona (1984), Hock (1988), Loutreig (1984), Orsi (1984), Parodi (1980), Rahn (1999), Rosow (1984, 1988, 1999), and Zuloaga et al. (1999). All specimens recorded were collected in the phytogeographical area of Argentina named “Provincia Subantartica” but one in “Provincia del Monte” (Cabrera 1971). The specimens studied are located in BCRU and a part of them also in HAL.

删除: .

Discriptions and identifications

1. *Erysiphe aquilegiae* DC., Fl. Fr. VI, p. 105 (1815)

Basionym: *Ischonochaeta aquilegiae* (DC.) Sawada, Spec. Publ. Coll. Agric. Nat. Taiwan Univ. 10:17 (1959).

Anamorph: *Oidium* subgen. *Pseudoidium* R. T. A. Cook et al.

Hosts: *Consolida ajacis* (L.) Schur., introduced and cultivated plant, *Ranunculus peduncularis* J. E. Smith, common plant from Mendoza to Tierra del Fuego Province (Loutreig 1984).

Material Studied: ARGENTINA, Provincia de Río Negro: Dep. Bariloche, Mount Tronador, Pampa Linda, leg. M. Havrylenko, 07-03-2004, on *R. peduncularis*, BCRU 4499, anamorph; San Carlos de Bariloche, in a garden, leg. P. Fierro, 28-04-2002, on *Consolida ajacis* BCRU 4500, teleomorph; Provincia del Chubut: Dep. Futaleufú, Esquel, in Bryn Amlwg garden, leg. D. Ellis, on *C. ajacis*, 04-04-1997, BCRU 4501, teleomorph.

Distribution in Argentina: on Ranunculaceae. In Río Negro Province: on *Aquilegia vulgaris* L. and *Clematis montevidensis* Spreng. (Braun 1987a); on *Aquilegia* sp. (Havrylenko 1995a) and on *Ranunculus chilensis* De Candolle, an endemic plant (Havrylenko 1998).

In Buenos Aires Province: cited as *E. polygoni* on *Delphinium ajacis* L (Marchionatto 1939), on *Ranunculus repens* L. (Braun et al. 2000), on *D. ajacis*, *D. cheilanthum* Fisch., *D. elatum* L. and *D. grandiflorum* L. (Wolcan et al. 2001) and on *Aquilegia vulgaris* L. and *Aquilegia* sp. (Delhey et al. 2003).

削除: y

Comments: The teleomorphic stages have been found on introduced cultivated host plants but not on native species. *Consolida ajacis* is cited for the first time as host plant for Erysiphales in Argentina. *Ranunculus peduncularis* was cited as host plant to *Oidium fuegianum* (Havrylenko and Braun 1998).

削除: t

2. *Erysiphe howeana* U. Braun. Mycotaxon 14(1): 373 (1982)

Basionym: *E. communis* f. *oenotherae* Jaczewski (1927)

Anamorph: *Oidium* subgen. *Pseudoidium* R. T. A. Cook et al.

Host: *Fuchsia magellanica* Lamarck. (Onagraceae). Native shrub from Southern Andean range from Argentina and Chile (Hoch 1988).

Material Studied: ARGENTINA. Provincia de Río Negro: Dep. Bariloche. San Carlos de Bariloche. In a garden. Leg. M. Gobbi & M. Alonso, May, 12-05-2004, BCRU 4503, anamorph.

Observations: a remarkable feature was observed in this collection that is the occurrence of multilobed-stalked appressoria.

Distribution in Argentina: *Erysiphe howeana* was recorded in Patagonia (Neuquén and Río Negro Provinces) on *Oenothera odorata* Jaquin and *O. aff. villaricae*, both native host plants. (Havrylenko 1998). Braun et al. (2000) and Delhey et al. (2003) recorded this species on *O. mollissima* L., in Buenos Aires Province.

Comments to the host plant: According to Amano (1986), *Sphaerotheca* sp. on *F. coccinea* Ait. **was reported in Argentina**. Probably the host plant was the same species but cited under the synonymous of *F. magellanica*.

删除: in Argentina was reported

3. *Erysiphe patagoniaca* Havrylenko & S. Takamatsu Mycoscience 44(2): 149-151 (2003)

Anamorph: *Oidium* subgen. *Pseudoidium* R. T. A. Cook et al.

Hosts: *Nothofagus antarctica* (G. Forster) Oersted and *N. pumilio* (Pöp. et Endl.) Krasser, (Nothofagaceae), deciduous trees that grow from 37° S and 39° S respectively, to Tierra del Fuego (Correa 1984).

Material Studied: ARGENTINA. Provincia de Río Negro: Dep. Bariloche. Mount Tronador, Trail to Garganta del Diablo. Leg. S. Takamatsu & M. Havrylenko, 07-03-2004, on *N. antarctica*, BCRU 4505; BCRU 4507; on *N. pumilio* BCRU 4506, BCRU 4508, teleomorphs.

Distribution in Argentina: *Erysiphe patagoniaca*, an endemic species, was cited on *Nothofagus x antarctica* (Havrylenko and Takamatsu 2003). Now **it** is recorded on *N. antarctica* and *N. pumilio*.

删除: S.

删除: on

4. *Erysiphe pisi* DC. Fl. Fr. II. P. 274 (1805). var. *pisi*

Basionym: *Erysiphe macropus* Mart., Fl. Crypt. Erlang., p. 392, Nürnberg 1817. Synonym: *Ischonocaheta pisi* (DC.) Sawada, Spec. Bull. Coll. Agr. Nat. Taiwan Univ. 10: 18 (1959). For full synonymy see Braun (1995).

Anamorph: *Oidium* subgen. *Pseudoidium* R. T. A. Cook et al.

Host: *Melilotus albus* Desrousseaux (Fabaceae) is an adventitious herbaceous plant from European and West Asian origin. In Patagonia it grows **from** Río Negro to Santa Cruz provinces (Rosow 1984).

删除: from

Material Studied: ARGENTINA. Provincia del Chubut: Dep. Cushamen, Ruta 258, near El Hoyo, leg. M. Havrylenko. 4-04-2002, BCRU 4355, BCRU 4356, anamorph.

Distribution in Argentina: Previously this species was cited for Patagonia (Argentina) on *Pisum sativum* L (Roivainen 1977) and *Lathyrus magellanicus* Lamarck, (Havrylenko 1995a).

5. *Erysiphe thaxterii* (Havryl. & U. Braun) U. Braun & S. Takam., Schlechtendalia 4: 14 (2000).

Basionym: *Microsphaera thaxterii* Havryl. & U. Braun Nova Hedwigia 66(3-4): 515 (1998)

Anamorph: *Oidium* subgen. *Pseudoidium* R. T. A. Cook et al.

Host: *Berberis linearifolia* Philippi (Berberidaceae). Evergreen shrub native to Andean area of Argentina and Chile (Orsi 1984).

Material studied: ARGENTINA. Provincia de Río Negro: Dep. Bariloche. Mount Tronador, Trail to Saltillo de Nalcas, Leg. S. Takamatsu & M. Havrylenko, 07-03-2004, on *Berberis linearifolia*, BCRU 4509, BCRU 4510, BCRU 4511, anamorph.

Distribution in Argentina: The anamorph and teleomorph stages were described on *Berberis darwinii* Hook and *B. buxifolia* Lam. (Berberidaceae), (Havrylenko and Braun 1998). This is the first record of Erysiphales on *B. linearifolia*.

删除: t

删除: e present

6. *Erysiphe trifolii* Grev. Fl. Edin.:459 (1824) var. *trifolii*

Basionym: *Microsphaera trifolii* (Grev.) U. Braun, Nova Hedwigia 34: 685 (1981).

Anamorph: *Oidium* subgen. *Pseudoidium* R. T. A. Cook et al.

Host: *Galega officinalis* L. (Fabaceae). Herbaceous plant from Europe and Asia and is adventitious in Patagonia. It grows in Río Negro and Neuquén Provinces (Burkart 1984).

Material Studied: ARGENTINA. Provincia de Río Negro: Dep. Pilcaniyeu, Route 23, near Pichi Leufu, leg. M. Havrylenko 12-03-2003, BCRU 4512, BCRU 4513, anamorph.

Distribution in Argentina: Braun et al. (2000) recorded *E. trifolii* var *trifolii* in Prov. Bs. Aires on *Melilotus albus* and *M. officinalis*. For Patagonia *E. trifolii* var *trifolii* was recorded in Río Negro and Chubut Provinces on *Lupinus polyphylus*, *Trifolium pratense* and *T. repens* (Havrylenko 2001). *Galega officinalis* is recorded for the first time in Argentina as host plant for Erysiphales.

删除: for

7. *Golovinomyces riedlianus* (Speer) V. P. Gelyuta, Ukr. Bot. Zhurn, 45(5):63 (1988)

Basionym: *Erysiphe riedliana* Speer Anz. Öster. Akad. Wiss., math-nat. Kl., 106(1-4):

244 (1970)

Synonym: *Erysiphe galli* var. *riedliana* (Speer) U. Braun, Mycotaxon 18(1):121 (1983).

Anamorph: *Oidium* subgen. *Reticuloidium* R. T. A. Cook et al.

Host: *Gallium aparine* L. (Rubiaceae). Herbaceous annual plant, adventitious and cosmopolitan naturalized in America, growing from Alaska to Tierra del Fuego (Bacigalupo 1999).

Material Studied: ARGENTINA, Provincia de Río Negro: Dep. Bariloche, Parque Nacional Nahuel Huapi, Cerro Challhuaco, leg. S. Takamatsu & M. Havrylenko, 18-04-2001, BCRU 4341, teleomorph.

削除:

Distribution in Argentina: The presence of Erysiphales on *Gallium* spp. in Argentina was reported previously by Spegazzini (1898) and Roivainen (1977). The former author cited *Oidium erysiphoides* Fr. on *Gallium* sp. as common species in Argentina and Uruguay. Roivainen reported *Erysiphe* cf. *galli* on *Gallium aparine* L. and *G. fuegianum* Hooker fil. in Tierra del Fuego (Argentina).

削除: by

削除: on

削除: for

8. *Golovinomyces sordidus* (Junell) V. P. Gelyuta. Ukr. Bot. 45(5), p. 63 (1988)

削除: Ž.

Basionym: *Erysiphe sordida* L. Junell. Trans. Brit. Mycol. Soc. 48, p. 544 (1965)

Syn: *E. plantaginis* (Link) Fuss, Arch. Ver. Siebenb. Landesb., N. F. 14(2), p. 460 (1878). *E. plantaginis* (Link) Sawada, Bull. Dept. Agr. Govt. Res. Inst. Formosa 24, p. 47 (1927), non Castagne (1845). *E. lamprocarpa* var. *plantaginis* Link, in L., Sp. Pl. 6(1), p. 109 (1824). *E. artemisiae* var. *sordida* (Junell) Jalongo, Mycotaxon 44 (1), p. 256 (1992). *E. cichoracearum* f. *plantaginis* Potebn., Grib. Paras. Vyss. Rast. Charkov, p. 233 (1916). *E. cichoracearum* f. *plantaginis* (Link) U. Braun, Nova Hedwigia 34, p. 659 (1981).

Anamorph: *Oidium* subgen. *Reticuloidium* R. T. A. Cook et al.

Host plant: *Plantago lanceolata* L. (Plantaginaceae). Introduced species from Europe and Asia. Widely distributed weed in the Andean Patagonian area. (Rahn 1999).

Material Studied: ARGENTINA. Provincia de Río Negro. Dep. Bariloche. San Carlos de Bariloche, leg.: Takamatsu 05-03-2004, BCRU 4529, leg. M. Havrylenko 25-05-2004, BCRU 4514, anamorph.

Distribution in Argentina: On Plantaginaceae, *G. sordidus* was cited on *Plantago berroi* and *P. tomentosa*, in Provincia de Buenos Aires. (Delhey et al. 2003) and as *Erysiphe sordida* in a list of fungi in NE provinces of Argentina (Mazzanti et al. 1989). This is the first report of this fungus in Patagonia.

削除: on

削除: .

削除: The present

削除: a

削除: for

Observations: ~~In our collections, a variety of appressorial shapes like nipple, lobulated or hook shaped were observed.~~

删除: in

删除: were observed

删除: as

9. *Oidium longipes* Noordeloos & Loerak. Persoonia 14: 35 (1989)

Anamorph: *Oidium* subgen. *Reticuloidium* R. T. A. Cook et al.

Host plant: *Petunia hybrida* Vilm. (Solanaceae). Cultivated ornamental plant originated in South America (Parodi 1980).

Material Studied: ARGENTINA. Provincia de Río Negro. Dep. Bariloche. In gardens: Pampa Linda. Leg. M. Havrylenko, 07-03-2004, BCRU 4516. Playa Bonita. Leg. M. Havrylenko 10-04-2004, BCRU 4515, anamorph.

Distribution in Argentina: There are no records of *O. longipes* in Argentina.

Comments: Wolcan and Ronco (2002) reported the presence of *Podosphaera fusca* on *Petunia x hybrida* in Buenos Aires Province.

10. *Oidium maculatae* M. Havrylenko sp. nov.

Fig. 1

Mycelium amphigenum. Hyphae hyalinae, 6-8 μm latae. Appressoria mammiformia. Conidia catenulata, 32-48(-69) x 12.5-23(-27) μm . Conidiophora erecta, cellulis basilaribus cylindraceis, 48.6-90 (-125-160) x 9-12 μm , 0-2 cellulis sequentibus brevioribus. Habitat in foliis vivis *Violae maculatae* Cavanilles. Holotypus: BCRU 4343 (isotypus HAL).

Anamorph: *Oidium* subgen. *Fibroidium* R. T. A. Cook et al.

Mycelium on leaves, white, amphigenous, mostly epiphyllous, forming irregular patches. Vegetative hyphae 6-8 μm wide. Appressoria nipple-shaped.

Conidiophores erect, single on a hyphal cell, arising from the upper part of mother cells, position variable, central to eccentric. Foot cells cylindrical, 48.6-90 (-125-160) x 9-12 μm , followed by 0-2 shorter cells. Basal septum from 0 to 15 μm away from the branching area of the mycelium. Conidia doliform to ellipsoid, formed in chains, 32-48(-69) x 12.5-23(-27) μm . Conspicuous, fibrosin bodies present. Immature conidiophores with crenate edges. Germination: germ tube subapical, simple. Primary conidia apically conical and basally subtruncate, rather smaller than secondary conidia.

Host: *Viola maculata* Cavanilles (Violaceae). A native perennial herbaceous plant that grows along to Andean range, from Neuquén to Tierra del Fuego Provinces from Argentina (Rosow 1988).

Holotypus: BCRU. 4343. Isotypus: HAL

Material Studied: ARGENTINA. Provincia de Río Negro: Departamento Bariloche. Parque Nacional Nahuel Huapi. Trail to Cerro Llao Llao. Leg. M.G. Alvarez & M. Havrylenko, 17-04-02, BCRU 4343, anamorphs. Leg. M. Havrylenko, 8-05-02, BCRU 4345; BCRU 4345, anamorph.

Comments: On *Viola* two powdery mildew species are known: *Erysiphe orontii* and *Podosphaera violae* (= *Sphaerotheca violae*) (Braun 1987a, Braun 1995, Braun and Takamatsu 2000). In Argentina and Uruguay, Spegazzini (1898) cited *Oidium erysiphoides* Fr. on *Viola odorata*. Our specimens belong to *Podosphaera* sect. *Sphaerotheca* but differs from *P. violae* and other species of the genus by having wider hyphae and much larger conidia. This is the first report of Erysiphales on *Viola maculata*.

删除: s

删除: For

11. *Pleochaeta prosopidis* (Speg.) U. Braun. Mycotaxon 15:148 (1982)

Basionym: *Uncinula prosopidis* Speg. Anal. Mus. Nac. Buenos Aires, 19: 324 (1909)

Anamorph: *Streptopodium* R. Y. Zheng & G. Q. Chen. Acta Microbiol. Sinica 18:183 (1978)

Hosts: on Fabaceae: *Prosopis strombulifera* (Lam.) Benth. Xerofitic, native bush. It grows in Western Argentina from Salta to Río Negro Provinces. *Prosopis alpataco* Philippi, endemic species from western part of Argentina and characteristic shrub from the phytogeographical area "Provincia del Monte" (Cabrera 1971; Burkart 1984).

Material Studied: ARGENTINA. Provincia de Río Negro: Departamento General Roca, Cinco Saltos, in the campus of Facultad de Ciencias Agrarias, leg. A. Dobra. 07-05-2002, BCRU 4342. Provincia del Neuquén: Dep. Collon Cura. Santo Tomás. Provincial route 47. Leg. Havrylenko 01-05-03. On *P. strombulifera* BCRU 4517, BCRU 4518, BCRU 4520. On *P. alpataco*, BCRU 4519, BCRU 4521, teleomorph.

Distribution in Argentina: on *Prosopis* spp. (Fabaceae). Buenos Aires Province (Spegazzini 1909), Río Negro Province (Braun 1987a).

Comments: *Pl. prosopidis* (= *Uncinula prosopidis*) was first studied by Spegazzini (1909) on *Prosopis campestris* Grisebach from Botanical Garden of Buenos Aires. The type material (LPS 28250) was reinvestigated by Braun and the species transferred to genus *Pleochaeta* (Braun 1982). Further report on *Prosopis strombulifera* was made in Río Negro Province (Braun 1987a). The finding of *Pl. prosopidis* on *P. alpataco* represents the first report of the presence of Eysiphales on this host plant species and extends the geographical range to Neuquen Province.

删除: Polychaeta

删除: ,

12. *Podosphaera aphanis* (Wallr.) U. Braun & S. Takam., Schlechtendalia 4: 26 (2000).

Basionym: *Alphitomorpha aphanis* Wallr. Ann. Wetter. Ges., N. S. 4: 242(1819).

Synonym: *Sphaerotheca aphanis* (Wallr.) U. Braun, Mycotaxon 15: 136 (1982).

Anamorph: Anamorph: *Oidium* subgen. *Fibroidium* R. T. A. Cook et al.

Host: *Potentilla anserina* L. (Rosaceae) an adventitious plant from Northern hemisphere, growing from Neuquén to Santa Cruz Provinces of Argentina (Grondona 1984).

Material Studied: ARGENTINA. Provincia del Neuquén: Departamento Lácar, Route 63, Casa de Piedra, near Río Collón Cura, leg. S. Takamatsu, 24-04-01, BCRU 4354.

Departamento Huiliches, East shore of Lago Currhue Chico, leg. M. Havrylenko, 26-04-01, BCRU 4353, anamorph.

Distribution: *P. aphanis* has been recorded in Argentina on *Fragaria chiloensis*, (Havrylenko 1995b), *Acaena ovalifolia*, *Acaena* sp (Havrylenko 1998), *A. antarctica*, *A. magellanica*, *A. pinnatifida* (Havrylenko and Lorenzo 1999).

Comments: *P. anserina* is recorded for the first time as host plant of Erysiphales in Argentina. Additionally to *Podosphaera aphanis*, *Erysiphe* sp. was found on the same host plant.

削除: for

削除: *Erysiphe* sp.

13. *Podosphaera leucotricha* (Ellis & Everh.) E. S. Salmon, Mem. Torrey Bot. Club 9: 40 (1900)

Basionym: *Sphaerotheca leucotricha* Ellis. & Everth., J. Myc. 4: 58 (1888).

Synonyms: *S. castagnei* f. *mali* Sorauer, Hedwigia 31:8 (1889). *S. mali* Burrill, in Ellis & Everth, North Amer. Pyrenomycetes p. 6 (1892).

Anamorph: *Oidium* subgen. *Fibroidium* R. T. A. Cook et al.

Hosts: *Malus sylvestris* Mill. (Rosaceae). Cultivated tree probably originated in Europe or in West Asia. *Spiraea x bumalda* Burv. (Rosaceae). Exotic ornamental bush (Parodi 1980).

Material Studied: on *Malus sylvestris*: ARGENTINA, Provincia de Río Negro: Dep. Bariloche, route to airport Bariloche, Leg. S. Havrylenko, 03-1995, BCRU 4347, BCRU 4348. On *Spiraea x bumalda* Burv.: National route 237, km 8.6, in a garden. Leg M. Havrylenko, 04-2002. BCRU 4346, anamorph.

Distribution in South America and Argentina: *P. leucotricha* was reported in Argentina, Brazil, Chile, Uruguay, Colombia and Perú (Rossini 2001). In Argentina, the fungus was cited on *Malus* in several provinces from North to South: Jujuy (Alcoba and Liacono 1986),

削除: for

削除: for

Mendoza and Neuquén (Rossini 2001), Río Negro (Bergna 1959; Havrylenko 1998; Rossini 2001), Santa Cruz and Tierra del Fuego (Roivainen 1977). Bergna (1959) provided the first description of telemorphic stage of the fungus in the upper valley of Río Negro, Argentina. On *Pyrus*, The fungus was reported for Córdoba Province by Hauman and Parodi (1921).

削除: for Argentina recorded

Comments: The finding on *Spiraea x bumalda* extends the knowledge on host range of this species in Argentina.

削除: ,

14. *Podosphaera xanthii* (Castagne) U. Braun & N. Shishkoff, Schlechtendalia 4: 31 (2000)

Basionym.: *Erysiphe xanthii* Castagne, Cat. Pl. Mars.:188 (1845)

Synonyms: *Sphaerotheca xanthii* (Castagne) L. Junell, Sv, Bot. Tidskr. 60(3) 382 (1966).

Sphaerotheca verbenae Sävul. & Negru, Bull. Stiint. Acad. R.P.R. V, 3: 415 (1953).

Anamorph: *Oidium* subgen. *Fibroidium* R. T. A. Cook et al.

Host: *Buddleja globosa* Hope (Buddlejaceae), native shrub from southern Argentina and Chile (Rosow, 1999; Zuloaga et al. 1999).

削除:

Material Studied: ARGENTINA. Provincia de Río Negro: Dep. Bariloche. Parque Nacional Nahuel Huapi trail to Cerro Llao Llao. Leg. B. Latorre, 17- 04-02, BCRU 4349, HAL. Leg. J. Saura, 8-05-02, 4350, anamorph.

Distribution: The knowledge on the presence of Erysiphales on Buddlejaceae is relatively scarce. The first report was made by Doidge in 1950 in South Africa (Gorter and Eicker 1985). The anamorph was described as *Oidium buddlejae* Gorter & Eicker on *Buddleja salviifolia* (L.) Lam., endemic plant to southern Africa and according to description belongs to *Oidium* subgen. *Pseudoidium* Jacz. The second report was due to Cabrera and Mazzanti (1991) in Corrientes Province, Argentina, recording the anamorph of *Podosphaera fusca* (Fr.) U. Braun & N. Shishkoff (= *Sphaerotheca fusca*) on *B. brasiliensis* Jacquin & Sprengel. This finding is a new record of Erysiphales on Buddlejaceae and *B. globosa* is a new host. Comments: Morphological and biometrical features of *P. xanthii* on *B. globosa* fit the specific characters given by Braun and Takamatsu (2000) and Braun et al. (2001).

削除: due to

15. *Sawadaea bicornis* (Wallr.: Fr.) Homma, J. Fac. Agric. Hokkaido Imp. Univ. 38: 371 (1937)

Basionym: *Alphitomorpha bicornis* Wallr., Verh. Ges. naturf. Freunde Berlin 1(1): 38 (1819).

Synonyms: *Erysiphe aceris* DC., Fl. Fr. 6: 104 (1815). *E. bicornis* (Wallr.) Fr., Syst. myc. 3: 244 (1829). *Uncinula bicornis* (Wallr.:Fr.) Lév., Ann. Sci. Nat., bot., 3 sér., 15: 153 (1851). *U. aceris* (DC) Sacc., Syll. Fung. 1: 8 (1882). *Sawadaea aceris* (DC.) Myabe, (as “Sawadaia”), in Sawada, Agric. Exp. Stat. Formosa, Spec. Bull 9: 49 (1914).

Anamorph: *Oidium* subgen. *Octagoidium* R. T. A. Cook et al.

Hosts: *Acer negundo* L. and *Acer pseudo-platanus* L. (Aceraceae), cultivated trees of North American and European-Asiatic origin respectively (Parodi 1980).

Material Studied: ARGENTINA. Provincia del Chubut: Departamento Futaleufú, Esquel, in Bryn Amlwg garden, leg. D. Ellis. 8-04-2002, on *Acer negundo*, BCRU 4351, BCRU 4352, BCRU 4522, anamorphs. Provincia de Río Negro: Departamento Bariloche, Route 237, km. 8.6, leg. M. Havrylenko 17-04-2003, on *A. pseudoplatanus*, BCRU 4524, BCRU 4525. Llao LLao, leg. M. Havrylenko, 05-05 2003, BCRU 4523, anamorphs.

Comments: *Sawadaea bicornis* has been found in Europe, Asia, New Zealand (Braun 1987b) and Australia (Cunnington et al. 2003). The present Argentinean record extends the distribution area of the genus and species to South America.

Acknowledgments For help given through the preparation of this work the authors thanks to U. Braun, H. Shin, L. Lorenzo, J. Saura, A. Dobra, B. Latorre, M. G. Alvarez, D. Ellis, C. Brion, J. Puntieri and C. Ezcurra. Financial supports for this research were provided by Universidad Nacional del Comahue to MH, and by the Japanese Ministry of Education, Culture, Sports, Science and Technology (Nos. 13660047 and 15405021) to ST.

References

Alcoba NJ, Liacono R (1986) Listado de enfermedades determinadas en el laboratorio de la cátedra de Fitopatología. Ciencias Agrarias, serie Didáctica N° 6. Publicación de la Facultad de Ciencias Agrarias de la Universidad Nacional de Jujuy, 16 pp.

Amano (Hirata) K (1986) Host range and geographical distribution of the powdery mildew fungi. Japan Scientific Societies Press, Tokyo.

Bacigalupo NM (1999) Rubiaceae. In: Correa MN (ed): Flora Patagónica. Tomo VIII. Colección Científica del INTA, Buenos Aires, pp 423-443

削除: LITERATURE CITED

削除: .

削除: .

削除: . &

削除: A

削除: .

削除: .

削除: .

削除: . 1

削除: Pp. 741.

削除: ACIGALUPO,

削除: .

削除: .

削除: .

削除: .

削除: -

削除: .

削除: .

削除: .

- [Bergna DA \(1959\)](#) Forma peritécica del “oídio del manzano” en el valle superior de Río Negro. *Revista de Investigaciones Agrícolas* 13(3):281-290
 削除: ERGNA, [1]
- [Braun U \(1982\)](#) Taxonomic notes on some powdery mildews. *Mycotaxon* 15:138-154
 削除: RAUN, [2]
- [Braun U \(1987a\)](#) Beiträge zur Kenntnis der Verbreitung und des Wirtsspektrums phytoparasitischen Pilze. *Nova Hedwigia* 45:383-388
 削除: RAUN, [3]
- [Braun U \(1987b\)](#) A monograph of the Erysiphales (powdery mildews). *Beih Nova Hedwigia* 89:1-700
 削除: RAUN, pp. [4]
- [Braun U \(1995\)](#) The powdery mildews (Erysiphales) of Europe. *Die Deutsch bibliothek- CIP Einheitsaufnahme*, Gustav Fischer Verlag, Jena
 削除: RAUN, [5]
- [Braun U \(1999\)](#) Some critical notes on the classification and the generic concept of the Erysiphales. *Schlechtendalia* 3:48-54
 削除: RAUN, [6]
- [Braun U, Takamatsu S \(2000\)](#) Phylogeny of *Erysiphe*, *Microsphaera*, *Uncinula* (Erysipheae) and *Cystotheca*, *Podosphaera*, *Sphaerotheca* (Cystothecaceae) inferred from rDNA ITS sequences, some taxonomic consequences. *Schlechtendalia* 4:1-33
 削除: & S. [7]
- [Braun U, Kiehr M, Delhey R \(2000\)](#) Some new records of powdery mildew fungi from Argentina. *Sydowia* 53(1):34-43
 削除: RAUN, IEHR, & ...ELHEY, [8]
- [Braun U, Cook RTA, Inman AJ, Shin HD \(2002\)](#) The taxonomy of the powdery mildew fungi. In: Bélanger RR, Bushnell WR, Dik AJ, Carver TLW (eds) *The powdery mildews. A comprehensive treatise*. American Phytopathological Society Press, St. Paul, Minnesota, pp 13-55
 削除: RAUN, R.T.A. A.J. ... & H.D. W.R. ... A.J. ... & ... T.L.W. ... - ... E... [9]
- [Braun U, Shishkoff N, Takamatsu S \(2001\)](#) Phylogeny of *Podosphaera* sect. *Sphaerotheca* subsect. *Magnicellulatae* (*Sphaerotheca fuliginea* auct. s. lat) inferred from rDNA ITS sequences- a taxonomic interpretation. *Schlechtendalia* 7:45-52
 削除: RAUN, N.... & S. [10]

- [Burkart A.](#) (1984). Leguminosae. In: [Correa MN.](#) (ed): Flora Patagónica. Tomo VIII. Colección Científica del INTA. Buenos Aires, pp 89-299 削除: URKART,..... [11]
- [Carbrera AL.](#) (1971). Fitogeografía de la República Argentina. Boletín de la Sociedad Argentina de Botánica 14:1-42 削除: ABRERA,..... [12]
- [Cabrera de Álvarez MG.](#) [Mazzanti de Castañón MA.](#) (1991). El oídio de la caléndula (*Calendula officinalis*) en Argentina. Fitopatología 26(2):74-80 削除: ABRERA...A...LVAREZ,.... &...M.A. MAZZANTI...ASTAÑÓN. [13]
- [Cook RTA.](#) [Inman AJ.](#) [Billings C.](#) (1997). Identification and classification of powdery mildews anamorphs using light and scanning electron microscopy and host range data. Mycol Res 101 (8):975-1002 削除:A J. ... & C..... [14]
- [Correa MN.](#) (1984). Fagaceae. In: [Correa MN.](#) (ed): Flora Patagónica. Tomo VIII. Colección Científica del INTA, Buenos Aires, pp 4-11 削除: ORREA,..... [15]
- [Cunnington JH.](#) [Takamatsu S.](#) [Lawrie AC.](#) [Oascoe IG.](#) (2003). Molecular identification of anamorphic powdery mildews (Erysiphales). Austr Plant Pathol 32:421-428 削除: UNNINGTON,..... [16]
- [Delhey R.](#) [Braun U.](#) [Kihner M.](#) (2003). Some new records of powdery mildew fungi from Argentina (2). Schlechtendalia 10:79-90 削除: ELHEY,.....RAUN,.... &...IHER,..... [17]
- [Gorter GMA.](#) [Eicker A.](#) (1985). Two previously undescribed *Oidium* species from South Africa. Mycotaxon 22:33-42 削除: ORTER,....J..... &...A. ICKER. [18]
- [Grondona E.](#) (1984). Rosaceae. In: [Correa MN.](#) (ed): Flora Patagónica. Tomo VIII. Colección Científica del INTA. Buenos Aires, pp 48-88. 削除: RONDONA,.....orra,.... [19]
- [Hauman L.](#) [Parodi LR.](#) (1921). Los parásitos vegetales de las plantas cultivadas en la República Argentina. Revista de la Facultad de Agronomía y Veterinaria 3:227-274 削除: &...L.R. [20]

- Havrylenko, M. (1993). Descriptions of new taxa of Erysiphaceae from Argentina. *Mycotaxon* 49:257-267. 削除: [21]
- Havrylenko, M. (1995a). Erysiphaceous species from Nahuel Huapi National Park, Argentina. Part 1. *New Zealand J Bot* 33:389-400. 削除: [22]
- Havrylenko, M. (1995b). New records of Erysiphaceae from North-Patagonia (Argentina). *Nova Hedwigia* 61(3-4):447-455. 削除: [23]
- Havrylenko, M. (1998). Erysiphales de la Región Andino-Patagónica, [PhD thesis](#), Universidad Nacional del Comahue, Centro Regional Universitario Bariloche, San Carlos de Bariloche, Río Negro, Argentina. 削除: Doctoral...T [24]
- Havrylenko, M. (2001). Erysiphales from the Patagonian Andes, Argentina. *Nova Hedwigia* 72(3-4):409-418. 削除: [25]
- Havrylenko, M., Braun, U. (1998). Four new species and a new record of Erysiphaceae from Argentina. *Nova Hedwigia* 66(3-4):513-522. 削除: &...U. [26]
- Havrylenko, M., Lorenzo, L.E. (1999). Novedades sobre Erysiphales de Tierra del Fuego (Argentina). *Hickenia* 3(10):31-36. 削除: &...L.E. [27]
- Havrylenko, M., Takamatsu, S. (2003). *Erysiphe patagoniaca*: a new species of *Erysiphe* sect. *Uncinula* from Patagonia, Argentina. *Mycoscience* 44:149-151. 削除: . & [28]
- Hoch, P.C. (1988). Onagraceae. In: Correa, M.N. (ed): *Flora Patagónica*. Tomo VIII. Colección Científica del INTA. Buenos Aires, pp 267-298. 削除: [29]
- Loutreig, A. (1984). Ranunculaceae. In: Correa, M.N. (ed): *Flora Patagónica*. Tomo VIII. Colección Científica del INTA. Buenos Aires, pp 284-322. 削除: OUTREIG,.....ORREA, [30]
- Marchionatto, J.B. (1939). Notas micológicas. *Physis* 15(47):133-144. 削除: ARCHIONATTO,..... [31]

[Mazzanti de Castañón, MA, Álvarez, RE, Cabrera de Álvarez, MG](#) (1989). Los oidios (Erysiphaceae) del nordeste de Argentina. IV Congreso y XIV Jornadas Argentinas de Micología, Huerta Grande. p 45

削除: AZZANTI DE
CASTAÑÓN.....A...LVAREZ,
..... &...ABRERA DE
ALVAREZ,..... [32]

[Orsi, MC](#) (1984). Berberidaceae. In: [Correa, MN](#) (ed): Flora Patagónica. Tomo VIII, Colección Científica del INTA. Buenos Aires, pp 325-348

削除: RSI,.....
...ORREA,..... [33]

[Parodi, LR](#) (Dir.) (1980). Enciclopedia Argentina de Agricultura y Jardinería. Tomo 1. Vol. 2, 3a. Ed., Editorial ACME, Buenos Aires

削除: ARODI,.....Pp.
658-1161. [34]

[Rahn, K](#) (1999). Plantaginaceae. In: [Correa MN](#) (ed): Flora Patagónica. Tomo VIII. Colección Científica del INTA. Buenos Aires, pp 404-422

削除: AHN,..... [35]

[Roivainen, H](#) (1977). Resultados micológicos de la expedición a Argentina y Chile en 1969-1970. Karstenia 17:1-18

削除: OIVAINEN,..... [36]

[Rossini, M](#) (2001). Oídios de frutales de clima templado. In: [Stadnik, MJ, Rivera MC](#) (eds) Oídios. Embrapa Meio Ambiente. Jaguariúna, S. Paulo

削除: OSSINI,.....
&...M.C.E... Pp. 48 [37]

[Rosow, R](#) (1984). *Melilotus* Mill. Leguminosae. In: [Correa MN](#) (ed): Flora Patagónica. Tomo VIII. Colección Científica del INTA. Buenos Aires, pp 252-256

削除: OSOW,..... [38]

[Rosow, R](#) (1988). Violaceae. In: [Correa MN](#) (ed): Flora Patagónica. Tomo VIII. Colección Científica del INTA. Buenos Aires, pp 170-189

削除: [39]

[Rosow, R](#) (1999). Buddlejaceae. In: [Correa MN](#) (ed): Flora Patagónica. Tomo VIII. Colección Científica del INTA. Buenos Aires, pp 42-45

削除: [40]

[Shin, HD](#) (2000). Erysiphaceae of Korea, National Institute of Agricultural Science & Technology, Suwon, Korea

削除: HIN, [41]

<p>Shin HD, La YJ (1993). Morphology of edge lines of chained immature conidia on conidiophores in powdery mildew fungi and their taxonomic significance. Mycotaxon 45:445-451</p>	<p>削除: HIN, 削除: . 削除: . & 削除: Y.J. 削除: A.</p>
<p>Shin HD, Zheng RY (1998). Anamorphic morphology of <i>Uncinula</i> and allied genera (I). Mycotaxon 46:243-266</p>	<p>削除: . 削除: & 削除: . 削除: .</p>
<p>Spegazzini C (1898). Fungi argentini novi v. critici. Anales del Museo Nacional de Buenos Aires 6:31-367</p>	<p>削除: 削除: PEGAZZINI, 削除: C. 削除: .</p>
<p>Spegazzini C (1909). Mycetes Argentinenses. Series IV. Anales del Museo Nacional de Buenos Aires 12:257-458</p>	<p>削除: 削除: PEGAZZINI, 削除: . 削除: .</p>
<p>Wolcan S, Ronco L (2002). Oídios en gerbera, petunia, <i>Impatiens</i> tipo "Nueva Guinea" y brincos. 1^{er} Congreso Argentino de Floricultura y Plantas Ornamentales y 4^{as} Jornadas Nacionales de Floricultura. Buenos Aires, p 13</p>	<p>削除: 削除: OLCAN, 削除: . & L. 削除: ONCO 削除: .</p>
<p>Wolcan S, Álvarez RE, CABRERA MG (2001) Oídios de ornamentales. In: Stadnik MJ, Rivera MC (eds) Oídios. Jaguariúna, SP, Embrapa Meio Ambiente. S. Paulo. pp 419-446</p>	<p>削除: . 削除: OLCAN, 削除: . 削除: R. E. A</p>
<p>Zuloaga FO, Morrone O, Rodríguez D (1999). Análisis de la biodiversidad en plantas vasculares de la Argentina. Artículo especial. Kurtziana 27(1):17-167</p>	<p>削除: LVAREZ 削除: M.G. 削除: . 削除: . 削除: O. 削除: ORRONE, & D. 削除: ODR 削除: GUEZ</p>
	<p>削除: . 削除: . 削除: .</p>

Figure Legend

Fig. 1. *Oidium maculatae* sp. nov. **A** conidiophores. **B** conidia. **C** germinated conidium. *Bar*
20 μm

ページ 13: [1] 削除	saura	2004/08/19 13:42:00
----------------	-------	---------------------

ERGNA,

ページ 13: [1] 削除	saura	2004/08/19 13:42:00
----------------	-------	---------------------

.

ページ 13: [1] 削除	saura	2004/08/19 13:42:00
----------------	-------	---------------------

.

ページ 13: [1] 削除	saura	2004/08/19 13:43:00
----------------	-------	---------------------

.

ページ 13: [1] 削除	saura	2004/08/19 13:44:00
----------------	-------	---------------------

.

ページ 13: [1] 削除	saura	2004/08/19 13:51:00
----------------	-------	---------------------

ページ 13: [2] 削除	saura	2004/08/19 13:43:00
----------------	-------	---------------------

RAUN,

ページ 13: [2] 削除	saura	2004/08/19 13:43:00
----------------	-------	---------------------

.

ページ 13: [2] 削除	saura	2004/08/19 13:43:00
----------------	-------	---------------------

.

ページ 13: [3] 削除	saura	2004/08/19 13:45:00
----------------	-------	---------------------

RAUN,

ページ 13: [3] 削除	saura	2004/08/19 13:45:00
----------------	-------	---------------------

.

ページ 13: [3] 削除	saura	2004/08/19 13:45:00
----------------	-------	---------------------

.

ページ 13: [4] 削除	saura	2004/08/19 13:46:00
----------------	-------	---------------------

RAUN,

ページ 13: [4] 削除	saura	2004/08/19 13:46:00
----------------	-------	---------------------

.

ページ 13: [4] 削除	saura	2004/08/19 13:46:00
----------------	-------	---------------------

.

ページ 13: [4] 削除	saura	2004/08/19 13:46:00
----------------	-------	---------------------

, pp. 700.

ページ 13: [5] 削除	saura	2004/08/19 13:47:00
----------------	-------	---------------------

RAUN,

ページ 13: [5] 削除	saura	2004/08/19 13:47:00
----------------	-------	---------------------

.

ページ 13: [5] 削除	saura	2004/08/19 13:47:00
----------------	-------	---------------------

.

ページ 13: [6] 削除	saura	2004/08/19 13:47:00
----------------	-------	---------------------

RAUN,

ページ 13: [6] 削除	saura	2004/08/19 13:47:00
----------------	-------	---------------------

.

ページ 13: [6] 削除	saura	2004/08/19 13:47:00
----------------	-------	---------------------

.

ページ 13: [6] 削除	saura	2004/08/19 13:51:00
----------------	-------	---------------------

ページ 13: [7] 削除	saura	2004/08/19 13:49:00
----------------	-------	---------------------

,

ページ 13: [7] 削除	saura	2004/08/19 13:49:00
----------------	-------	---------------------

. & S.

ページ 13: [7] 削除	saura	2004/08/19 13:48:00
----------------	-------	---------------------

.

ページ 13: [7] 削除	saura	2004/08/19 13:48:00
----------------	-------	---------------------

.

ページ 13: [7] 削除	saura	2004/08/19 15:10:00
----------------	-------	---------------------

ページ 13: [8] 削除	saura	2004/08/19 13:50:00
----------------	-------	---------------------

RAUN,

ページ 13: [8] 削除	saura	2004/08/19 13:50:00
----------------	-------	---------------------

.

ページ 13: [8] 削除	saura	2004/08/19 13:50:00
----------------	-------	---------------------

IEHR,

ページ 13: [8] 削除	saura	2004/08/19 13:50:00
----------------	-------	---------------------

.

ページ 13: [8] 削除	saura	2004/08/19 13:50:00
----------------	-------	---------------------

&

ページ 13: [8] 削除	saura	2004/08/19 13:51:00
----------------	-------	---------------------

ELHEY,

ページ 13: [8] 削除	saura	2004/08/19 13:51:00
----------------	-------	---------------------

.

ページ 13: [8] 削除	saura	2004/08/19 13:51:00
----------------	-------	---------------------

.

ページ 13: [9] 削除	saura	2004/08/19 13:52:00
----------------	-------	---------------------

RAUN,

ページ 13: [9] 削除	saura	2004/08/19 13:52:00
----------------	-------	---------------------

.

ページ 13: [9] 削除	saura	2004/08/19 13:53:00
----------------	-------	---------------------

R.T.A.

ページ 13: [9] 削除	saura	2004/08/19 13:52:00
----------------	-------	---------------------

,

ページ 13: [9] 削除	saura	2004/08/19 13:54:00
----------------	-------	---------------------

A.J.

ページ 13: [9] 削除	saura	2004/08/19 13:54:00
----------------	-------	---------------------

& H.D.

ページ 13: [9] 削除	saura	2004/08/19 13:54:00
----------------	-------	---------------------

.

ページ 13: [9] 削除	saura	2004/08/19 13:54:00
----------------	-------	---------------------

ページ 13: [9] 削除	saura	2004/08/19 13:54:00
----------------	-------	---------------------

.

ページ 13: [9] 削除	saura	2004/08/19 13:56:00
----------------	-------	---------------------

,

ページ 13: [9] 削除	saura	2004/08/19 13:56:00
----------------	-------	---------------------

.

ページ 13: [9] 削除	saura	2004/08/19 13:56:00
----------------	-------	---------------------

.

ページ 13: [9] 削除	saura	2004/08/19 13:57:00
----------------	-------	---------------------

W.R.

ページ 13: [9] 削除	saura	2004/08/19 13:57:00
----------------	-------	---------------------

A.J.

ページ 13: [9] 削除	saura	2004/08/19 13:57:00
----------------	-------	---------------------

&

ページ 13: [9] 削除	saura	2004/08/19 13:57:00
----------------	-------	---------------------

T.L.W.

ページ 13: [9] 削除	saura	2004/08/19 13:55:00
----------------	-------	---------------------

-

ページ 13: [9] 削除	saura	2004/08/19 13:56:00
----------------	-------	---------------------

E

ページ 13: [9] 削除	saura	2004/08/19 13:59:00
----------------	-------	---------------------

ページ 13: [10] 削除	saura	2004/08/19 14:00:00
-----------------	-------	---------------------

RAUN,

ページ 13: [10] 削除	saura	2004/08/19 14:00:00
-----------------	-------	---------------------

.

ページ 13: [10] 削除	saura	2004/08/19 14:00:00
-----------------	-------	---------------------

N.

ページ 13: [10] 削除	saura	2004/08/19 14:00:00
-----------------	-------	---------------------

& S.

ページ 13: [10] 削除	saura	2004/08/19 14:00:00
-----------------	-------	---------------------

.

ページ 13: [10] 削除	saura	2004/08/19 14:00:00
-----------------	-------	---------------------

.

ページ 13: [10] 削除	saura	2004/08/19 14:01:00
-----------------	-------	---------------------

ページ 14: [11] 削除	saura	2004/08/19 14:01:00
-----------------	-------	---------------------

URKART,

ページ 14: [11] 削除	saura	2004/08/19 14:01:00
-----------------	-------	---------------------

.

ページ 14: [11] 削除	saura	2004/08/19 14:01:00
-----------------	-------	---------------------

.

ページ 14: [11] 削除	saura	2004/08/19 15:10:00
-----------------	-------	---------------------

-

ページ 14: [11] 削除	saura	2004/08/19 14:02:00
-----------------	-------	---------------------

,

ページ 14: [11] 削除	saura	2004/08/19 14:02:00
-----------------	-------	---------------------

.

ページ 14: [11] 削除	saura	2004/08/19 14:02:00
-----------------	-------	---------------------

.

ページ 14: [12] 削除	saura	2004/08/19 14:02:00
-----------------	-------	---------------------

ABRERA

ページ 14: [12] 削除	saura	2004/08/19 14:03:00
-----------------	-------	---------------------

,

ページ 14: [12] 削除	saura	2004/08/19 14:03:00
-----------------	-------	---------------------

.

ページ 14: [12] 削除	saura	2004/08/19 14:03:00
-----------------	-------	---------------------

.

ページ 14: [12] 削除	saura	2004/08/19 14:03:00
-----------------	-------	---------------------

.

ページ 14: [12] 削除	saura	2004/08/19 14:03:00
-----------------	-------	---------------------

ページ 14: [13] 削除	saura	2004/08/19 14:03:00
-----------------	-------	---------------------

ABRERA

ページ 14: [13] 削除	saura	2004/08/19 15:09:00
-----------------	-------	---------------------

A

ページ 14: [13] 削除	saura	2004/08/19 14:04:00
-----------------	-------	---------------------

LVAREZ,

ページ 14: [13] 削除	saura	2004/08/19 14:04:00
-----------------	-------	---------------------

.

ページ 14: [13] 削除	saura	2004/08/19 14:04:00
-----------------	-------	---------------------

.

ページ 14: [13] 削除	saura	2004/08/19 14:04:00
-----------------	-------	---------------------

&

ページ 14: [13] 削除	saura	2004/08/19 14:04:00
-----------------	-------	---------------------

M.A.

ページ 14: [13] 削除	saura	2004/08/19 14:04:00
-----------------	-------	---------------------

AZZANTI

ページ 14: [13] 削除	saura	2004/08/19 14:05:00
-----------------	-------	---------------------

ASTAÑÓN.

ページ 14: [13] 削除	saura	2004/08/19 14:06:00
-----------------	-------	---------------------

.

ページ 14: [14] 削除	saura	2004/08/19 14:07:00
-----------------	-------	---------------------

,

ページ 14: [14] 削除	saura	2004/08/19 14:07:00
-----------------	-------	---------------------

.

ページ 14: [14] 削除	saura	2004/08/19 14:07:00
-----------------	-------	---------------------

.

ページ 14: [14] 削除	saura	2004/08/19 14:07:00
-----------------	-------	---------------------

.;

ページ 14: [14] 削除	saura	2004/08/19 14:07:00
-----------------	-------	---------------------

A J.

ページ 14: [14] 削除	saura	2004/08/19 14:07:00
-----------------	-------	---------------------

& C.

ページ 14: [14] 削除	saura	2004/08/19 14:07:00
-----------------	-------	---------------------

.

ページ 14: [14] 削除	saura	2004/08/19 14:08:00
-----------------	-------	---------------------

.

ページ 14: [14] 削除	saura	2004/08/19 14:08:00
-----------------	-------	---------------------

ページ 14: [14] 削除	saura	2004/08/19 14:08:00
-----------------	-------	---------------------

ページ 14: [14] 削除	saura	2004/08/19 14:09:00
-----------------	-------	---------------------

ページ 14: [15] 削除	saura	2004/08/19 14:08:00
-----------------	-------	---------------------

ORREA,

ページ 14: [15] 削除	saura	2004/08/19 14:08:00
-----------------	-------	---------------------

.

ページ 14: [15] 削除	saura	2004/08/19 14:08:00
-----------------	-------	---------------------

.

ページ 14: [15] 削除	saura	2004/08/19 14:09:00
-----------------	-------	---------------------

.

ページ 14: [16] 削除	saura	2004/08/19 14:10:00
-----------------	-------	---------------------

UNNINGTON,

ページ 14: [16] 削除	saura	2004/08/19 14:10:00
-----------------	-------	---------------------

.

ページ 14: [16] 削除	saura	2004/08/19 14:10:00
-----------------	-------	---------------------

.

ページ 14: [16] 削除	saura	2004/08/19 14:10:00
-----------------	-------	---------------------

ページ 14: [16] 削除	saura	2004/08/19 14:10:00
-----------------	-------	---------------------

.

ページ 14: [16] 削除	saura	2004/08/19 14:13:00
-----------------	-------	---------------------

ページ 14: [17] 削除	saura	2004/08/19 14:11:00
-----------------	-------	---------------------

ELHEY,

ページ 14: [17] 削除	saura	2004/08/19 14:11:00
-----------------	-------	---------------------

.

ページ 14: [17] 削除	saura	2004/08/19 14:11:00
-----------------	-------	---------------------

RAUN,

ページ 14: [17] 削除	saura	2004/08/19 14:11:00
-----------------	-------	---------------------

. &

ページ 14: [17] 削除	saura	2004/08/19 14:11:00
-----------------	-------	---------------------

IHER,

ページ 14: [17] 削除	saura	2004/08/19 14:11:00
-----------------	-------	---------------------

.

ページ 14: [17] 削除	saura	2004/08/19 14:11:00
-----------------	-------	---------------------

.

ページ 14: [17] 削除	saura	2004/08/19 14:13:00
-----------------	-------	---------------------

ページ 14: [18] 削除	saura	2004/08/19 14:12:00
-----------------	-------	---------------------

ORTER,

ページ 14: [18] 削除	saura	2004/08/19 14:12:00
-----------------	-------	---------------------

.J.

ページ 14: [18] 削除	saura	2004/08/19 14:12:00
-----------------	-------	---------------------

.

ページ 14: [18] 削除	saura	2004/08/19 14:12:00
-----------------	-------	---------------------

. &

ページ 14: [18] 削除	saura	2004/08/19 15:18:00
-----------------	-------	---------------------

A.

ページ 14: [18] 削除	saura	2004/08/19 14:12:00
-----------------	-------	---------------------

ICKER.

ページ 14: [18] 削除	saura	2004/08/19 14:13:00
-----------------	-------	---------------------

.

ページ 14: [18] 削除	saura	2004/08/19 14:13:00
-----------------	-------	---------------------

ページ 14: [19] 削除	saura	2004/08/19 14:13:00
-----------------	-------	---------------------

RONDONA,

ページ 14: [19] 削除	saura	2004/08/19 14:13:00
-----------------	-------	---------------------

.

ページ 14: [19] 削除	saura	2004/08/19 14:14:00
-----------------	-------	---------------------

.

ページ 14: [19] 削除	saura	2004/08/19 14:14:00
-----------------	-------	---------------------

orrea,

ページ 14: [19] 削除	saura	2004/08/19 14:14:00
-----------------	-------	---------------------

.

ページ 14: [19] 削除	saura	2004/08/19 14:14:00
-----------------	-------	---------------------

.

ページ 14: [20] 削除	saura	2004/08/19 14:15:00
-----------------	-------	---------------------

,

ページ 14: [20] 削除	saura	2004/08/19 14:15:00
-----------------	-------	---------------------

. &

ページ 14: [20] 削除	saura	2004/08/19 14:16:00
-----------------	-------	---------------------

L.R.

ページ 14: [20] 削除	saura	2004/08/19 14:16:00
-----------------	-------	---------------------

.

ページ 14: [20] 削除	saura	2004/08/19 14:16:00
-----------------	-------	---------------------

ページ 14: [20] 削除	saura	2004/08/19 14:16:00
-----------------	-------	---------------------

.

ページ 15: [21] 削除	saura	2004/08/19 14:17:00
-----------------	-------	---------------------

,

ページ 15: [21] 削除	saura	2004/08/19 14:17:00
-----------------	-------	---------------------

.

ページ 15: [21] 削除	saura	2004/08/19 14:17:00
-----------------	-------	---------------------

.

ページ 15: [21] 削除	saura	2004/08/19 14:17:00
-----------------	-------	---------------------

ページ 15: [22] 削除	saura	2004/08/19 14:17:00
-----------------	-------	---------------------

,

ページ 15: [22] 削除	saura	2004/08/19 14:17:00
-----------------	-------	---------------------

.

ページ 15: [22] 削除	saura	2004/08/19 14:18:00
-----------------	-------	---------------------

.

ページ 15: [22] 削除	saura	2004/08/19 14:18:00
-----------------	-------	---------------------

,

ページ 15: [22] 削除	saura	2004/08/19 14:18:00
-----------------	-------	---------------------

ページ 15: [23] 削除	saura	2004/08/19 14:18:00
-----------------	-------	---------------------

,

ページ 15: [23] 削除	saura	2004/08/19 14:18:00
-----------------	-------	---------------------

.

ページ 15: [23] 削除	saura	2004/08/19 14:18:00
-----------------	-------	---------------------

.

ページ 15: [23] 削除	saura	2004/08/19 14:19:00
-----------------	-------	---------------------

ページ 15: [23] 削除	saura	2004/08/19 14:19:00
-----------------	-------	---------------------

ページ 15: [24] 削除	saura	2004/08/19 14:19:00
-----------------	-------	---------------------

.

ページ 15: [24] 削除	saura	2004/08/19 14:19:00
-----------------	-------	---------------------

.

ページ 15: [24] 削除	saura	2004/08/19 14:20:00
-----------------	-------	---------------------

Doctoral

ページ 15: [24] 削除	saura	2004/08/19 14:20:00
-----------------	-------	---------------------

T

ページ 15: [25] 削除	saura	2004/08/19 14:20:00
-----------------	-------	---------------------

,

ページ 15: [25] 削除	saura	2004/08/19 14:20:00
-----------------	-------	---------------------

.

ページ 15: [25] 削除	saura	2004/08/19 14:21:00
-----------------	-------	---------------------

.

ページ 15: [25] 削除	saura	2004/08/19 14:21:00
-----------------	-------	---------------------

ページ 15: [26] 削除	saura	2004/08/19 14:21:00
-----------------	-------	---------------------

,

ページ 15: [26] 削除	saura	2004/08/19 14:21:00
-----------------	-------	---------------------

.

ページ 15: [26] 削除	saura	2004/08/19 14:21:00
-----------------	-------	---------------------

&

ページ 15: [26] 削除	saura	2004/08/19 14:22:00
-----------------	-------	---------------------

U.

ページ 15: [26] 削除	saura	2004/08/19 14:22:00
-----------------	-------	---------------------

.

ページ 15: [26] 削除	saura	2004/08/19 14:22:00
-----------------	-------	---------------------

.

ページ 15: [26] 削除	saura	2004/08/19 14:21:00
-----------------	-------	---------------------

ページ 15: [27] 削除	saura	2004/08/19 14:22:00
-----------------	-------	---------------------

,

ページ 15: [27] 削除	saura	2004/08/19 14:23:00
-----------------	-------	---------------------

. &

ページ 15: [27] 削除	saura	2004/08/19 14:23:00
-----------------	-------	---------------------

L.E.

ページ 15: [27] 削除	saura	2004/08/19 14:23:00
-----------------	-------	---------------------

.

ページ 15: [27] 削除	saura	2004/08/19 14:23:00
-----------------	-------	---------------------

.

ページ 15: [27] 削除	saura	2004/08/19 14:23:00
-----------------	-------	---------------------

ページ 15: [28] 削除	saura	2004/08/19 14:24:00
-----------------	-------	---------------------

. &

ページ 15: [28] 削除	saura	2004/08/19 14:24:00
-----------------	-------	---------------------

,

ページ 15: [28] 削除	saura	2004/08/19 14:24:00
-----------------	-------	---------------------

.

ページ 15: [28] 削除	saura	2004/08/19 14:24:00
-----------------	-------	---------------------

ページ 15: [28] 削除	saura	2004/08/19 14:24:00
-----------------	-------	---------------------

.

ページ 15: [28] 削除	saura	2004/08/19 14:24:00
-----------------	-------	---------------------

ページ 15: [29] 削除	saura	2004/08/19 14:25:00
-----------------	-------	---------------------

,

ページ 15: [29] 削除	saura	2004/08/19 14:25:00
-----------------	-------	---------------------

.

ページ 15: [29] 削除	saura	2004/08/19 14:25:00
-----------------	-------	---------------------

.

ページ 15: [29] 削除	saura	2004/08/19 14:25:00
-----------------	-------	---------------------

.

ページ 15: [29] 削除	saura	2004/08/19 15:15:00
-----------------	-------	---------------------

-

ページ 15: [29] 削除	saura	2004/08/19 14:25:00
-----------------	-------	---------------------

,

ページ 15: [29] 削除	saura	2004/08/19 14:25:00
-----------------	-------	---------------------

.

ページ 15: [29] 削除	saura	2004/08/19 14:25:00
-----------------	-------	---------------------

.

ページ 15: [30] 削除	saura	2004/08/19 14:26:00
-----------------	-------	---------------------

OUTREIG,

ページ 15: [30] 削除	saura	2004/08/19 14:26:00
-----------------	-------	---------------------

.

ページ 15: [30] 削除	saura	2004/08/19 14:26:00
-----------------	-------	---------------------

.

ページ 15: [30] 削除	saura	2004/08/19 14:26:00
-----------------	-------	---------------------

ORREA,

ページ 15: [30] 削除	saura	2004/08/19 14:26:00
-----------------	-------	---------------------

.

ページ 15: [30] 削除	saura	2004/08/19 14:26:00
-----------------	-------	---------------------

.

ページ 15: [31] 削除	saura	2004/08/19 14:27:00
-----------------	-------	---------------------

ARCHIONATTO,

ページ 15: [31] 削除	saura	2004/08/19 14:27:00
-----------------	-------	---------------------

.

ページ 15: [31] 削除	saura	2004/08/19 14:27:00
-----------------	-------	---------------------

.

ページ 15: [31] 削除	saura	2004/08/19 14:27:00
-----------------	-------	---------------------

ページ 15: [31] 削除	saura	2004/08/19 14:28:00
-----------------	-------	---------------------

.

ページ 15: [31] 削除	saura	2004/08/19 14:28:00
-----------------	-------	---------------------

ページ 16: [32] 削除	saura	2004/08/19 14:29:00
-----------------	-------	---------------------

AZZANTI DE CASTAÑÓN

ページ 16: [32] 削除	saura	2004/08/19 14:29:00
-----------------	-------	---------------------

.

ページ 16: [32] 削除	saura	2004/08/19 14:29:00
-----------------	-------	---------------------

.

ページ 16: [32] 削除	saura	2004/08/19 14:32:00
-----------------	-------	---------------------

A

ページ 16: [32] 削除	saura	2004/08/19 14:30:00
-----------------	-------	---------------------

LVAREZ,

ページ 16: [32] 削除	saura	2004/08/19 15:15:00
-----------------	-------	---------------------

ページ 16: [32] 削除	saura	2004/08/19 14:30:00
-----------------	-------	---------------------

.

ページ 16: [32] 削除	saura	2004/08/19 14:30:00
-----------------	-------	---------------------

. &

ページ 16: [32] 削除	saura	2004/08/19 14:30:00
-----------------	-------	---------------------

ABRERA DE ALVAREZ,

ページ 16: [32] 削除	saura	2004/08/19 14:30:00
-----------------	-------	---------------------

.

ページ 16: [32] 削除	saura	2004/08/19 14:30:00
-----------------	-------	---------------------

.

ページ 16: [32] 削除	saura	2004/08/19 14:31:00
-----------------	-------	---------------------

.

ページ 16: [33] 削除	saura	2004/08/19 14:32:00
-----------------	-------	---------------------

RSI,

ページ 16: [33] 削除	saura	2004/08/19 14:32:00
-----------------	-------	---------------------

.

ページ 16: [33] 削除	saura	2004/08/19 14:32:00
-----------------	-------	---------------------

.

ページ 16: [33] 削除	saura	2004/08/19 14:32:00
-----------------	-------	---------------------

ページ 16: [33] 削除	saura	2004/08/19 14:32:00
-----------------	-------	---------------------

.

ページ 16: [33] 削除	saura	2004/08/19 14:33:00
-----------------	-------	---------------------

ORREA,

ページ 16: [33] 削除	saura	2004/08/19 14:33:00
-----------------	-------	---------------------

.

ページ 16: [33] 削除	saura	2004/08/19 14:33:00
-----------------	-------	---------------------

.

ページ 16: [34] 削除	saura	2004/08/19 14:34:00
-----------------	-------	---------------------

ARODI,

ページ 16: [34] 削除	saura	2004/08/19 14:34:00
-----------------	-------	---------------------

.

ページ 16: [34] 削除	saura	2004/08/19 14:34:00
-----------------	-------	---------------------

.

ページ 16: [34] 削除	saura	2004/08/19 14:34:00
-----------------	-------	---------------------

.

ページ 16: [34] 削除	saura	2004/08/19 14:34:00
-----------------	-------	---------------------

.

ページ 16: [34] 削除	saura	2004/08/19 14:34:00
-----------------	-------	---------------------

Pp. 658-1161.

ページ 16: [35] 削除	saura	2004/08/19 14:35:00
-----------------	-------	---------------------

AHN,

ページ 16: [35] 削除	saura	2004/08/19 14:35:00
-----------------	-------	---------------------

.

ページ 16: [35] 削除	saura	2004/08/19 14:35:00
-----------------	-------	---------------------

.

ページ 16: [35] 削除	saura	2004/08/19 15:16:00
-----------------	-------	---------------------

-

ページ 16: [36] 削除	saura	2004/08/19 14:35:00
-----------------	-------	---------------------

OIVAINEN,

ページ 16: [36] 削除	saura	2004/08/19 14:36:00
-----------------	-------	---------------------

.

ページ 16: [36] 削除	saura	2004/08/19 14:36:00
-----------------	-------	---------------------

.

ページ 16: [37] 削除	saura	2004/08/19 14:36:00
-----------------	-------	---------------------

OSSINI,

ページ 16: [37] 削除	saura	2004/08/19 14:36:00
-----------------	-------	---------------------

.

ページ 16: [37] 削除	saura	2004/08/19 14:37:00
-----------------	-------	---------------------

.

ページ 16: [37] 削除	saura	2004/08/19 14:37:00
-----------------	-------	---------------------

,

ページ 16: [37] 削除	saura	2004/08/19 14:37:00
-----------------	-------	---------------------

.

ページ 16: [37] 削除	saura	2004/08/19 14:37:00
-----------------	-------	---------------------

.

ページ 16: [37] 削除	saura	2004/08/19 14:37:00
-----------------	-------	---------------------

&

ページ 16: [37] 削除	saura	2004/08/19 14:37:00
-----------------	-------	---------------------

M.C.

ページ 16: [37] 削除	saura	2004/08/19 14:37:00
-----------------	-------	---------------------

,

ページ 16: [37] 削除	saura	2004/08/19 14:37:00
-----------------	-------	---------------------

E

ページ 16: [37] 削除	saura	2004/08/19 14:37:00
-----------------	-------	---------------------

Pp. 484.

ページ 16: [38] 削除	saura	2004/08/19 14:38:00
-----------------	-------	---------------------

OSOW.

ページ 16: [38] 削除	saura	2004/08/19 14:38:00
-----------------	-------	---------------------

.

ページ 16: [38] 削除	saura	2004/08/19 14:38:00
-----------------	-------	---------------------

.

ページ 16: [38] 削除	saura	2004/08/19 14:38:00
-----------------	-------	---------------------

-

ページ 16: [38] 削除	saura	2004/08/19 14:38:00
-----------------	-------	---------------------

,

ページ 16: [38] 削除	saura	2004/08/19 14:38:00
-----------------	-------	---------------------

.

ページ 16: [38] 削除	saura	2004/08/19 14:38:00
-----------------	-------	---------------------

.

ページ 16: [39] 削除	saura	2004/08/19 14:40:00
-----------------	-------	---------------------

,

ページ 16: [39] 削除	saura	2004/08/19 14:40:00
-----------------	-------	---------------------

.

ページ 16: [39] 削除	saura	2004/08/19 14:40:00
-----------------	-------	---------------------

.

ページ 16: [39] 削除	saura	2004/08/19 14:40:00
-----------------	-------	---------------------

-

ページ 16: [39] 削除	saura	2004/08/19 14:40:00
-----------------	-------	---------------------

,

ページ 16: [39] 削除	saura	2004/08/19 14:40:00
-----------------	-------	---------------------

.

ページ 16: [39] 削除	saura	2004/08/19 14:40:00
-----------------	-------	---------------------

.

ページ 16: [40] 削除	saura	2004/08/19 14:41:00
-----------------	-------	---------------------

,

ページ 16: [40] 削除	saura	2004/08/19 14:41:00
-----------------	-------	---------------------

.

ページ 16: [40] 削除	saura	2004/08/19 14:41:00
-----------------	-------	---------------------

.

ページ 16: [40] 削除	saura	2004/08/19 14:41:00
-----------------	-------	---------------------

-

ページ 16: [40] 削除	saura	2004/08/19 14:42:00
-----------------	-------	---------------------

,

ページ 16: [40] 削除	saura	2004/08/19 14:42:00
-----------------	-------	---------------------

.

ページ 16: [40] 削除	saura	2004/08/19 14:42:00
-----------------	-------	---------------------

.

ページ 16: [41] 削除	saura	2004/08/19 14:41:00
-----------------	-------	---------------------

HIN,

ページ 16: [41] 削除

saura

2004/08/19 14:42:00

.

ページ 16: [41] 削除

saura

2004/08/19 14:42:00

.

ページ 16: [41] 削除

saura

2004/08/19 14:42:00

.

